Making the Cold Chain Green: An Interview with Michael J Cohen

Michael J Cohen, Lead Senior Director of Environmental Sustainability at the PPD clinical research business of Thermo Fisher Scientific, is focused on making healthcare logistics better for the environment. In this Q&A, he talks about tackling waste, improving cold chain operations, and using data to create smarter, more efficient solutions.

This interview has been condensed to focus on Michael's key insights and perspectives.

We sat down with Michael J Cohen, Lead Senior Director of Environmental Sustainability at the PPD clinical research business of Thermo Fisher Scientific, to learn about making healthcare logistics more eco-friendly.

Michael has a background in material science, bioengineering and extensive experience across top healthcare organizations, focusing on environmental sustainability, diversity, operational efficiency, and corporate strategy.

Throughout his career at companies like Thermo Fisher Scientific, CVS Health, and Johnson & Johnson, he has led projects aimed at reducing environmental impact, improving supply chain processes, and enhancing innovation.

At PPD, Michael drives efforts to tackle some of the biggest environmental challenges in clinical trials and healthcare logistics, from reducing packaging waste to optimizing cold chain solutions.

His insights provide a unique perspective on the intersection of sustainability, patient-centric care, and the evolving demands of the medical field.

Can you share your career journey and how it led to your focus on sustainability in healthcare?

I've always been fascinated by how nature solves complex problems. My academic background is in biogenic materials—like skin, bone, and teeth—to understand how we could create better, more sustainable materials.

Later, when I moved into healthcare, I applied my learnings from biology to solve different challenges. I also got more involved in the data side of things, and using those findings to improve patient outcomes.

At CVS during COVID-19, I saw firsthand how environmental and social challenges intersect in healthcare—especially when it came to vaccine distribution and addressing health inequities. Now at PPD, leading environmental sustainability feels like a culmination of everything I've worked on: science communication, data-driven strategy, and environmental sustainability in healthcare solutions.

Within healthcare, how are sustainability and cold chain logistics connected?

The COVID-19 vaccine rollout was a wake-up call. It showed us how important cold chain logistics are and exposed both the strengths and weaknesses of global distribution systems. It also revealed how much waste the industry generates; during the pandemic, our reliance on things like Styrofoam, single-use plastics, and dry ice skyrocketed.

As advanced therapies like biologics and mRNA vaccines become more common, and clinical trials expand beyond traditional sites into retail pharmacies, mobile research units and even our patients' homes, the cold chain must keep up. It's no longer just about shipping products to clinics; it's about getting treatments directly to the patient and samples safely to the lab.

None of us want piles of Styrofoam and dry ice sitting on our doorstep. There's a growing expectation for consumerized healthcare to be as convenient and environmentally conscious as possible, and the cold chain needs to continue to evolve in that direction.

Right now, what are the biggest environmental challenges in cold chain logistics?

Cardboard boxes, Styrofoam and dry ice are all major pain points. Now, we are dealing with mountains of Styrofoam packaging and piles of dry ice, which sublimate into the atmosphere. It's frustrating because while dry ice is technically made from captured CO_2, letting it sublimate feels like a missed opportunity for carbon capture.

We are exploring solutions like offering dry ice to greenhouses that use CO_2 to boost plant growth, but it's not scalable. There's also the challenge of biohazard classification—materials like Styrofoam can be labeled as biohazardous waste simply because they've been near medical samples, even if there are no signs of contamination. Also, disinfecting the Styrofoam requires harsh treatments or chemicals that begin to negate the benefit.

The industry needs scalable solutions that make sense both environmentally and operationally. Reusable packaging, smarter dry ice alternatives, and better waste management systems are all areas where innovation is badly needed.

How important is data in making healthcare and cold chain logistics greener?

Data is powerful, but only if it's used effectively. At CVS Health and Aetna, I saw how combining different data streams—insurance, pharmacy, and clinical care—could unlock important insights. That same principle applies to the cold chain.

For example, in cold chain logistics, data helps track temperature stability, prevent spoilage, and optimize shipping routes. But in terms of sustainability, raw numbers alone don't drive change; telling someone you cut 500 kilograms of CO_2 emissions doesn't mean much without the broader context.

Personally, I think that's the biggest reason that storytelling and visualization matter. Programs like PPD's "One Patient, One Tree"—where

we plant a tree for every patient enrolled in a study—work because the impact is easy to understand. In the cold chain industry, we need to find similar ways to make sustainability data more meaningful and actionable.

Who's leading the push for sustainability in healthcare?

It's coming from both inside and outside the industry. Internally, companies like Thermo Fisher Scientific are making sustainability a core part of our mission.

Our CEO, Mark Casper, is committed to advancing science in a way that makes the world cleaner, healthier, and safer for ourselves, our patients, our customers and our communities.

Externally, customers are driving change as well. Many of our customers have set aggressive net-zero goals, and they expect their partners to align with those targets. Regulatory bodies like the NHS are also raising the bar, encouraging healthcare providers to choose lower-carbon options when possible.

Sustainability is a driver of innovation, pushing for better efficiency. We need to help all stakeholders realize the potential savings of implementing sustainable measures and expose the inefficiencies of business as usual. In some of our contracts, we're even required to use renewable energy, and that type of accountability is moving the entire industry forward.

Where do you think the most impactful sustainability innovations in the cold chain will come from?

Right now, most of the innovation is focused on data tracking and compliance—things like improving temperature monitoring, optimizing shipping routes, and meeting regulatory requirements. These efforts are important, but they don't fully solve the bigger sustainability challenges we're facing. For instance, we need more solutions that reduce waste at the product level.

To move the needle, we need reusable shipping solutions that can handle different payloads without compromising temperature control. This could mean better reusable containers with built-in tracking or smarter cooling materials that provide longer-lasting temperature stability.

At the same time, companies across the supply chain—manufacturers, logistics providers, and healthcare organizations—need to work together to implement these changes in a way that's practical and financially viable. Real progress will come when companies stop looking at sustainability as just a compliance issue and start seeing it as an opportunity to create long-term value.

Looking ahead, how will sustainability shape the future of healthcare logistics?

Sustainability will be a competitive edge. Patients may not be actively choosing healthcare providers based on sustainability today, but it's going to become a bigger part of the value proposition.

Take clinical trials, for example. If a patient has the option to enroll at two different sites offering the same treatment, but one is powered by renewable energy and has a clear focus on reducing waste, it's easy to see which one they'd prefer.

As healthcare becomes more patient-centered, the cold chain must evolve to meet higher standards of convenience and sustainability. We've got to expect and insist that the cold chain of tomorrow is greener, more efficient, and better aligned with patient needs.

Don't miss the next conversation—subscribe to Artyc's newsletter to stay updated.