

Forging New Paths in Prostate Cancer Treatment: How Dr. Peter Wipf and C-Path's Translational Therapeutics Accelerator Are Driving Impact in Men's Health



Prostate cancer remains one of the most pressing health challenges for men, particularly as they age. In fact, about one in eight men will be diagnosed with prostate cancer during their lifetime, with many of these cases discovered only in advanced stages. Treatment options for late-stage, castration-resistant prostate cancer (CRPC) remain limited and often ineffective. Innovative research and development are critical in order to address these unmet medical needs. One researcher making significant strides in this fight is Dr. Peter Wipf, a renowned professor of chemistry at the University of Pittsburgh. Peter is one of the leading innovators in prostate cancer research, and recipient of a grant award from Critical Path Institute's (C-Path) Translational Therapeutics Accelerator (TRxA).

Dr. Wipf's journey in prostate cancer research builds on a lifelong interest in synthetic organic chemistry, particularly the synthesis of complex natural products. This foundation, combined with over three decades of academic collaboration with biologists and clinicians, led him to focus on creating small-molecule therapeutics that target aggressive forms of cancer, including CRPC.

"In the first few years of my academic program, I focused mainly on the more traditional areas of synthetic organic chemistry, including continuing in the total synthesis of natural products," Dr. Wipf explained. "So, a lot of my background and expertise is in complex molecule synthesis; but around 1995 I started to collaborate with biologists and pharmacologists, in the area of cancer therapeutics, based on my longstanding interest to develop novel anti-cancer agents, a field that has traditionally been closely connected to natural products."

With approximately 314,000 new cases of prostate cancer expected in the U.S. alone in 2025, according to the American Cancer Society, the need for innovative therapies remains high. CRPC, which develops in patients after standard androgen deprivation therapy fails, continues to grow rapidly and aggressively. Current therapies, including cytotoxic agents like taxanes, offer only marginal benefits—often extending life by just a few months. Wipf and his collaborators, Dr. Zhou Wang, the UPMC Chair in Urological Research, Department of Urology, and Dr. Joel B. Nelson, President of UPMC International and Chief Clinical Officer, UPMC, and their research teams sought to address this clinical challenge by identifying and optimizing compounds that could inhibit prostate cancer growth more effectively and selectively.

This is where C-Path's TRxA team stepped in. With funding and expert guidance, Wipf and his collaborators were able to bridge the difficult gap between promising academic research and clinical drug development—a space often underfunded and fraught with regulatory and logistical hurdles, often referred to as the drug development "valley of death."

TRxA is a global drug discovery and development program focused on supporting academic scientists in

defining optimal strategies for advancing new, cutting-edge therapeutics from the lab to patients. The program leverages C-Path's proficiency in translational and regulatory science to bridge this valley of death by providing academic researchers with funding and guidance for the advancement of novel therapeutics from the lab to clinical trials and, ultimately, commercialization and patient care.

Peter and his team applied for, and received, one of [TRxA's Bridging Research and Innovation in Drug Development Grant \(BRIDGE\) awards](#). BRIDGE awards are designed to support academic researchers in traversing the drug development valley of death by funding and defining optimal strategies for advancing new, cutting-edge therapeutics from the lab to patients.

"The first benefit of working with TRxA is the team in place; I'm working closely with Dr. Mark Drew, who has a lot of experience in drug development, as well as with TRxA Executive Director Dr. Maaïke Everts and additional colleagues there. Their expertise is very important because they provide valuable feedback on our milestones in the preclinical studies," Wipf detailed. "The second aspect, of course, is the funding that allows us to really do the type of descriptive studies that are required for translational research. The grant that we received was critical in order to provide us with the means to scale up the chemistry to prepare the lead compound and obtain relevant in vivo pharmacokinetic data."

"Dr. Wipf's work exemplifies the type of high-impact, translational research TRxA was created to support," said Dr. Everts. "By providing both funding and expert guidance, TRxA helps bridge the critical gap between academic drug discovery and clinical application. We are proud to support Dr. Wipf and his team as they work to bring forward new treatment options for men battling advanced prostate cancer. Their dedication reflects the core mission of TRxA: to accelerate the development of novel therapeutics that can truly improve patients' lives. This collaboration has allowed Wipf's lab to conduct essential pharmacokinetic, toxicology, and efficacy studies that academic labs typically struggle to support. These data points are crucial for assessing a compound's safety profile and therapeutic potential in humans."

Wipf's lead compound has shown promising results in preclinical models, including effective reduction of prostate-specific antigen (PSA) levels—a key biomarker in prostate cancer diagnosis and progression—and tumor shrinkage in mouse xenograft models. The next phase, fueled by TRxA support, focuses on finalizing in vivo studies and compiling a robust preclinical package for regulatory review.

The broader impact of TRxA goes even beyond Wipf's project. Since its inception, TRxA has funded and supported numerous translational research initiatives, helping advance potential therapeutics across a range of diseases. Just this spring, [TRxA announced its support of a parallel prostate cancer project based in Queensland, Australia](#). These efforts highlight TRxA's growing international footprint and its critical role in filling gaps left by traditional grant programs.

As we observe Men's Health Awareness Month this June, Wipf also emphasized the importance of advocacy, awareness, and early detection in prostate cancer care. While scientific breakthroughs are vital for therapeutic advances, so too is the infrastructure to support screening, especially for older men who often face diminished access to proactive healthcare.

"I think one advancement that can be made immediately is access to earlier screening, and expanded screening, because you don't want to just treat a late-stage disease, you want to really detect the disease early, monitor its progression, and figure out how to intervene at a very early stage," Dr. Wipf explained. "We have a nice set of pharmaceuticals that are effective at an earlier stage that you want to deploy at the appropriate time. In terms of treatment options, I think it is critical to really look at all stages of the disease. And for those patients who are diagnosed with stage 3 and stage 4, we need to come up with much more effective treatment options."

Looking forward, Wipf sees enormous promise in expanding prostate cancer research beyond traditional targets like the androgen receptor. He and others are exploring novel approaches, including synergistic combination therapy and gene-editing strategies, that may one day offer more durable solutions for patients. But to reach these horizons, more attention on programs like TRxA is needed — programs that are dedicated to translating academic discoveries into real-world medicines.

As men's health takes center stage this month, the work of Dr. Wipf, C-Path and TRxA serves as a powerful reminder of what's possible when regulatory science, funding, and mission-driven support come together in pursuit of better outcomes.

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