NIH Study Uses Sylvester’s Digital Technology to Examine At-home Cancer Treatment

Dr. Tracy Crane is a principal investigator for a collaborative study on managing symptoms and psychological distress during oral anti-cancer treatment using the My Wellness Research platform.

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Tracy E. Crane, Ph.D., RDN, director of lifestyle medicine and digital health in cancer survivorship at Sylvester Comprehensive Cancer Center at the University of Miami Miller School of Medicine, is among the principal investigators of the new $3.5 million, five-year National Institutes of Health (NIH) grant “Managing symptoms and psychological distress during oral anti-cancer treatment.” She will be collaborating with fellow principal investigators Alla Sikorskii, Ph.D., at Michigan State University and Terry Badger, Ph.D., from the University of Arizona.

The research project grant (called an R01) is through NRG Oncology, a part of the National Cancer Institute (NCI) Community Oncology Research Program that focuses on moving cancer research from cancer centers to the community.

That’s important because the community is where the bulk of today’s cancer care happens, according to Dr. Crane, who is also co-leader of the Sylvester Cancer Control Research
“More and more of the care provided by the nation’s cancer centers is moving into the home. For example, in this study, patients are taking their chemotherapy drugs orally rather than intravenously in the hospital. We’re looking at managing anticancer therapy-related toxicities in the home, using a technology we developed at Sylvester,” Dr. Crane said.

The research will delve into how to use technology to provide quality health care in the home.

“To me, it’s ‘how do we work with computational sciences and digital health – all these technology themes – while still respecting and knowing when the human needs to be involved?’” Dr. Crane said.

**My Wellness Research**

Sylvester researchers will deliver the grant’s digital intervention, an automated interactive voice response system that is part of the University of Miami’s proprietary software platform called My Wellness Research. My Wellness Research is a research management and communication platform that incorporates data from wearable devices and leverages machine learning to gain insights and improve patient care. The interactive voice response system is one feature of this platform, available in both English and Spanish, which calls patients weekly, asking about potential physical symptoms from anticancer therapy, as well as psychosocial concerns like anxiety and depression.

“The beauty of this is that patients don’t have to have a smartphone. They can use a touch-tone phone or regular
landline, which is important because these are communities where people might not have internet access,” Dr. Crane said. “Sylvester’s technology also integrates with NRG Oncology and NCI’s data system, so if we find that this intervention works, cancer centers could use it to manage cancer patients nationwide.”

Support Interventions

In the study, participating cancer clinics will recruit patients who are receiving oral anticancer medications. All patients will receive phone calls from the voice-activated system weekly asking about any symptoms they may be experiencing, which will be reported to their clinical care team. Additionally, at clinics randomized to the intervention, patients will receive a symptom support intervention.

“We're testing whether patients at the clinics with the intervention have better symptom management,” Dr. Crane said. “We’re also surveying cancer center providers to determine if the technology saves them time. This is another highly relevant component of the research because cancer care clinicians are in short supply in many communities surrounding Sylvester and throughout the U.S. A technology that helps them manage potential toxicities in the community setting while providing quality care could make a huge difference.”

Expedited Care

Yet another aspect of this research, done in collaboration with Michigan State University and the University of Arizona, is that the voice-activated system steps up patient care based on the Symptom Management Handbook, a document that Dr. Crane
“I’ve been a co-investigator on three trials that have tested the Symptom Management Handbook intervention. Leading up to this trial, we would call people on the phone and ask them about their symptoms. They would tell us how they were doing, and then we [humans] would refer them to specific chapters in the handbook to help manage these symptoms. In this study, we’ve removed the human and the referral to the chapters is instead being delivered by this voice response system,” she said.

Based on what patients report, the technology refers patients reporting certain symptoms to symptom management, or if they’re experiencing elevated anxiety or depression, the system directs patients into a psychosocial telephone-based interpersonal counseling intervention.

“This is an exciting time for patient care that’s quickly moving from the hospital to the home. With a voice response system like this, we might find that we can be more responsive to worsening symptoms for patients in underserved areas,” Dr. Crane said.