

## New Apps Fighting Killers



[Oregon Health & Science University](#) have released an iPhone app designed to advance melanoma research by giving users the ability to accurately measure and monitor moles, and contribute photos of how their potential trouble spots evolve over time. Called Mole Mapper, the App allows individuals to photograph and measure mole sizes relative to a common reference object, like a coin, over time. In addition to providing a more accurate method for tracking, the app gives individuals the opportunity to contribute to a melanoma research initiative.

Dan Webster, a cancer biologist, created this app to help monitor his wife's moles between visits to the dermatologist. "It's amazing to think this app — something I created in my spare time — now has the capacity to involve so many people in the fight against melanoma," said Webster. "Tracking your moles on your phone now gives you the opportunity to contribute to cancer research. It's incredible."

Webster then teamed with OHSU's Sancy Leachman, M.D., Ph.D., chair of the Department of Dermatology in the OHSU School of Medicine and director of the OHSU Knight Cancer Institute's Melanoma Research Program. Sage Bionetworks, is also a key partner in managing and analysing the Big Data.

### Expanding Study

Since Leachman launched the registry in 2014, more than 3,600 melanoma survivors, family members and friends have joined. Her hope is that the Mole Mapper app will expand that number into the tens of thousands. "Our hypothesis is that digital images taken by members of the public on cell phones could one day be used to develop diagnostic algorithms for melanoma," said Leachman. "To test this theory, we need a large number of images, and that's where our partnership with Apple and Sage Bionetworks is key."

Leachman said this was just the beginning of the war on Melanoma. "We now have the unprecedented opportunity to bring in more data than ever to fuel research. This can be another tool to empower patients to take charge of their health monitoring. It also gives health care providers additional data to inform patient recommendations and diagnoses."

### Fighting COPD

Also on the app front, and aimed at cutting rehospitalisation, a digital health application for reporting symptoms of Chronic Obstructive Pulmonary Disease (COPD) has facilitated early detection and treatment of COPD exacerbation symptoms, according to an analysis from the [Temple Lung Centre](#).

The digital health application allows patients to report their respiratory symptoms and peak flow measurements, which are converted to a symptom score by a computer algorithm. That score is then compared to the patients' baseline metrics. A score that exceeds the patients' baseline metrics by a predetermined amount generates an alert that is conveyed to the patient and stored in the system for a nurse to review.

"Given a general lack of awareness among patients of small day-to-day symptom changes and the pace of symptom worsening in COPD, daily COPD telemonitoring is an attractive approach to facilitate early intervention, provided that the system is used and that the health care provider responds in a timely manner," said Dr. Criner, study leader and Director of the Temple Lung Centre. "Patient adherence to daily symptom reporting system using this application exceeded 90% for more than half of the participants, and 90% of worsening COPD symptom reports were responded to in less than 11 hours with patient-specific treatment recommendations. That's substantially better than response times reported in recent COPD research literature."

COPD is the third leading cause of death in the United States. The chronic lung disease is characterised by reduced airflow, inflammation and flare-ups, called exacerbations, in which the patient may experience increased coughing, mucus, shortness of breath, wheezing, and a feeling of tightness in their chest. If those symptoms are not detected and treated in a timely fashion, they can escalate and lead to repeated trips to the emergency department, hospitalisations, disability and a diminished quality of life.

Source: [Oregon Health & Science University](#), [The Temple Lung Centre](#)

Image Credit: Mole Mapper

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