

# Text message reminders can encourage healthy action

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People who received daily text messages reminding them to apply sunscreen were nearly twice as likely to use it as those who did not receive such messages, a new study led by a UC Davis Health System dermatologist has found. Researchers hope their findings, which appear in the November issue of the *Archives of Dermatology*, will inspire other health-care providers to use text messaging to encourage healthy habits in their patients, such as taking prescribed medications properly.

"Our study showed that people do respond to reminders," said April Armstrong, director of the UC Davis Teledermatology Program. "Cell phones are a smart way to communicate regularly with patients because people take them everywhere."

Using technology people already have is a relatively inexpensive way for health-care providers to improve compliance and prevent disease - in this case, by encouraging the regular use of sunscreen to prevent skin cancer caused by the sun's harmful ultraviolet (UV) rays.

"At the start of the study, we did not know how people would react to getting text messages as reminders. But the measurable differences we found in behavior were encouraging and exciting and suggest that using common communication tools can sometimes reap substantial benefits and opportunities to improve health and health care," said Armstrong, who is also a UC Davis assistant professor of dermatology.

According to the National Cancer Institute, about one million new cases

of non-melanoma skin cancer - the kind that begins in the non-pigment producing cells of the skin - are reported every year. [Melanoma](#) begins in pigment-producing cells, such as those that make up moles, and is comparatively rare. Fewer than 70,000 cases are reported in the U.S. each year.

A person's risk of developing skin cancer is related to lifetime exposure to [UV radiation](#) from the sun. Sunscreen may help prevent [skin cancer](#). Dermatologists like Armstrong also recommend that people further limit exposure by avoiding midday sun and wearing sun-protective clothing.

Getting people to apply sunscreen, however, has proven difficult over the years. Only about 20 percent of adults in the U.S. report regular use of sunscreens, and many do not use sufficient amounts, according to the National Health and Nutrition Examination Survey. Armstrong and her colleagues developed the novel approach to increase sunscreen use.

For the current study, Armstrong, who was research fellow at Harvard University at the time, recruited 70 healthy people in the Boston area to participate in the study. The participants had to demonstrate that they could send and receive text messages on their cell phones. Armstrong and her colleagues gave each participant a bottle of sunscreen equipped with an electronic sensor that sends an electronic signal to a central computer each time the bottle was opened.

Participants were randomly assigned to two groups and told to apply sunscreen daily. One group received a two-part text message every morning: a weather report and a message reminding them to wear sunscreen. The control group received no text messages.

"Our goals were to keep the messages short so that they could be read at a glance and to have a good hook," Armstrong explained. The first line of the message changed with the fall weather in Boston. The second line

regarding sunscreen usage also changed daily and included messages like "Slap on some sunscreen" and "Sunscreen is your friend."

"We didn't want the people to get message fatigue," Armstrong said.

The study ran for six weeks. Researchers calculated the total number of days per week that people in the two groups applied sunscreen. They then determined the average daily adherence rate. Those who did not receive the messages had an average daily adherence rate of 30 percent, meaning they used sunscreen less than about one day in three. The group that received the messages had an average daily adherence rate of 56.1 percent.

Armstrong said she hopes that these results will encourage other health-care professionals to use text messaging in similar ways. Scientists, for example, have studied other strategies to improve patient adherence to physician recommendations, such as programs where nurses visit patient homes to help remind people to follow their doctor's orders.

"This study is a bit different," Armstrong said. "Our team showed that an inexpensive and convenient technology can result in behavior changes that could potentially improve a person's health."

Armstrong is now exploring how affordable, consumer-grade technologies might also be used to increase access to specialty medical care. She plans to study the effectiveness of follow-up care for patients with a chronic skin disease by comparing their outcomes from conventional medical office visits with those done online. For the online visits, patients will take digital photos of their skin conditions and send the images securely to a dermatologist, who will then e-mail treatment recommendations and prescriptions. Armstrong thinks the study could show that online care can be an effective way to improve patient access for some specialty services.

Source: University of California - Davis

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