

New study examines how medical symptoms presented online makes a difference in health-care choices

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Maybe you've had a reoccurring sore throat or frequent headaches. Perhaps the pain in your leg won't go away. In the past, you might have gone to a doctor's office to diagnose symptoms.

Today, people are more likely to go online to punch in their symptoms.

Details of a new study examining how symptoms presented online influence people's reactions to possible medical conditions will be presented in [Psychological Science](#), a journal of the Association for Psychological Science. Researchers found that identifying symptoms in "streaks" - sequences of consecutive items on a list that are either general or specific - prompted people to perceive higher disease risk than symptoms that were not identified in an uninterrupted series.

The research was conducted by Arizona State University Associate [Psychology Professor](#) Virginia Kwan, Sean Wojcik of the University of California, Irvine, Talya Miron-shatz of Ono Academic College, Ashley Votruba of ASU, and Christopher Olivola of the University of Warwick.

"A recent report by the Health Information National Trends Survey examined the use of Internet in seeking cancer-related information. More than 60 percent of individuals who are feeling ill go to the Internet to search for health information. Many decide to go to the doctor or not based on what they learn online," Kwan said. "This is really an era of self-

diagnosis. To our knowledge, our study is the first to examine the impact of online presentation formats on [medical decision](#) making."

The research team reviewed the symptom presentations of the 12 deadliest forms of cancer for either males or females on five reputable cancer websites. All of the sites varied in how symptoms were given with some in bullet points, others in paragraphs, severe and common symptoms listed in varied ways and the number of symptoms.

Two studies were conducted, one where a fictional type of [thyroid cancer](#) was presented to study participants with six symptoms listed. Researchers varied the way the symptoms were presented from three common and frequently experienced symptoms (i.e. – feeling easily fatigued) followed by three specific symptoms (i.e. – lump in neck); another group was presented symptoms with three specific followed by three common; and the third group received a symptoms list with common and specific interspersed. Researchers used the fictional cancer to ensure no one had prior knowledge of symptoms.

Study participants in the first two groups reported similar results, but the perceived medical risk was significantly lower for the last group that received specific and common symptoms that were interspersed.

A second study for a real type of brain cancer reported the same results as the first study, but when the symptom list was expanded to 12, effects of a list of consecutive series of symptoms was diluted.

"The length of the list matters," Kwan said. "This is analogous to a dilution effect. If you don't have that many symptoms, you may not experience concern about getting that disease if you're looking at a long list."

Medical implications of the study include insight into how symptoms

may be presented online, depending on goals. For instance, if someone wants to increase awareness of an emerging medical issue that requires treatment, symptoms that are more likely to be checked off in sequence can be grouped together, Kwan said.

According to Votruba, "If there are concerns that the perceptions of disease risk are too high, possibly resulting in over utilization of health services, then symptom lists should alternate common and specific [symptoms](#) or create longer symptom lists."

"Previous research shows that perception of risk of disease is a powerful predictor of health preventative behavior (such as going to the doctor)," Kwan said. "How information is presented online will make a substantive difference in behavior."

Provided by Arizona State University

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