

# Compliance and cost: Bitter pills to swallow in the age of oral chemotherapy

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Though the growing shift toward oral chemotherapy agents offers cancer patients greater freedom and independence during their treatment, physicians say use of the new medications also poses more chances for patients to skip doses, miss prescription refills, and take their drugs in a dangerous way. An increasing number of cancer patients who receive chemotherapy now do so at home, with the click of a pill bottle each day rather than the drip of an IV medicine that must be delivered in a doctor's office or hospital.

"People assume that if you have cancer, you're going to take your medication, but for a whole host of reasons, that may not happen," says Angela DeMichele, MD, MSCE, an associate professor of Medicine and Epidemiology at the University of Pennsylvania's Abramson Cancer Center, who will present a session called "Compliance and Cost: Bitter Pills to Swallow in the Era of [Oral Cancer Treatment](#)" on Sunday, May 31 at the American Society of Clinical Oncology (ASCO) annual meeting. "We need to recognize the reality of non-adherence and better understand how to help our patients take their medications in the most effective way.

Studies have shown that when patients don't adhere to their medication regimens, costs for their health care balloon due to more physician visits, more hospital visits, and longer stays once they're admitted. In addition, non-adherence during clinical trials may take a toll on the patient population at large, since the efficacy and toxicity data generated from studies may be flawed and unreliable when patients don't take their medications as directed.

A chief reason for non-adherence is money: Many of these medications are extremely expensive, and insurance coverage for these expensive oral chemo agents is spotty, leaving many patients to pay a substantial proportion of the cost of their

drugs out of pocket. Many older patients find that the Medicare Part D prescription coverage leaves them responsible for drug costs when they reach the "donut hole," where coverage ends but their need for cancer therapy continues. Side effects, from joint pain to hot flashes to nausea, may also make the drugs unpalatable. And education and cultural issues may pose barriers, if a patient can't read their medication instructions or holds religious beliefs that conflict with prescribed treatment. The change in drug schedule that oncology patients sometimes experience - when, for instance, their number of infection-fighting white blood cells falls too low to continue therapy for a time - may also lead to confusion about the importance of remaining on target with dosing instructions.

Patients who are considered cancer "survivors" are taking adjuvant drugs to prevent a recurrence - like tamoxifen for breast cancer - may simply tire of taking the drugs over the long term even when they feel well. In trials studying drugs like these, just 60 to 70 percent of patients stick with their regimen beyond two years, even though the trials are often designed to stretch out to five years for maximum benefit. Adherence to drugs given to prevent cancer is even worse, with studies showing that as many as 40 percent of women prescribed drugs for breast cancer prevention failed to take the drugs or took them only intermittently. Research shows the poor compliance takes a toll - in one study, women who filled fewer than 70 percent of their tamoxifen prescriptions had an increased risk of death.

With more oral agents coming to market each year - they are now available to treat cancers that attack the breast, blood, colon and lungs, among others - DeMichele and her colleagues are calling upon oncologists to find new ways to improve adherence. While patients with other chronic conditions like hypertension or high cholesterol may be able to duck in and out of drug treatment without urgent threat to their health, poor compliance with [cancer](#) drugs often poses an immediate danger: Some

tumors may grow quickly if left untreated, or be responsive to oral chemo agents only at early stages.

"You've got a very specific window of time in which you've got to take these drugs, or they're not going to work," DeMichele says.

Studies of behavioral interventions to boost adherence - such as written materials, education sessions with health care providers or simplifying dosing requirements so that patients don't need to take their medicine so often - show only small to modest impact, and they may not work for the long term. DeMichele and her colleagues suggest, however, that technology - from cell phone programs to computerized pill boxes -- remains an untapped resource for helping patients improve their compliance. One 2008 study, for instance, found that adolescents who played a video game called "Re-Mission" were more adherent to their oral chemotherapy and antibiotic regimens and showed an increase in cancer-related knowledge, compared to [patients](#) who did not play the game.

Source: University of Pennsylvania School of Medicine ([news](#) : [web](#))

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