



As more and more Americans come to rely on prescription medications, the risk of medication errors increase.

Image Source: Pexels user freestocks.org

Because of advances in pharmacology, the medical landscape in the United States has changed.

Illnesses that were once considered terminal are now manageable. Symptoms that once that greatly reduced quality of life can now be kept at bay. And conditions that only years ago were considered shameful have now been largely destigmatized thanks in part to the awareness raised by pharmaceutical companies.

As the number and efficacy of available medications have grown, so too have the number of people who rely on prescription medications in their daily lives. According to the Mayo Clinic, “nearly 70 percent of Americans are on at least one prescription drug, and more than half take two.”¹ But while this expansion of therapeutic drug use undoubtedly has meaningful benefits for millions of people across the country, it also raises the risk of medication errors such as accidentally taking the wrong medication, particularly in households where multiple family members use daily medications. In 2012, nearly 300,000 people called Poison Control for assistance following a medication error. While many medication errors are relatively benign, this is not always the case; according to the FDA, “Medication errors cause at least one death every day and injure approximately 1.3 million people annually in the United States.”²

As more medications come to market and the number of users continues to grow, the pharmaceutical industry is turning to innovative solutions to prevent medication error. And, as is so often the case, one of the best solutions is also the most simple: color-coded packaging.



The ClearRx prescription bottles used by Target use an innovative color coding system to help family members identify their medications.

Image Source: Bart

The Rise of ClearRx

Deborah Adler didn't set out to change medicine. Despite coming from a family of doctors, she chose a different path, enrolling in an MFA program at the School of Visual Arts in New York. But before she was even 30, Adler had revolutionized the most common pharmaceutical product of all: the prescription bottle.

It all started when her grandmother accidentally took medication prescribed to her husband. "The drug store prescription bottle, it occurred to Adler, is not just unattractive, it's actually dangerous. Statistics back her up: According to a recent poll conducted for Target, 50 percent of prescription-drug users have taken medication incorrectly."³ To correct this, Adler devoted her senior thesis project to a new and improved prescription bottle design that prioritized function over form; each prescription bottle has a large flat surface onto which the label is attached, making it easy to read. The label itself features the name of the drug prominently across the top of the bottle and the top of the label, with directions directly below, making it easy to identify each medication and understand how to use it. But one of the most remarkable aspects of Adler's design was the use of color; in her original concept, each family member was assigned a unique label color to easily differentiate between users, preventing potentially harmful medication errors.

Adler's ClearRx bottle design was quickly snapped up by Target, which worked with Adler to make slight design changes, one of which was a color-coded plastic ring around the neck of the bottle. Each family member is assigned a different color to make differentiation easy. For Richard Stone, a Target customer in Minneapolis, the color-coding system is a big selling point; he and his wife each take 3-4 different medications and "the new bottles help."⁴ "I've got the blue, she's got the red. It makes it easier to tell which is which." And Richard wasn't the only one who appreciated ClearRx;

when the bottles were phased out after CVS recently took over Target's pharmacies, devotees of Adler's design were outraged, taking to Twitter to demand the return of their beloved prescription bottles. Some analysts are even blaming the return to traditional bottles for Target's falling sales; as Laura Northrup noted in The Consumer earlier this month, "Take heed, CVS: people really, really, *really* like those bottles."⁵

Time will tell if CVS will bring back ClearRx. In the meantime, however, the devotion of Target customers to the prescription bottles sends a clear message: color-coded packaging works. At a time when pharmaceutical companies are increasingly using color as [a key packaging element to increase adherence](#), ClearRx is a concrete, real-life example of the wisdom of such efforts.



Spectrophotometers are an essential tool to ensure accurate coloration of color-coded packaging, optimizing their ability to prevent medical errors.

Image Source: Pexels user pixabay.com

Spectrophotometric Monitoring of Color-Coded Packaging

While instrumental color measurement is vital to many industries, it is perhaps never more important than when color is deployed as [a medical safeguard](#). As such, pharmaceutical companies must take great care to [choose the best tools to achieve consistent coloration](#) of color-coded packaging elements. With a range of optical geometries, today's sophisticated spectrophotometers are ideally suited to precisely measure the color of all packaging materials, from [papers](#) and [inks](#) to [plastics](#) and [foils](#), ensuring accurate and repeatable results. By replacing subjective visual analysis, spectrophotometers allow you to color match with ease and continuously monitor packaging elements throughout production. If undesirable color variation is detected, affected products can be immediately quarantined and kept from entering the marketplace, thereby preventing potential medical errors.

For over 60 years, [HunterLab](#)'s spectrophotometers have been sought out by the pharmaceutical industry to meet its diverse color measurement challenges. Our state-of-the-art technologies have been developed in response to the needs of our customers and set a new standard for accuracy, flexibility, and user-friendly design. With [a comprehensive range of instruments](#) to choose from, HunterLab provides innovative solutions for all phases of pharmaceutical packaging production,

from research and development to manufacturing, giving you the highest level of insight and quality control. [Contact us](#) to learn more about our renowned spectrophotometers, customizable software packages, and world-class customer service, and let us help you select the right tools for your needs.

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4. “Target Turns Old Pill Bottle Design On Its Head”, April 26, 2005, http://www.nbcnews.com/id/7634269/ns/health-health_care/t/target-turns-old-pill-bottle-design-its-head/#.V8cBfJMrJE4
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