## **Avoiding Medication Errors - A Patient-Centric View**

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There are a large number of pharmaceutical companies that produce a wide range of medicines and formulations prescribed by doctors or are available Over the Counter. These medicines form an important part of treatment protocols. Given its critical nature and importance, the pharmaceutical sector is fairly regulated.

With the advent of e-pharmacies, there is a lot of useful information on branded and generic medicines available online. However, from a patient's perspective, they still struggle to manage their medications and ensure that these medicines are administered safely. As is well-researched, medication errors contribute to 50% of all avoidable harm. While the healthcare sector is trying to do its best to reduce the incidence of avoidable harm, there is still a lot that needs to be done.

There are several areas, with a patient-centric approach, pharmaceutical companies can facilitate the minimization of errors at the patient's end. This patient-centric approach would not add to costs but would help patients in several ways. For patients, various issues arise in dispensing and administering medicines, which can easily be solved. With a patient-centric, responsible, and ethical approach. This should be done voluntarily without the drug regulators enforcing it.

To be specific here are some examples of how patient-centricity could minimize errors:

**Information Printed on Medicines:** A lot of important information is printed on medicine strips & packaging. In most medicines, the brand name and composition are only printed at one place on the strip, along with details of batch number and expiry date. Once patients start consuming the tablets/ capsules, it becomes difficult to read the medicine name or the expiry date. Also, when we take only buy part of the strip, the pharmacy cuts the strip and gives us the quantity required.

The cut part will have either the name of the medicine or the expiry date, creating problems for patients as they are unable to identify the medicines. There are also examples when the name of the medicine is printed at several places, as is the expiry date, making it always readable by patients. This should not be an issue to make this standard across the industry.





Cut - Make a gap

**Number of Pills per Strip:** There is a large variation in the quantity of pills per strip, ranging from 10, 12, 15, 20, to 30 tablets per strip. Pharmacies insist on patients buying a full strip even if they need a lesser quantity. This results in unused medicines going waste and disposed of. It may appear as a commercial strategy to compel patients to purchase more than necessary.

The strip sizes should be standardized to 10, except for specific medicines with a prescribed course of fewer than 10 tablets. This will also assist patients who take multiple medications in ordering sets of 10, avoiding mismatched quantities. This shift does not create any issues for the pharmaceutical industry and should be implemented immediately for increased efficiency.



**Illegible Printing:** In several cases, the printing on the medications is illegible as can be seen from the examples. They are either moulded on the dispenser, crimped on the edge or the print contrast is so poor that one can easily make a mistake.



Illegible Printing - Similar Color/ Size



**Look-Alike Sound-Alike Medicines:** Look-alike sound-alike (LASA) medicines refer to medications whose names or packaging are similar, leading to a risk of confusion. This similarity does result in medication errors in prescribing, dispensing, or administering the wrong drug. Such errors can have serious consequences for patient safety. Some Pharma companies have taken measures to minimize the risk of LASA errors, including distinct packaging, labeling, and increasing awareness of risks. Here are some examples of look-alike sound-alike medicines:

**For example**, Hydroxyzine and Hydralazine sound similar, but they are used for very different ailments. Hydroxyzine is an antihistamine used to treat allergy symptoms, whereas Hydralazine is an antihypertensive used to treat high blood pressure. The mix-up can cause errors by the dispensing by pharmacy, nurses, and patients as well. With some sensitivity and creative naming, we can ensure that the names are not getting mixed up.



Similar Packaging - Different Medicine

For the same generic drug/formulation, various brand names are prescribed by different doctors. These brands often have very similar names. If existing brands have been well-established, at least for all new medicines or new Pharma companies, sound-alike brand names should not be allowed. For existing brands, there can be a caution label on the medicines, as shown in the illustrations here. Given the seriousness of the issue, Again, if the pharma companies do not enforce this on their own, sooner or later, the regulator will.



Similar-Looking Packaging and Labeling: Similarities in the packaging and labeling of different medications can contribute to major dispensing errors. Pharmacists and nurses are often overburdened, and due to look-alike packaging, disastrous errors can occur. In the examples shown here, the packaging looks the same, but the medicines or dosages are very different. Clear differentiation in appearance and labeling is crucial to avoid confusion – package size, colors, and shapes of packaging can be easily made differently to ensure errors do not happen. A patient-centric package designer can easily resolve this at no cost.





**Medicines Not Yet Banned in India:** There are several medicines & formulations that are banned in developed countries based on side effects observed over a long period. These bans are evidence-based and backed with data. The list is continually growing. There are times

when the Indian drug regulator may not have yet banned these medicines, and there may be a time lag which can be even several years. Patients are often unaware of these situations and continue to consume medicines that have been found harmful elsewhere. It is the moral responsibility of the healthcare community to use their own judgment and avoid prescribing such medications or alerting the patients. Pharma companies too should voluntarily withdraw drugs banned in other developed countries from the market rather than wait for regulators to ban them.

## Disposal of Expired or Unused medications

To dispose of expired or unused medications, there are no local pharmacy drop-off programs or safe disposal procedures currently in place in India. Currently, these unused expired medicines are simply tossed into the garbage or flushed. Many of them contain toxic materials that can leach into the ground or contaminate water, causing significant harm unknowingly. It should be the responsibility of pharmaceutical companies to collectively initiate campaigns and awareness on methods for safe disposal. Additionally, there should be a clear warning on drug packaging if the medications are specifically toxic in nature.

**Detecting Spurious Drugs:** It is believed that spurious drugs are very prevalent in India. Spurious drugs not only impair the treatment plan but also cause financial loss to the pharmaceutical industry. It is not easy for patients to distinguish and establish the authenticity of the medicine just by looking at the packaging. Educating patients, as well as pharmacies, on how to distinguish spurious from genuine drugs is the responsibility of the pharmaceutical industry. With many technological solutions available, the industry needs to collaborate and put an end to this menace, which is causing avoidable harm.

**Storage of Medicines:** In a country like India, which has a hot climate, if the end-to-end cold chain is not maintained, we could be administering poor-quality, degraded, or harmful medicines. While the cold chain may work up to the distributor level, it's not always maintained at the last mile and at the patient's end. If medicine needs to be kept refrigerated at home, it should be boldly written on the package and not in fine print, as it is today. With the advent of e-pharmacies and multiple delivery channels for fulfillment, this issue would increasingly needs attention.

Drugs are meant to save lives, not to cause death or harm. Pharmaceutical companies are responsible and have patient safety as a primary goal. A little more attention and care, taking the patient's perspective, and engaging patients in their own safe care. would help prevent avoidable harm.



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