

## Reuse of unused medicines to reduce the wasteful spending on healthcare: A critical view

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### ABSTRACT:

Spending on medicines makes a substantial proportion spends in the healthcare system and the countries like India where we still don't have basic health facilities for the people needs to have proper channel to utilize the unused medicine. We need to have the proper education system for both healthcare professional and the people for reuse of unused medicine. Some of the western countries have already implemented the drug take back system in their national health care system. Data from original scientific papers published in PubMed, PubMed Central, and Google Scholar were taken for review. The review concluded that governments and policy makers should take a positive step in initiating and executing drug take-back programs and also implement measures to raise awareness regarding the same in the general public.

**Keywords:** unused medicine, drug take back system, healthcare system

### I. INTRODUCTION:

Unused medicines at home can become waste for various reasons. Non-compliance, disappearance of symptoms for the disease, change in medicine or treatment and purchasing errors all of these are the reason that the medicine either remaining unused or being expiring at home. Estimates of the share of household medication becoming waste vary from 3% to as high as 50%.<sup>1</sup>

Even as the Ministry of Consumer Affairs is working on a proposal to ensure consumers buy only the quantity of medicines prescribed/desired and not the entire blister pack, a recent survey reveals otherwise. A survey conducted on over 33,000 respondents by LocalCircles says people throw away anything between 10 per cent and 70 per cent of the medicines bought/prescribed. It shows 36 per cent of respondents discard up to 10 per cent of the medicines purchased; 27 per cent

end up throwing out up to 10-30 per cent; 6 per cent dispose of 30-50 per cent of the medicines unused; and about 6 per cent scrap anything between 50 per cent and 70 per cent of the medicines acquired.<sup>2</sup>

We promote the proper disposal of unused medicines at home or pharmacy. Various measure to reduce the inadequate disposal of unused or expired prescription and non-prescription medicines reduces the substantial threat for diversion, improper use of medications, and helps protect our environment.

It is important for the health professional to consider the impact of unused medicine from all sources rather than just waste disposal even though there search have indicated that only a small portion of medicines enter the environment through waste disposal.

The regulatory agencies , health care professional and the public need to work in collaboration to better understand the potential impacts linked with the improper disposal of unused or expired medicines. And this can be done through various education and awareness health care programs.

The release of active pharmaceutical ingredients from the improperly disposed medicine may cause significant damage to our environment and we need to reduce this potential also.

In some of the countries, efforts are already made to manage unused medicines and some of those are promoting patient and their families on disposal of unused medicines properly and collecting the unused medicines which can be reused, partnership between the health care provider and the various pharmaceutical companies to encourage proper disposal of unused medicine, addressing the issue of abusing the medicines and some voluntary community programs and law enforcement activities.

The US Food and Drug Administration (FDA) advice applies only to the disposal of medicines in the United States. Most drugs can be thrown in the household trash in the United States, but consumers should take certain precautions before tossing them out, according to the US FDA. A few drugs should be flushed down the toilet.<sup>3</sup>

The European Waste Framework Directive (2008) [OJ L 312 22.11.2008, p. 3] defines 'waste' as being 'any substance or object the holder discards, intends to discard or is required to discard'. As such, waste in respect to medicines refers to items which have been dispensed but are unused or partly used by patients and eventually need to be disposed of, either because they are no longer needed or because they have passed their 'sell by' date. Waste medicines may remain stored in patients' homes, be informally disposed of as

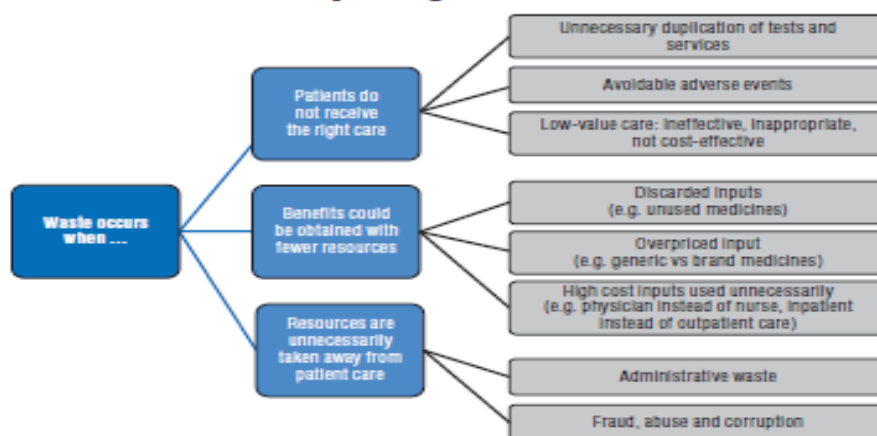
undifferentiated household waste or returned to a pharmacy or a doctor.

**Wasteful Spending:<sup>4</sup>**

Wasteful spending can range of effects and forms. The various effects are below:

- Patients are unnecessarily harmed, or receive unnecessary or low-value care that makes little or no difference to their health outcomes.
- The same outcomes can be achieved with fewer resources. For example, some health systems have low utilisation of generic medicines; others provide care in resource intensive places such as hospitals, when it could be provided in the community.
- A number of administrative processes add no value, and funds are lost to fraud and corruption.

Below is the pragmatic approach to identifying and categorising wasteful spending on health



Source: Adapted from OECD (2017), Tackling Wasteful Spending on Health, <http://dx.doi.org/10.1787/9789264266414-en>.

**Healthcare spending:**

Evidence proves that as much as one-fifth of health spending is wasteful and could be eliminated without undermining health system performance. This alarming estimate rarely challenged by experts and these facts are well supported by available research data. A sample of physicians in France reported that on average twenty eight percentage of interventions as not fully justified in 2012. Similarly, A study in the Netherlands estimated that 20% of expenditure on acute care could be saved by reducing overuse, increasing the integration of care, and involving patients in care decisions. A country that spends less on health than many other Western European countries as Italy, the proportion of inefficient or wasteful public spending was estimated to be around 19% in 2017.<sup>5</sup>

Around 9.6% of Europe's GDP devoted to health care as of 2017, waste serves only to undermine the financial sustainability of health systems. Pursuing efficiency in health spending and maintaining access to services are persistent, but at times conflicting policy challenges in most European countries. To improve both value for money and support it is impervious to tackle wasteful spending.<sup>5</sup>

**Indian Scenario:**

The Indian pharmaceutical (pharma) market is estimated to be about Rs 1.8 trillion. About Rs 270 crore worth of medicines are wasted once they are past their shelf life.<sup>2</sup>

**Background research:**

Various studies from numerous countries evaluated the existing knowledge and practices

towards unused and expired pharmaceutical among healthcare workers.

A questionnaire based study explored the awareness and disposal practices of unused or expired in the general public and it showed that the half of the people felt that knowledge can be imparted by healthcare workers through doctors, nurses, and pharmacists. A substantial proportion of people also felt written instructions on medicines packages and labels will be helpful.<sup>6</sup>

A questionnaire based survey among the students of dentistry from the Indian sub-continent showed that about 70% of the dental students stored up to five expired medications at home, and their predominant method of disposal was through household trash.<sup>7</sup>

A study from North India assessed the attitude and practices of among 300 healthcare professionals (HCPs) regarding the disposal of unwanted or expired medicines.<sup>8</sup>

There are various sets of international guidelines already existed on the appropriate methods of healthcare waste management, but these are either not properly extrapolated for general public use or the public is almost totally unaware of these international guidelines.<sup>9</sup>

There is an urgent need for proper awareness, education and guidance of patients and their families about storage and disposal practices regarding unused and expired medications.<sup>10</sup>

## II. CONCLUSION:

The healthcare system and the professionals involved need to play a crucial role in educating and guiding the general public in this regard. It is also recommended that governments and policy makers should take a positive step in initiating and executing drug take-back programs and also implement measures to raise awareness regarding the same in the general public. Last but not the least, it is the duty and responsibility of every person in the society to take care of the environment and protect it from the unscrupulous exposure of any chemical substances including pharmaceuticals which can damage the ecosystem.

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