A recent study in The Journal of Pediatrics revealed that the number of accidental drug overdoses by children is increasing in the United States. An investigation of hundreds of thousands of patient records showed that the number of accidental drug poisonings among children under 5 years of age increased 22% from 2001 to 2008.

In 95% of the cases, the overdose occurred because the child self-ingested the drugs, as opposed to a labeling or dosing error.

Why? How are so many young children finding and consuming medication? And more importantly, what could be done to prevent these accidental overdoses? This incident can be built into a Cause Map, an intuitive visual method for root cause analyses. Better understanding the causes that contribute to a problem can lead to finding better solutions.

According to the study, one of the causes contributing to the increase in accidental overdoses is that there is simply more medication in homes with small children. As lifestyles change, the population is facing more health problems. Obesity and metabolic syndromes are more common at younger ages than in the past and more homes of small children now contain medication associated with these illnesses as well as a variety of other medications.

Changes in drug technology have also affected the severity of overdoses, if not the number of occurrences. More sustained-release medications are being prescribed and they can result in more severe poisoning. The study also suggests that there is a possibility that people are being less strict about storing drugs safely, but it’s difficult to prove. There is also the issue that people may not be aware of how dangerous their prescription and OTC medications are.

One thing we know is that the current safety precautions are ineffective. Children are finding ways to open child proof caps and warning labels aren’t sufficiently motivating adults to safely store medications in locked or inaccessible locations.

Changing medication packaging is one of the potential solutions being considered for this problem. New packaging that would be more difficult to open or would only dispense limited amounts of medication. Bottles can be designed to dispense one pill at a time or restrict the flow of liquid.