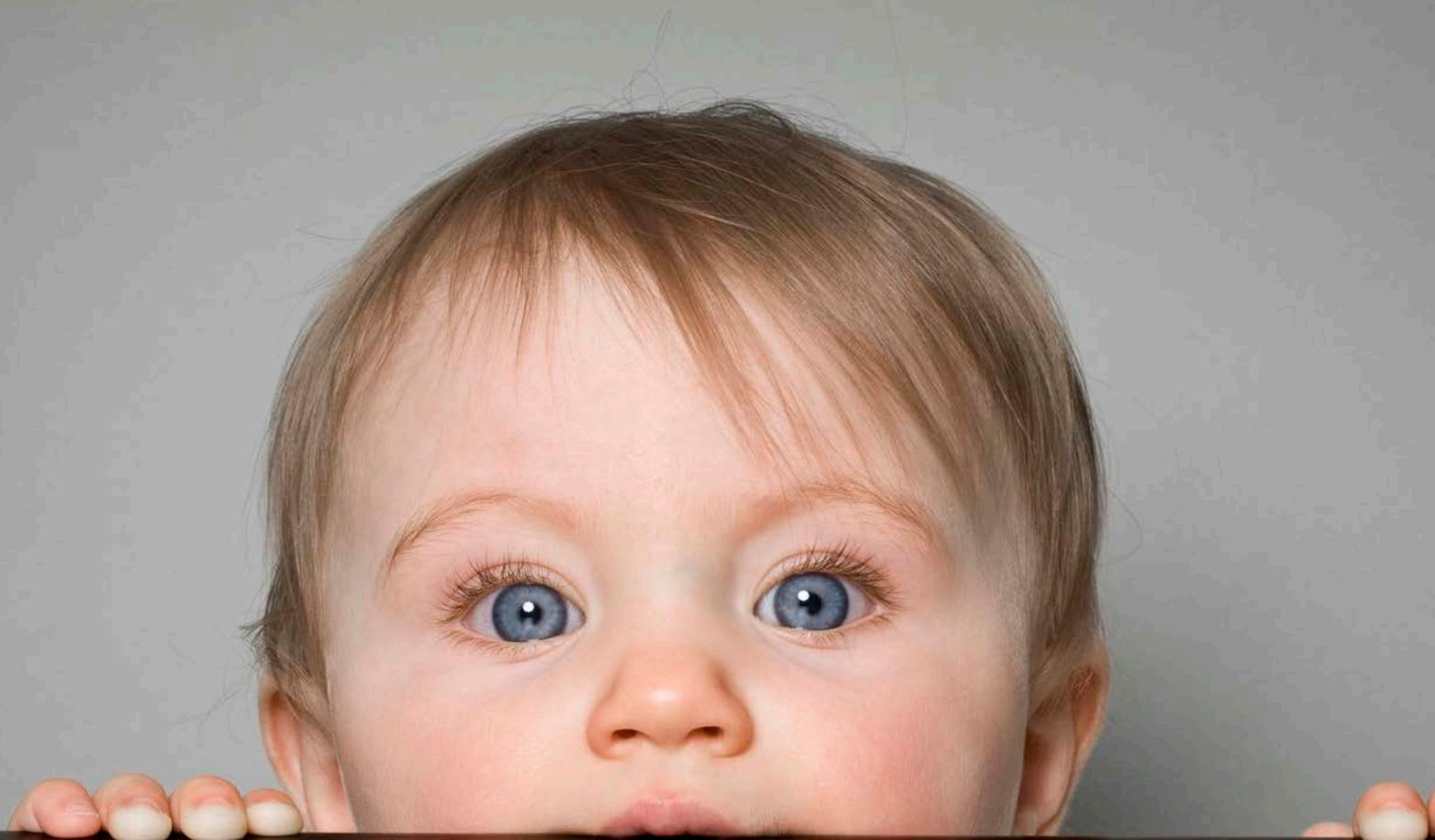




Safe Medicine Storage: A Look at the Disconnect Between Parent Knowledge and Behavior

March 2017



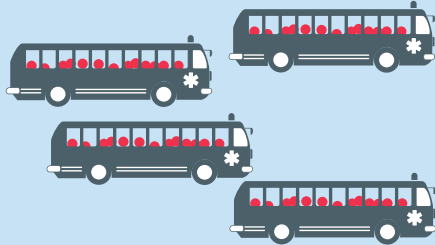
KIDS and MEDICINE SAFETY

Convenience vs. Caution

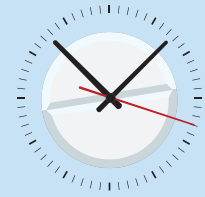


THE PROBLEM

Each year, nearly **60,000** young children — or **about four busloads per day** — are seen at emergency departments (EDs) because they got into medicine.



Almost **every minute of every day** there is a call to a poison control center because a young child got into medicine.



THE DISCONNECT

9 IN 10 PARENTS AGREE



it is important to store all medicines **out of sight and up high** after every use.

HOWEVER,



nearly **7 in 10 parents** report **storing medicine within a child's sight** (on a shelf or surface at or above counter height).

9 IN 10 PARENTS AGREE



medicine should be **kept in the original container**.

HOWEVER,

more than **1 in 3 parents** say they or someone in their household **always or often** uses a **daily pill organizer or baggie** that children can easily get into if it's not stored out of sight and reach.



CONVENIENCE OVERRULES CAUTION

4 in 10 parents agree that it is **okay to keep medicine they or a child takes every day** on the kitchen counter or another visible location so it is handy.



And nearly **5 in 10 parents** agree that **when a child is sick, it is ok to keep the medicine on the kitchen counter or another visible location between doses** so it is handy.



But, in **3 of 5 accidental medicine poisonings** involving young children, the medicine wasn't in its usual or "normal" storage location and was therefore accessible.



UNDERESTIMATING THE RISKS

Nearly 3 in 5 parents think if medicine is out of reach, it's in a safe place.



But, research indicates in about half of OTC poisoning cases, the child climbed on a chair, toy or other device to reach medicine.



1 in 3 parents think if their child is being watched, it doesn't matter as much where medicines are stored.



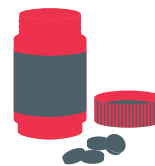
But, parents frequently said in ED visits that they'd only turned their back for a minute.



Half of parents think child-resistant packaging means a child won't be able to get into medicine at all.



But, research suggests 45-55% of accidental poisonings involved child-resistant packaging.



Convenience + Risk = 440,000 Poison Control Center calls in 2015 because a child got into medicine.

HOW TO HELP PROTECT YOUR KIDS

- Store all prescription and OTC medicines, vitamins and supplements up and away and out of sight and reach every time.
- Keep medicine in its original child-resistant packaging.
- Practice safe storage of medicine as soon as your first child is born.
- Put the Poison Help number – 1-800-222-1222 – into your phone and post it visibly at home.
- Instead of keeping medicine handy, use safe reminder tools to help you remember when to take and give doses.
 - Set alarms on your watch or cell phone.
 - Write a note to yourself and leave it somewhere you look often.
 - Combine taking daily medicines with a daily task, like brushing your teeth.
 - Use a medication schedule to make sure the right amount of medicine is given at the right time.

For more medicine safety tips, visit www.safekids.org

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Executive Summary

Every single day in America, young children get into medicine. Almost once a minute, poison control centers get a call because a young child got into medicine. And emergency departments see enough children each day to fill about fourⁱ school buses for the same reason.¹⁻² While these numbers have steadily decreased since peaking in 2010,³ accidental medicine poisonings from prescription or over the counter (OTC) medicines, vitamins and supplements continue to occur at an unacceptable rate. For the most part, parents and caregivers — the first line of defense for protecting kids from medicine poisoning — know that all medicines should be stored up and away to keep them out of sight and reach of young children. Despite both these facts, accidental unsupervised medicine poisonings continue to occur in numbers alarming enough to suggest the urgent need for ongoing education and awareness efforts about safe medication storage.

This report is the sixth in a series produced for the Safe Storage, Safe Dosing, Safe Kids national initiative launched by Safe Kids Worldwide in March 2012. In 2017, Safe Kids conducted a nationwide online survey among 2,000 parents with children under age 6 in order to better understand their knowledge, attitudes and behaviors when it comes to the safe storage of medicine.

The survey findings revealed a striking gap between parents' knowledge of what they should do to protect kids from accidental medicine poisoning and their own behavior or attitudes. In fact, while 9 in 10 parents agree it is important to store all medicine out of sight and up high after every use, nearly 7 in 10 report that, in reality, they often store medicine within a child's sight - on a shelf or surface at or above counter height.

These results suggest a pressing need to educate parents further on why “up and away and out of sight” every time is so important and what it really means, particularly when so many parents are still choosing to keep medicine visible and handy for convenience sake or as a memory aid. The survey findings also show that some parents may underestimate their own child's risk of medicine poisoning because they think their child can tell the difference between medicine and candy or because they don't realize how resourceful even very young children can be when it comes to climbing up and opening containers. Instructing their children to stay away from medicine and child-resistant packaging may also be giving parents a false sense of security.

These findings highlight the need to continue efforts to encourage parents to:

- Store all prescription and OTC medicines, vitamins and supplements up and away and out of sight and reach after every use;
- Keep medicine in its original child-resistant packaging;
- Use safe tools to help them remember to take/give medicines instead of keeping them within sight and reach of kids; and
- Put the Poison Help number — 1-800-222-1222 — into their phones and post it visibly in their home.

ⁱ Roughly 60,000 children visit emergency rooms every year due to accidental medicine poisonings.

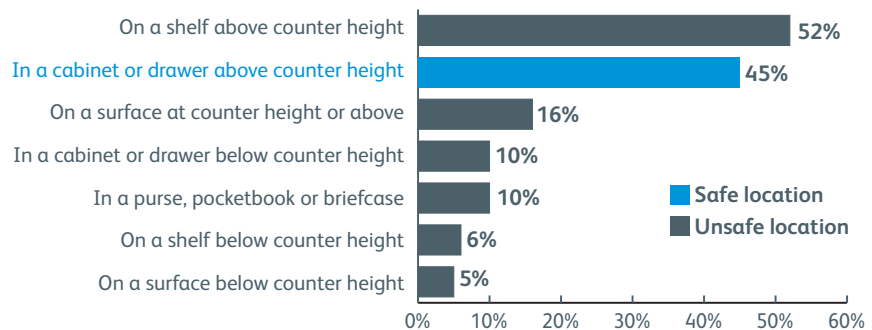
Parental Knowledge and Attitudes About Accidental Medicine Poisoning of Young Children Don't Always Translate into Safe Behavior

Today's world is a fast-moving and busy place. Parents often struggle to balance competing demands while working hard to make safe and healthy choices for their families. With more medicines in the home than ever before, parents face increasing challenges to protect their children from accidental medicine poisonings.⁴ And while parents know the right things to do (for the most part), these poisonings are still occurring at an alarming rate.

Safe Kids wanted to understand why so many of these poisonings are still occurring when parents know and generally practice safe storage. We conducted research examining their knowledge, attitudes and behaviors around the safe storage of medicines with a nationwide survey among 2,000 parents with children under age 6. The online survey, which consisted of 35 questions, was fielded from January 19 to 25, 2017 using Survey Sampling International's online adult panel.

We found that while 9 in 10 parents agreed that it is important to store all medicines out of sight and up high after every use, their reported behavior tells a different story. More than half of parents admit to storing at least one category of medicineⁱⁱ in a location which does not meet the definition of safe storage – out of sight and reach. (Figure 1).

Figure 1. The majority of parents store medicine in at least one location where it is unsafe because it is either in sight or reach of young children



ⁱⁱ Prescription, over the counter or vitamins/supplements

What medicines are kids getting into?

While more poisonings are caused by prescription (Rx) and over-the-counter (OTC) medicines, other health and baby care products that parents might not think of as medicine, like vitamins, dietary supplements, diaper rash cream and eye drops, can also be dangerous if consumed by a young child and should be stored as safely as Rx and OTC medicines.

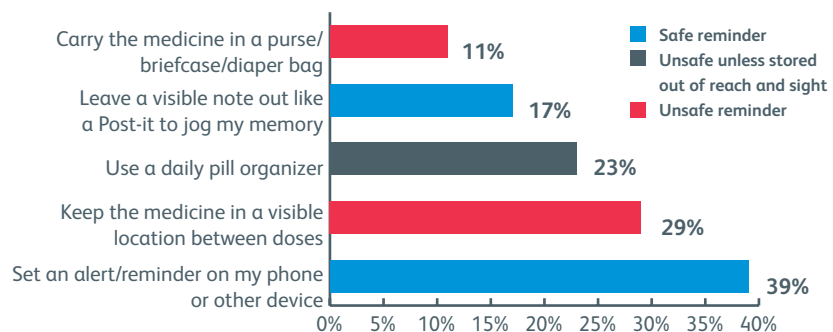


Handy for You Means Handy for Kids

With most survey respondents indicating that they take daily medications, vitamins or supplements themselves, parents face the added challenge of remembering to take their own medicine and keeping kids safe at the same time. This is demonstrated in some of the situational exceptions to “out of sight and up high after every use” that parents viewed as acceptable. Four in 10 parents agreed that it is okay to keep daily medication on the kitchen counter or in another visible location so it is handy. Parents are also making exceptions to safe storage behaviors when their kids are sick. Nearly 5 in 10 agreed that when a child is sick, it is okay to keep medicine handy on the kitchen counter or in another visible location between doses. And when it comes to actual storage behavior, fewer parents (37 percent) reported storing medicine taken frequently in a cabinet or drawer above counter height (a safe location). This is concerning, as research suggests that in 3 of 5 accidental medicine poisonings involving young children, the medicine involved was not in its usual or ‘normal’ storage location.⁵⁻⁶

When we asked about specific behaviors parents use to help them remember to take or give medicine, we found a mix of safe and unsafe behaviors, with about 3 in 10 reporting keeping it out in a visible location despite the potential risk to children (Figure 2). Another 11 percent carry medicine in a purse/briefcase or diaper bag, neither of which are considered safe storage locations. There are a number of alternative, safe reminder tools parents can choose, such as setting a reminder on their phone or leaving themselves a note.

Figure 2. Parents use a mix of safe and unsafe reminders



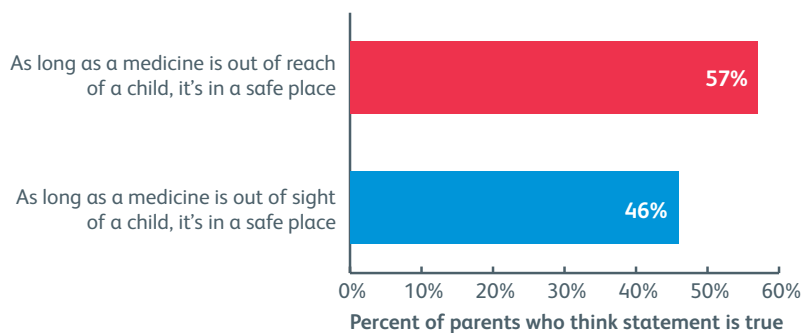
When parents store medicine in a place below counter height within reach of a young child, it is frequently in the bedroom. This is important because, alongside the kitchen, the bedroom is one of the two rooms in the home where accidental OTC medicine poisoning incidents are most likely to occur.⁵ In addition, an analysis of emergency department visits in 2011 indicated 20 percentⁱⁱⁱ of children got into medicine that was on a counter, dresser, table or nightstand.⁷

These findings are troubling and suggest that even when parents know what they should do to protect young kids from medicine poisoning, that knowledge doesn't always translate into their own behavior or attitudes. Unsafe behaviors, such as choosing to keep medicine visible and handy for convenience sake or as a memory aid, are prevalent despite high levels of knowledge. This disconnect may indicate that some parents do not really understand that safe medicine storage means that all medicines, vitamins and supplements should be kept out of sight and out of reach after every use. It may also show that some parents underestimate their own child's risk for medicine poisoning.

Understanding Safe Medicine Storage

Safe storage involves keeping all medicines, vitamins and supplements out of sight and out of reach of a child every time and, preferably, in its original child-resistant packaging. However, some parents seem to see these actions as an either-or proposition. Nearly 3 in 5 parents think that if medicine is stored out of reach, it is in a safe place, and about half think that if medicine is stored out of sight, it is in a safe place (Figure 3). On the contrary, recent research suggests about half of OTC poisoning cases involve a child climbing on a chair, toy or other device to reach medicine.⁵ Anecdotal evidence from emergency department visits also suggests that curious children often get into medicine that is stored out of sight in a cabinet or drawer, but within reach (below counter height).⁸ Both these examples indicate that both conditions are vital to safe storage.

Figure 3. Parents underestimate the importance of storing medicine both out of sight and reach of young children



ⁱⁱⁱ Further detail on location where child accessed medicine was available for 14 percent of emergency department cases.

What Does “Up and Away and Out of Sight” Really Mean?



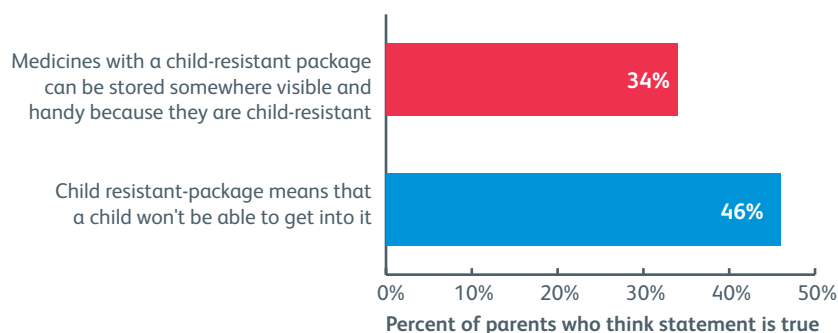
The findings of this survey suggest that there is an opportunity to further clarify what “up and away and out of sight” means. To be safe, medicine should be stored out of sight in a cabinet or drawer where it is not visible to the child and out of reach (at or above counter height). A high kitchen cabinet above the refrigerator is a good example of up and away and out of sight. Similarly, medicines that need to be kept refrigerated should be stored on a high shelf at the back of the fridge or in a drawer out of sight and reach of young children.

Keeping a close eye on children isn’t enough to protect kids from medicine poisonings. Even though the majority of parents surveyed agreed that it is important to store all medicine out of sight and up high after every use, 1 in 3 believe that as long as a child is being watched, it doesn’t matter as much where medicines are stored. Supervision can be influenced by a caregiver’s perception of their child’s level of development and many parents overestimate their child’s ability to understand potential dangers and follow safety rules, so supervision alone won’t protect against medicine poisoning.⁹ Scenarios from emergency department visits for suspected medicine poisoning support the research, with parents frequently indicating that they had turned their back for only a minute while their child got into the medicine.⁸

Obviously, no parent plans to be distracted, but it does happen. The majority of parents we surveyed (86 percent) knew that one common scenario for accidental medicine poisoning in children was a parent becoming distracted and leaving a medicine container open or out after use. At the same time, half of parents reported having been distracted while taking or giving medicine and accidentally leaving the container/package of medicine open.

It’s also important to remember that even when it is not left open, kids can get into child-resistant packaging. We found that almost half of the parents we surveyed incorrectly believe that child-resistant packaging means a child won’t be able to get into it at all, and 1 in 3 think that medicine in child-resistant packages can be safely stored somewhere visible and within reach (Figure 4). Child-resistant packaging merely makes it harder for most children to open — it is not “childproof.” Research suggests that medicine in child-resistant packaging is involved in 45 to 55 percent of accidental medicine poisonings.¹⁰⁻¹² Given that child-resistant packages do offer protection, Safe Kids strongly recommends their use. However, for safety’s sake, they too need to be stored out of sight and reach every time.

Figure 4. Parents overestimate the protection provided by child-resistant packaging



A related issue is that many parents are storing medicine outside of its original packaging, such as in a pill organizer. Even though 9 in 10 parents surveyed correctly answered that medicine should be kept in its original container, more than 1 in 3 reported that they or someone in their household always or often uses daily pill organizers or baggies to manage medicine. Using pill organizers is not inherently unsafe — in fact, pill organizers are often recommended for adults to help them remember to take their own medicine. However, if these storage methods are used in households with young children, they must be stored out of sight and reach every time because children can easily get into these containers.

Understanding How Young Children’s Developmental Level Puts Them at Risk

Young children, particularly toddlers, are very curious. They learn about and explore the world through touch and taste. They imitate grownups and older siblings as they develop and constantly test their newly acquired fine and gross motor skills. At the same time, their ability to control their own behavioral impulses is low.^{9,13} Together, these factors combine to make touching and eating medicine, vitamins and supplements a real temptation. This, in turn, increases the risk of medicine poisoning, particularly for children 1 and 2 years of age, the age group when children get into medicine the most.^{3,9,13}

Just like the best time to babyproof your home is before your child becomes mobile, parents should be taking steps from day one to store medicine safely away from children. We found that only 2 in 5 parents agreed that they need to start worrying about a child getting into medicine before they start crawling. Among children under age 6, about 5 percent of emergency department visits for possible medicine poisoning involved children 10 months or younger,⁸ the age by which most children typically start crawling. Similarly, only half of parents surveyed agreed that parents need to start worrying about a child getting into medicine before they start walking. Again, among children under age 6, about 13 percent of emergency department visits for possible medicine poisoning involved children younger than 15 months,⁸ the age by which most children typically can walk on their own. The fact that children are at risk from such a young age suggests that parents should start thinking about medicine safety from day one. Practicing safe medicine storage from the time the first baby comes home will help ensure that putting medicine up and away and out of sight and reach every time becomes a habit.

As children grow older and become more mobile, parents can begin to teach them about what is safe and unsafe. However, because young children cannot control their impulses, it is important not to rely on talking to them about the dangers of medicine as an effective prevention strategy. Just as parents wouldn’t rely on telling a toddler to stay away from a pool to protect him from drowning, parents shouldn’t depend on safety instructions alone to protect young children from getting into medicine. Our results suggest that many parents may not realize this, as 1 in 3 strongly agreed that talking to young children about the dangers of medicine will prevent them from getting into medicine. We also found that 3 in 5 believe that their child knows the difference between medicine and candy, yet research suggests that older

children and even adults have difficulty differentiating between some medicines and candies.¹⁴

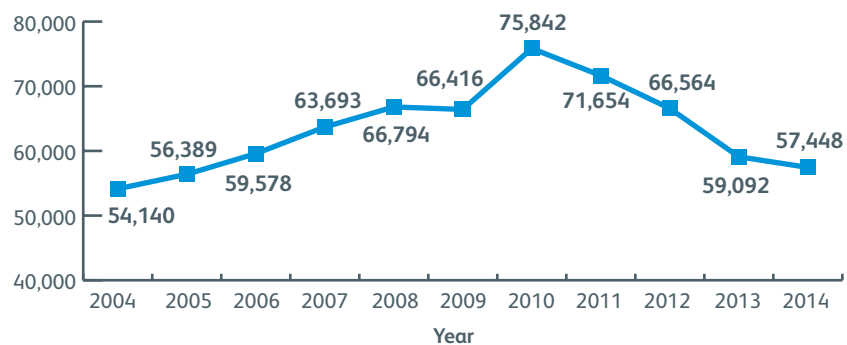
It is also a natural part of child development for young children to imitate their parents and older siblings as they grow older. Most parents have been amused to see their child emerge dressed in their clothes, or blushed when they've repeated something embarrassing. Unfortunately, taking medicine is no different, and research suggests that imitative behavior may contribute to about 20 percent of poisonings in children under age 5 years and 30 percent of the poisonings in children ages 20 to 59 months.¹⁵ We found that about half of parents worry that their children could see them take their medicine and try to copy or imitate them. Despite this, two-thirds of parents reported that they take medicine in front of their young children at least sometimes. Due to the risk of mimicry, we recommend that parents try and avoid taking medicine in front of their young children.

Recent Trends in Accidental Medicine Poisoning in Young Children

As Safe Kids reported in 2016, there are more medicines in the home than ever before, increasing the potential risk to children of accidental medicine poisoning.⁴ In 2015, poison control centers across the U.S. received more than 440,000 calls because a child got into a medicine (unintentional general exposures), was given too much medicine or received the wrong medicine (unintentional therapeutic errors).¹ That's a call almost every minute.

Despite reductions since 2010, many young children are still seen at emergency departments every day across the U.S. after getting into or accidentally being given too much medicine. In 2014 there were 57,448 visits to emergency departments (ED) among children under 6 years of age involving unsupervised exposure to a medicine or as a result of a dosing error.³ About 16 percent of these were severe poisonings resulting in hospitalization or death.³

Figure 5. The estimated number of ED visits for accidental medicine poisonings in children under age 6 has continued to decline since 2010, although the rate of decline slowed between 2013 and 2014²⁻³



Smart Strategies for Parents

Our research suggests the need to raise awareness and increase knowledge among parents and caregivers regarding the risks for accidental medicine poisoning in young children. It also provides further support for using existing strategies for safe medicine storage that parents and caregivers can follow to protect young children around prescription and OTC medicine, vitamins and supplements.

Store all medicine up and away and out of sight and reach every time.

Safe medicine storage means out of sight and out of reach, not one or the other. To be safe, medicine should be stored out of sight in a cabinet or drawer where children can't see it and out of reach (at or above counter height). Do it every time and you'll form a safe habit. That little bit of time is worth the investment in your child's safety.

Keep medicine in its original child-resistant packaging. If you or another family member do choose to use a pill organizer or baggie to help manage taking medicine, make sure you always store it up and away and out of sight and reach.

Practice safe storage of medicine as soon as your first child is born. Babies as young as 3 weeks of age have ended up in the emergency department after getting into medicine left within reach.

Put the Poison Help number – 1-800-222-1222 – into your phone and post it visibly at home. Our study found that more than 60 percent of parents reported not having the Poison Help number saved in their phone or posted at home. Having the number handy – even if you think it's easy to look up – is an easy way to protect kids and be ready for an emergency.

Instead of keeping medicine handy, use safe reminder tools to help you remember when to take and give doses.

- Set an alarm on your watch or cell phone.
- Write a note to yourself and leave it somewhere you look often, like on the refrigerator door.
- Combine taking daily medicines with a daily task like brushing your teeth.
- Use a medication schedule card.



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Methodology

Safe Kids Worldwide commissioned a national online survey of 2,000 parents with at least one child ages 5 or younger. The survey, developed specifically for the study, included 36 closed-ended questions and was fielded from January 19 to 25, 2017 using Survey Sampling International's online adult panel. The margin of error for the sample size included for this study is 2.2 percent at a 95 percent confidence level. If recruited, managed and selected correctly, online samples can effectively reflect a known universe, however, most online samples are not considered generalizable because they are not true random samples of the population where every member has a known and non-zero probability of selection.



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