

Suzanne Doyon

So my name is Suzanne Doyon and I'm the Medical Director of the Connecticut Poison Control Center. We're gonna start the podcast today with a little story, very common story that every poison center really in the country encounters at some point in time in the course of their work. We're gonna talk about the little laundry pods. You've seen them in your grocery store. So little laundry pods are on the shelves right there with the other laundry detergents and they are used to clean your laundry. They hit the market in the United States probably 15, maybe even 20 years ago. And we moved at that point from kind of powder-based detergents to, there were a lot of liquid laundry detergents, to these little pods. And these little pods, and I'm sure you've seen them but they're wrapped in plastic and they're usually very colorful but there's a component of laundry detergent, there's a component in there of usually water softener, other components in there as well. And again, all wrapped up in a nice little plastic pouch. And they're single use. We call them laundry pods but really the technical name is single use laundry detergent.

And even before they hit the market in the United States, they had been quite popular in Europe. And they had adopted this quite, quite, quite avidly in Europe. So the manufacturers of these detergents and these single use pods were quite confident that this was going to take off in the United States. And it did. And I want to take you back again 15-20 years ago when they just hit the market. And we had this interesting email from North Carolina going what is up with these laundry pods? I had a child, or a child in North Carolina bit into it and got quite, quite sick. And the medical director said I don't quite understand what's going on. And then we had other people in upstate New York and then a few months later in Florida going we have had the same issues, we have little children who bite into these laundry pods and they get quite, quite ill. And we looked at the illnesses and all this stuff. But let's just take a step back.

Here we are in the United States used to liquid laundry detergents. We've had that product on the market for decades. Children have ingested that product for decades and never did it result in any really serious injury, certainly never resulted in ICU admissions, never resulted in death. It was just not our expectation. So here this new product enters the market or at least a new packaging of the product enters the market and we're starting to see a lot more ED visits, children are having problems with it, and we're seeing a lot more admissions to the hospital, we're seeing admissions to the intensive care unit. Things we had never ever seen before with laundry detergents. So something's going on basically. And so we sit down with each other, we sit down with kind of the pods themselves, start looking at them, start looking at them differently. We even sit down with the manufacturers of these laundry pods.

So we sit down with Procter & Gamble going what did you put in those laundry pot? What are the ingredients? What's going on? And they came back, they said, no, no, no, it's laundry detergent. It is just plain laundry detergent. And we're going what's the pH? Did you change the pH? Did you do something? And they laughed a little bit when we mentioned the pH, they go yeah, the pH of that product is lower, meaning it's closer to a pH of 7 than our typical laundry products. Because if we had its pH at 9, which is what it usually is, it would destroy the plastic as it's sitting on the shelf. So we had to lower the pH. Well if the pH is lower than 9 and somewhere between 9-7, that should be perfectly fine for the child. So yeah, just hitting against a lot of kind of like none of this makes sense.

And then I think after thinking about this and thinking about this and just realizing what it was that we were seeing at the bedside, we came up with likely what the answer was. So what were we seeing at the bedside? So these children would bite into these laundry pods. Sometimes, think about these laundry pods, they're under a little bit of pressure. So when the child bites and bites again often, the contents start to squirt out and they could squirt out vertically up, they could squirt out horizontally out of their mouth or they could squirt out horizontally to the back of their mouth.

If it squirted up and ended up in their eyes, and we did have a number of ocular exposures, we had a bit of corneal issues. The cornea of the eye looked burned, was injured. If it squirted out, that would end up on the floor, we don't worry about that. If it squirts back, it would hit the back of the throat, the uvula. Very small children, not terribly coordinated in terms of swallowing and they would kind of choke, cough, and swallow kind of all at the same time because they're not very coordinated. And some of it would end up in their lungs and we had kind of an aspiration type of issue. Some of them would kind of go down into the stomach and kind of sort of reside in the stomach as a result. And then we were seeing a few, just a few injuries to the stomach, burns to the stomach.

So studying this and looking at this a little bit, it sort of behaved like again something with a very high pH, something with a very low pH. But this was not the issue here. It behaved a lot like the very concentrated detergents that we have out there. We ended up looking at the surfactants. The surfactant it is a component of detergents that stabilize bubbles. We like things to bubble up, right? If we put a detergent, we want it to bubble in our washing machine. And so because they're packaging such small quantities of detergents, they had to increase the amount of surfactants. And it turns out that the surfactants were the issue. They're concentrated surfactants and the concentrated surfactants kind of destroy a little bit the inner lining of the trachea, the lungs, the bronchi in the lungs, and can to some degree wash away a lot of that nice mucus that coats the stomach, causing a bit of gastrointestinal kind of burns.

Many, many poison centers after a few months were kind of declaring themselves, going this is an issue, this is an issue, this is an issue. So who do you sit with to kind of regulate this a little bit? And this is not a food or a drug, it doesn't fall into the Food and Drug Administration. This falls into the Consumer Product Safety Commission, CPSC. And so you sit down with CPSC or at least you alert this to CPSC. They have discussions with the manufacturer, they try to negotiate and kind of arrive at some kind of understanding about what's going on. And now and since you will see these products often, often packaged in child resistant bigger packages. It's the double zip pouch, it's a container with a child resistant cap. So there was a child resistant component to it, so that was part of the regulation.

The other part is education needed to occur. There needed to be a public health education campaign. And if you watch your TV, you will occasionally see they're really nicely made commercials paid for by the manufacturer alerting parents of young children to not let them get a hold of these laundry pods, that they could be dangerous, store them away from children and so on and so forth. This all took years but it was through the work of poison centers that well first of all recognized it was a problem, dug in and kind of found sort of what we think likely the problem is, and sort of alerting the federal regulatory entities and having them kind of weigh in on this. So it was a terrific, terrific effort right there. We were a little bit puzzled since these products had been in use in Europe for years before they were introduced in the United States. Don't you have children in Europe? Isn't this occurring? Don't you have this problem in Europe?

And it turns out that yes, they have children in Europe. But more importantly they don't have a very cohesive poison center system. So if they were encountering the issues, they really didn't have a great way of communicating that to each other, certainly across countries. And so because of that they told us yeah, we did have a problem but we didn't know the extent of the problem. So now 20 years later I wouldn't say we never get a laundry pod exposure, we do, but they're much fewer and far between. I think parents know now to keep it away from children, I think that's one of the big reasons why we see less. I think physicians are also much better prepared to take care of these problems when they arrive to the emergency department, we have a much better understanding of what to do. So we rarely have the ICU admissions, the deaths that we recorded years ago, decades ago with the introduction of the single use laundry detergents. So I think that's a great success story to share with everybody.

TPWKY	(This Podcast Will Kill You intro theme)
Erin Welsh	I loved that story.
Erin Allmann Updyke	So much, Erin.
Erin Welsh	So much. Yeah. I feel like I remember when Tide Pods and like Tide Pod challenge was a thing on TikTok or something a few years ago.
Erin Allmann Updyke	Yeah.
Erin Welsh	And then I never really thought like why are Tide Pods so bad? I just assumed all detergents were probably not good for you.
Erin Allmann Updyke	Same. And that like more people just were eating these because they're cute and like good looking whatever.
Erin Welsh	Right. And also to just learn how the whole process worked to be like we see this. What is happening?
Erin Allmann Updyke	Yeah.
Erin Welsh	Let's get to the bottom of it. How do we stop it?
Erin Allmann Updyke	Yeah.
Erin Welsh	Beautiful. Beautiful.
Erin Allmann Updyke	And also like the working across industry and government and other bodies.
Erin Welsh	Yes.
Erin Allmann Updyke	It's so interesting. Wow, I love it.
Erin Welsh	Love to hear from an expert. Thank you so much, Dr. Doyon, for sharing that story with us.
Erin Allmann Updyke	Thank you so much.
Erin Welsh	And you are going to be hearing so much more from her in next week's episode, to be continued. But first, hi, I'm Erin Welsh.
Erin Allmann Updyke	And I'm Erin Allmann Updyke.
Erin Welsh	And this is This Podcast Will Kill You.
Erin Allmann Updyke	And today, if you haven't guessed it, we're talking about poison control.
Erin Welsh	Yes.

Erin Allmann Updyke

We are so excited. We say this every single time but we are so excited for this episode. Or should we say these two episodes?

Erin Welsh

I mean there is so much more to poison control and it is all so fascinating. Erin, you have been talking about your intellectual crush on toxicologists and toxicology for ages. And so I really feel like we're digging deep.

Erin Allmann Updyke

Yeah.

Erin Welsh

But not even as deep as we could.

Erin Allmann Updyke

I know.

Erin Welsh

We're covering so much ground because there's so much ground to cover when it comes to poison control. We're not even digging that deeply.

Erin Allmann Updyke

I know. When you first, Erin, brought up the idea of covering poison controls as a topic on this podcast, I was like okay. I love toxicologists, all of them, and I love the field of toxicology but I was like I have no idea how to do an episode the way that we usually do things. And turns out, can we do it? Sure can.

Erin Welsh

Sure can.

Erin Allmann Updyke

Can we do it over and over again? I'd love to.

Erin Welsh

Oh yeah. Yeah, so just to give you a little bit of a rough idea of how the structure of these episodes are going to go. What we're going to do in this first episode is kind of share the story of how poison control came to be, from its humble beginnings in Chicago, Illinois, spoilers-

Erin Allmann Updyke

Spoilers.

Erin Welsh

All the way to this beautiful nationwide system that we have today. How did that process begin? Who looked at this need and said oh yeah, we should do something about this?

Erin Allmann Updyke

Yeah.

Erin Welsh

So that's going to be this first episode.

Erin Allmann Updyke

It's going to be thrilling. You might not think that you would ever have wondered how did Poison Control Center come to exist? But after this episode, you're going to be like I'm sorry, I will never not think about this.

Erin Welsh

I know, I know.

Erin Allmann Updyke

It will be your new Roman Empire. Is that what they say these days? Is that still a thing?

Erin Welsh I don't know. Maybe by the time this comes out, probably not. And then next week we're going to get the chance to interview the provider of our firsthand account, Dr. Suzanne Doyon, who is not just the provider of our firsthand account, she is the Medical Director of the Connecticut Poison Control Center. Oh my gosh. She's also an Associate Professor at the University of Connecticut School of Medicine. I am so thrilled. We're going to get to ask her all kinds of behind the scenes questions about like what goes on at poison control centers?

Erin Allmann Updyke Yeah.

Erin Welsh Who do you have to be to work at a poison control center? What kind of calls do you get? Like what happens?

Erin Allmann Updyke What does one do in poison centers? It's going to be such a great episode, it was such a fun conversation. We got super nerdy.

Erin Welsh Oh yeah, we did.

Erin Allmann Updyke But before we can get into any of that, it's quarantini time.

Erin Welsh It certainly is. What are we drinking this week?

Erin Allmann Updyke This week we're drinking Name Your Poison.

Erin Welsh Yeah. I have these sweet, sweet glasses that say Name Your Poison on them and they have a bunch of different poison names on them. And I think I've used one once for arsenic maybe, I did Paris Green or something.

Erin Allmann Updyke That sounds right.

Erin Welsh But I have more so now I have to pick which one I want to use. I love them. I'm so excited to get to use these. I mean I can use them anytime but yeah.

Erin Allmann Updyke We should have split into however many episodes you have of these glasses, like just that many poison episodes.

Erin Welsh Honestly what I need to do is go back in there and be like okay, what can we do? What can we cover for future episodes?

Erin Allmann Updyke Right.

Erin Welsh Add it to our long list of ideas that is neverending.

Erin Allmann Updyke Yeah.

Erin Welsh But in-

Erin Allmann Updyke In this-

Erin Welsh In Name Your Poison, it's delicious. It's whiskey, name your whiskey. Really I think a lot of whiskeys will work with this, probably not like a heavily peated scotch but a lot of whiskeys will work.

Erin Allmann Updyke You do you.

Erin Welsh And then peaches and a little bit of lemon juice, some simple syrup. It's simple, it's delicious. It's amazing.

Erin Allmann Updyke It really is. Check it out. We'll post the full recipe for that quarantini as well as our non alcoholic placeborita on our website [thispodcastwillkillyou.com](http://thispodcastwillkillyou.com) and all of our social media channels.

Erin Welsh Are you following us on social media?

Erin Allmann Updyke Are you?

Erin Welsh You should be.

Erin Allmann Updyke You should do it.

Erin Welsh We've got some pretty stellar content coming out if I do say so myself.

Erin Allmann Updyke If we do toot our own horn like that. Toot toot.

Erin Welsh Toot toot. We've got Reels, we've got other posts, that's all we've got. We've also got a website though which is pretty sweet. The website has all kinds of cool things. We've got transcripts. We've got a submit your firsthand account form which is amazing, thanks to everyone who has ever submitted their firsthand account. We've got links to merch, we've got music by Bloodmobile, we've got links to our bookshop.org affiliate account, our Goodreads list, sources, things. Patreon.

Erin Allmann Updyke The list goes on and on and on and on.

Erin Welsh Yeah. All right. Can we get to like the episode already?

Erin Allmann Updyke Yes, Erin, please start us off with how the heck we got to here. Erin?

Erin Welsh I will. Let's take a quick break and then that is exactly what I'll get into.

TPWKY (transition theme)

Erin Welsh It's midnight. In six hours you're supposed to be heading to the airport for a two week trip to, I don't know, say Scotland. And even though you promised yourself that you'd be fully packed well before now, with enough time to get a full glorious eight hours of sleep, that promise has long since been shattered. Tossing in that extra pair of just in case socks, you zip your bag and you sit back, breathing a long sigh of relief. It's finally over. But your mind is still restless and it starts to run through the list of non packing things you're supposed to have done. Water the plants, check. Clean out the fridge, check. Leave instructions for the dog sitter, check. Oh god, you realized, you haven't given the dog his flea and tick medication. What if the dog sitter takes him to the park and he gets tons and tons of ticks? You scrounge around for the Frontline and kneel down next to your peacefully sleeping dog.

Because it's late and because you're desperate to crawl into bed, your brain doesn't register the bold lettering on the Frontline package stating to OPEN AWAY FROM YOUR FACE in all caps, complete with illustrations. And you twist open the applicator inches from your face. A burning sensation in your eye alerts you to the fact that something has gone horribly wrong, that a drop of who knows what chemicals has found its way into your eye. Panic coursing through your body, you run to the sink to flush out your eye but the burning doesn't cease. What do I do now? You think. Should I go to the ER? Have I permanently damaged my eye? Who could possibly have the answers? I don't even want to go on the internet. Then it hits you. Poison control. With one phone call, the reassuring voice on the other end tells you that you don't need to go to the ER, that you should keep flushing your eye and that you're gonna be okay. As someone who personally witnessed this entire incident-

Erin Allmann Updyke

My favorite thing, Erin, is that from the first line I was like oh I know this, I know this story. This is a real life scenario.

Erin Welsh

This is real life scenario. But yes, as a witness to this, it was really amazing to see this resource that I had seen mentioned, I had read on so many medication packages and other packages for my whole life, had never used myself, and then to finally see it be used. And I was just like this is an absolute gold mine of information that anyone could use at any time to get potentially lifesaving instructions. But even though it may seem like it's always been around, that's how it seems to me, it most definitely has not. And so that's the story that I want to tell today. The need for poison control centers is clear to all of us whether we've used them or not. But who first recognized this need and decided to do something about it? I'll get to the who in a bit. But first let's get into the need, the why that motivated the who to create poison centers.

Erin Allmann Updyke

Yes!

Erin Welsh

That sentence was very confusing.

Erin Allmann Updyke

I love it.

Erin Welsh

We'll get there. Poisons, as in substances that have the capacity to cause harm or death to humans, have been around since the dawn of humanity. Whether accidental like eating a poisonous mushroom or intentional like lacing someone's dinner with arsenic, poisoning has been something humans have contended with forever. And if you haven't listened to our Book Club episode with Dr. Noah Whiteman about his book 'Most Dangerous Poison' from a couple weeks ago, here's your cue to check it out. For millennia the concept of poison primarily included substances found in nature, whether from a plant, an animal, or a mineral/metal and accidentally encountered/ingested or administered with the explicit goal of causing harm. The industrial revolution shook things up a bit as the number of people working with or using toxic substances, both natural and artificial, in manufacturing rapidly increased. And poison grew to encompass those occupationally encountered substances as well.

But largely, going into the 20th century, poisons were seen as specific instances. Poisonings tied to certain substances rather than ambient toxins, unless you were talking about workplaces where the threat could be environmental. And with the exception of certain medications where, paraphrasing Paracelsus from the 16th century, the dose makes the poison, poisons weren't really seen as a super common household item. Which I think is a really interesting thing to think about because if you asked me to think about the poisons that I would encounter on a daily basis, I'm like oh well there's a lot of chemicals underneath my sink, in my laundry room.

Erin Allmann Updyke

Right.

Erin Welsh: Like in my garage there are things that are absolutely toxic.

Erin Allmann Updyke: Right. Antifreeze, the stuff I use to clean my toilet, bleach.

Erin Welsh: Bleach. Yeah.

Erin Allmann Updyke: All of it.

Erin Welsh: There's a lot. And that has not really, that's been a more recent development over the course of humanity or at least for most people encountering on a day to day basis.

Erin Allmann Updyke: Yeah.

Erin Welsh: I don't know. I just thought that was a really interesting shift.

Erin Allmann Updyke: It is interesting because you don't think about it. And I think too, we probably don't often think of those things as poisons.

Erin Welsh: Right.

Erin Allmann Updyke: But we would think of them as poisonous or hazardous to our health.

Erin Welsh: Yes.

Erin Allmann Updyke: And so it's also that distinction of is it a poison or is it poisonous? And what does it mean?

Erin Welsh: Yeah. And there's a really interesting paper that I'll put on the website but there's a lot of fascinating links to the environmentalism movement in the 20th century as it became recognized that like oh these aren't just like specific things that cause one person harm but these are things that can leach into our entire world, the environment basically.

Erin Allmann Updyke: Yeah.

Erin Welsh: And I'm not getting into that here. But I just thought that was a really interesting perspective on that.

Erin Allmann Updyke: It really is.

Erin Welsh: But yeah, going into the 20th century, things were beginning to change as the continued growth of industrial chemistry and food and drug manufacturing brought new products to the market and into the home. I read that between 1879-1920 sales of quote unquote "drug, toilet, and household preparations" for the home increased from \$40 million in 1879 to \$765 million in 1920.

Erin Allmann Updyke: Just by 1920!

Erin Welsh: Yeah.

Erin Allmann Updyke: Wow.



Erin Welsh

Yeah, I know. And these industries initially faced very light if any regulation. We've touched on this a bit in our supplements episode and in our Book Club episode featuring Deborah Blum chatting about her book 'The Poison Squad' but it was a real uphill battle to get manufacturers to accurately label the contents of their products. The Food and Drug Act of 1906 helped to increase transparency but just for food and drugs primarily, not household cleaners or other chemicals which were becoming increasingly popular as marketing campaigns targeted housewives and told them that they needed these products to maintain a sparkling clean, germ free home.

Erin Allmann Updyke

Yeah.

Erin Welsh

You know I'm going to put germ theory in here, it was only because of germ theory. No. And even if labels on these new household products contained information about what was in this cleaner or that cleaner, who knew what some of those confusing sounding chemical names meant?

Erin Allmann Updyke

Right.

Erin Welsh

Like what's for instance, I pulled a bottle of a window cleaner from my sink, what is isopropanolamine? I probably mispronounced that. Or sodium C10-16 alkylbenzene sulfonate?

Erin Allmann Updyke

Come on, Erin. You don't have all of your O-chem things memorized?

Erin Welsh

I have tried to block that part of my undergrad from my memory.

Erin Allmann Updyke

Understandable.

Erin Welsh

Also that was like 20 years ago now. Yeah. Or what if you were a child and you couldn't even read those labels? Some magazines like Good Housekeeping published safety information about common household products but there wasn't a central database where someone could find this information, information which was growing exponentially by the year. Manufacturers initially placed the responsibility on mothers to know whether or not a product or medication was safe or not and in what amounts it would be a danger and it didn't provide that information directly. Or if it did, it was in like the tiniest fonts possible where it would say like danger if ingested and you have to like get out a magnifying glass. To illustrate, this is testimony from a 1926 senate committee meeting about a bill to appropriately label certain products as poisons.

Quote: "Here is the picture of a child of a citizen of Pennsylvania which swallowed a preparation known as CleanALL up in the state of Massachusetts. The child's passage to the stomach was totally obliterated. A person saved her life by putting a tube in the stomach. When I asked the mother why did you let the child have that? She said why I did not know that it was poison? And I got her to bring me a can. And here you can see on this can that I have here which was bought in the stores that there is not only no poison label whatever on it, but it says quote 'does not injure the finest fabric or the most delicate skin'. Now how could you expect any mother to think that thing was dangerous?" End quote.

Erin Allmann Updyke

Wow.

Erin Welsh

Right?

Erin Allmann Updyke That's really interesting.

Erin Welsh I mean and that's a whole separate episode.

Erin Allmann Updyke Right.

Erin Welsh Like the labeling of products as poisonous or toxic or whatever. And even still today I was kind of going through some of the cleaning products and there's not a whole lot of blatant, holy cow this is really bad.

Erin Allmann Updyke Right.

Erin Welsh Yeah.

Erin Allmann Updyke It's like if contact with eyes, rinse and call poison control.

Erin Welsh Right.

Erin Allmann Updyke If ingested, call poison control. Like that's all they say.

Erin Welsh Uh-huh. It's like we're not going to freak you out here.

Erin Allmann Updyke Right.

Erin Welsh We're going to let somebody else tell you just how bad-

Erin Allmann Updyke How freaked out to be. So hopefully you read enough English to be able to see this on the label and know how to call.

Erin Welsh Yep.

Erin Allmann Updyke Yep.

Erin Welsh Yeah, yeah, yeah. And some of it didn't even call poison control, it just said like seek help.

Erin Allmann Updyke Oh interesting.

Erin Welsh Yeah. And some don't have the poison control number. Anyway, I think that's like really... Labeling.

Erin Allmann Updyke Yeah, labeling.

Erin Welsh Who knew there's so much to a label? But there is.

Erin Allmann Updyke Is that going to be our new niche, Erin?

Erin Welsh  
I'm into it. I'm there. As a reaction to these issues surrounding labeling and as part of a larger trend in consumer protection, regulation was passed in the US to help oversee the labeling of these products and in some cases the packaging, such as childproof lids which varied in their child proofness. Some reports of like oh the kid had to instruct the mom how to open the baby aspirin which tasted like candy. And then it's like that's a whole thing too where it's like it tastes like candy, it must be candy. Anyway.

Erin Allmann Updyke  
Yeah.

Erin Welsh  
But this didn't really seem to make a huge dent in the frequency of accidental poisonings in the home, especially for children. And part of this rise in the frequency of accidental poisonings in children was certainly due to the wider availability of potentially dangerous household products with or without labels. But another big part was that these accidental poisonings were becoming much more visible, thanks to what was happening in the background in terms of medicine, essentially the drastic reduction in infectious diseases as a leading cause of mortality in children.

Erin Allmann Updyke  
I never thought about that.

Erin Welsh  
Yeah.

Erin Allmann Updyke  
So it's like we're fixing this problem and so now we have more bandwidth to be concerned about this other problem.

Erin Welsh  
Right. So it's like how much... I mean epidemiological studies of even accidental poisonings were rare in the 1940s but before then like who even knew?

Erin Allmann Updyke  
Right. How interesting.

Erin Welsh  
Yeah.

TPWKY  
(transition theme)

Erin Welsh  
Vaccines and antibiotics and other medical advancements had slashed the rates of infectious disease cases and deaths by I think a rate that is unfathomable to many of us today. Upwards of 90%.

Erin Allmann Updyke  
Yeah.

Erin Welsh  
Especially for children. Infant mortality due to infectious disease was absolutely slashed. Incredible. Vaccines, man.

Erin Allmann Updyke  
Vaccines!

Erin Welsh  
They're great.

Erin Allmann Updyke  
We can't say it enough!

Erin Welsh

I know. And as many deadly infectious diseases became preventable, another leading cause of death also viewed as preventable in children took their place. Accidents, especially accidental poisonings. By the 1940s in the US, studies found that 7 out of 10 accidents resulting in death for children under the age of five took place in the home. And the numbers were rising. In 1930, an estimated 11% of all deaths among those aged 1-4 were caused by accidents. But in 1950 that had risen to 17%. There was one group though that didn't need to see these numbers to know that there was a concerning rise in the incidence of accidental poisonings among their patients. And that was the pediatricians. When a child ingested or got into something that they should not have, which that's what they do, parents often turned first to pediatricians for answers. My kid just ate this or drank that, are they going to be okay? What should I do? Like how do I proceed?

Pediatricians and other healthcare professionals did their best to answer these questions. But as the number of household products grew, it became more difficult to keep a grasp on what was in this cleaning product or that furniture polish, this disinfectant, that insecticide, and so on. Like more and more and more and more. And not only like what is in these different products but like what do you do afterwards? How much is an okay amount to ingest? Is there an okay amount to ingest? Like all of these different decision trees, how is one person or even one doctor's office supposed to hold all that information at once, especially as things are growing? And this was, need I say, pre internet.

Erin Allmann Updyke

Right. They couldn't google it.

Erin Welsh

They couldn't google it. And to say this was frustrating for the pediatricians I think would be a huge understatement. Because pediatricians saw accidental poisonings as a largely preventable cause of death with so many opportunities at many different stages or layers to reduce their incidence, right. There could be better design like with childproof lids or childproof containers or cabinets where you could store these things under lock and key. There could be better labeling transparency, saying whether or not a substance was toxic and needed a childproof lid or needed to be locked away in that cabinet. There could be less toxic formulas, like maybe we don't need industrial strength pesticide in our garage, right? Maybe there are other ways. There could be lots of different stages in terms of like design at the front end of things.

Erin Allmann Updyke

Right.

Erin Welsh

But even with all of these extra safety measures in place, kids still get into things, kids are still going to get past that lock and key, they're still going to get past a childproof lid.

Erin Allmann Updyke

They're very good at it. They're experts.

Erin Welsh

Yeah, it's how it is. And so a crucial layer of protection against accidental poisonings was access to information about what was in these products and the best course of treatment for an exposure. With hundreds of thousands of trade name substances on the market and rising, that information was impossible for any one person or one doctor's office to keep track of. But some people still tried. One of these people was Chicago Pharmacist Louis Gdalmann, who began working as the director of the two person pharmacy department of St. Luke's Hospital in Chicago in 1930. The other person was the delivery boy. Isn't that cute? I don't know why I love that. I love that that detail is in this paper, Erin.

Erin Allmann Updyke

It's really good.

Erin Welsh

It just so happened that at St. Luke's the pharmacy department was located right across the hall from the emergency room. And Gdalmán, with his pharmacy and chemistry background, would get requests for information from ER docs and other hospital staff wanting to know whether a patient that had just eaten some type of poison or toxin was in danger or what kind of danger they were in. Over time, news of Gdalmán's expertise spread beyond the hospital and spilled over into other hospitals around Chicago, then around Illinois, then around the country, and even into the general public. And his phone number was published in all emergency references. And so Gdalmán would get phone calls at all hours of the day and night, like 24 hours a day, at work, at home, and he never refused to call. He knew as much as any one person could about this.

Realizing that speediness and efficiency was key, he began writing out information on little note cards, like index cards, where he could quickly access the most relevant info, like maybe the most commonly purchased products or the ones that were like oh we need this, seconds matter here, let's get this information first. And by 1950 he had amassed quite the stack of cards. But still it's just one person, right.

Erin Allmann Updyke

One human. One human!

Erin Welsh

One human. And there's only so much that one person could do. And given that his phone never stopped ringing essentially, there was a clear need for a standard formalized service to provide this lifesaving information. In 1952 the American Academy of Pediatrics established its Accident Prevention Committee. And one of the first things they did was survey the most common household factors associated with children's accidents. And they found that 50% of the reported accidents involved poisoning, which was much higher than anyone had expected to find, except probably for the pediatricians who were seeing these patients like everyday. These findings combined with the impact of Gdalmán's informal poison control hotline led to the first official Poison Control Center being established at Gdalmán's hospital, St. Luke's Hospital, in November of 1953.

Erin Allmann Updyke

I love it.

Erin Welsh

I do too.

Erin Allmann Updyke

I want you to keep going.

Erin Welsh

Okay. Just a few months later, the second Poison Control Center was named in Durham, North Carolina. And over the next few years, hundreds more followed. Hundreds. Hundreds. I mean has there been anything that has caught on so quickly in medicine? I mean probably. But still it's impressive.

Erin Allmann Updyke

And so did Gdalmán's stash of cards get grandfathered to all of these places? Did the information make it to all of these new centers that were opening up?

Erin Welsh

Yeah. So I don't know about the logistics of that but that was something, like I don't know whether that precise stack of cards of the info that he had there or whether they just adopted his technique. But that is something that I'll talk about in a second in terms of like organization, coordination, etc.

Erin Allmann Updyke

Yes, okay.

Erin Welsh

Yeah.

Erin Allmann Updyke

I love it.

Erin Welsh

But I want to read you a bit from a 1954 paper where the rationale for this poison control program like generally was proposed. It's kind of a long quote. Quote: "There is a toxin that may be more deadly than that generated by the germs causing typhoid fever, tuberculosis, diphtheria, or leprosy. And this toxin has already spread to almost every household in the United States. Although there are a variety of strains of this toxin and many type specific groups, sublethal attacks usually confer no immunity. We are speaking of the ready made and often highly virulent test tube toxins synthesized by modern industry and used in millions of households to clean clothes, kill flies or rats, provide heat, and accomplish many other everyday tasks. The same machine aid responsible through its advances in sanitation, immunization, chemotherapy, and antibiotics for controlling the damage done by the toxic products generated by germs that caused epidemics has by similar advances posed new threats to life and health." End quote.

Erin Allmann Updyke

Test tube toxin, Erin.

Erin Welsh

Test tube toxin.

Erin Allmann Updyke

I want that on a T-shirt, I love it.

Erin Welsh

But I love that. I think it kind of wraps it up so nicely where it's like put it all into perspective. Like here's this world, we can see how far technology has allowed us to come in terms of medicine, in terms of technology, in terms of other things. And yet.

Erin Allmann Updyke

And yet. Yeah.

Erin Welsh

And we need to do something about that 'and yet'.

Erin Allmann Updyke

Right. And we can do something about that.

Erin Welsh

And we can and we are and we will.

Erin Allmann Updyke

Yeah.

Erin Welsh

Yeah. Over the rest of the 1950s, Poison Control Centers grew in leaps and bounds and there were certainly some growing pains to work out. There was still some inefficiency or inconsistency in how information was gathered and transmitted. And so in 1957 the FDA established the National Clearing House for Poison Control Centers, which essentially acted as a place for information about poisons and toxicology was gathered and then distributed in the forms of bulletins, index cards, and so on.

Erin Allmann Updyke

Okay.

Erin Welsh

The following year, 1958, the first meeting of the American Association of Poison Control Centers was held in Chicago and the majority of attendees and members were pediatricians. Throughout the 1970s and into the 1980s, Poison Control Centers continued to grow in number, shooting up to 600 nationwide in the US at one point in the 1970s.

Erin Allmann Updyke

Yeah.

Erin Welsh

And then eventually it began to grow in coordination which led to fewer centers overall. Because it was like oh we don't need a poison control center at each hospital or at each doctor's office, like we can have one for the area.

Erin Allmann Updyke

Consolidated. Yeah.

Erin Welsh

Consolidation. Yep. Efficiency. In 1980 the creation of a national database for all poisoning cases in the US really helped to centralize information and also helped to demonstrate the impacts of these poison control centers. For instance, in 1972 at least 216 children died as a result of poisoning. In 2007, that number would drop to 39. And remember during that time the US population grew a lot. But besides the obvious and incredible effects that poison control centers have had on providing lifesaving information to get people the help they need, they have also dramatically helped to reduce healthcare costs, especially when it comes to emergency healthcare utilization which I know you'll talk a bit more about later on.

Erin Allmann Updyke

So much. It's thrilling.

Erin Welsh

It's amazing. But another core and I think sometimes underappreciated aspect of poison control centers is that they represent something that seems harder and harder to come by these days. A reliable source of factual information that provides answers, guidance, and often peace of mind. For nothing.

Erin Allmann Updyke

For nothing. In minutes.

Erin Welsh

In minutes. Instantaneously.

Erin Allmann Updyke

It's truly phenomenal to call poison control.

Erin Welsh

Yeah.

Erin Allmann Updyke

Like the amount of information, how detailed the information, how factual the information. And when you're in a panic, how reassuring that information is.

Erin Welsh

Yep.

Erin Allmann Updyke

You cannot overstate it.

Erin Welsh

Yep. Absolutely. And I feel like nowadays so many of us go straight to the internet to seek answers to our questions, whether that's like what headphones should I buy or what's this mole on my arm? And where we're met with an absolutely overwhelming tsunami of information, good and bad, and opinions, also good and bad. And we can sift through results and forums for hours and emerge on the other side with no more clarity than we had at the start. But when you don't have the luxury of time and you need accurate information immediately from a trusted source, that Reddit thread from five years ago about somebody accidentally squirting Frontline in their eye, it's not where you're going to want to turn. Right? Instead you're going to want to call poison control, where the voice on the other end has the answers that you so desperately need.

Erin Allmann Updyke

And I think that also can't be understated because if you go online and search for anything, you will never come to an actual answer. You will see every possibility.

Erin Welsh

Yep.

Erin Allmann Updyke Which inevitably ends with well it could be colon cancer because that's how all internet searches about anything medical end. Like you can't get an actual answer. But when you call poison control, at the end of it there will be an answer. It will be either you don't need to panic, don't worry about it; you need to go to the emergency room, in which case they will continue to follow by the way as you go to the emergency room.

Erin Welsh Yeah.

Erin Allmann Updyke Or it will be something else. But it will be a concrete answer, like do X, Y, and Z steps and if that doesn't work, then do A, B, and C steps. It is so concrete in that way.

Erin Welsh Yes. Concrete is great. It is like no waffling, there isn't oh well let me just keep... It is this is the sequence of events.

Erin Allmann Updyke Yes.

Erin Welsh This is how we're going to make our decisions.

Erin Allmann Updyke Yeah. Decisions will be made. I love it so much. I loved every conversation I've ever had with poison control. I have had several. I love it.

Erin Welsh We're big fans.

Erin Allmann Updyke Big fans if you can't tell.

Erin Welsh But that's poison control. That's the story of how we got to where we are today, more or less.

Erin Allmann Updyke More or less. I really love... I wish that I could talk to Gdalmn.

Erin Welsh I know.

Erin Allmann Updyke I know he has passed. But I just wish that... Like imagining the series and the conversations that happened between him and people at AAP and other people that were in these medical organizations and then talking to people in state governments and federal governments to get this funding and to get started and at the hospitals. And to have it now exist the way that it does today. Like that is just, it's so cool.

Erin Welsh As a household name.

Erin Allmann Updyke Yeah.

Erin Welsh Like hopefully everyone knows about poison control or they do after this episode.

Erin Allmann Updyke After this episode, exactly.

Erin Welsh Yeah. It makes so much sense.

Erin Allmann Updyke It does. Yeah.



Erin Welsh	It's beautiful.
Erin Allmann Updyke	Like of course it exists.
Erin Welsh	Yeah, of course it exists.
Erin Allmann Updyke	Yeah.
Erin Welsh	But also Erin, I have more questions and those questions are mostly like it exists, yes, awesome.
Erin Allmann Updyke	But how?
Erin Welsh	What does that mean? How does it work?
Erin Allmann Updyke	What happens when you call?
Erin Welsh	What happens? Yeah.
Erin Allmann Updyke	Who are we talking to?
Erin Welsh	Yeah. How do they know what they know and what to tell us and in what order and everything?
Erin Allmann Updyke	Everything. And they know so much when you talk to them on the phone.
Erin Welsh	So much.
Erin Allmann Updyke	How do they know all of the things?
Erin Welsh	I'm sure that all of you all out there also have these burning questions and you're in a lot of luck.
Erin Allmann Updyke	You are.
Erin Welsh	Because next week that is exactly what we'll be getting into with our amazing provider of our firsthand account and also the Medical Director of the Connecticut Poison Control Center, Dr. Suzanne Doyon. A big thank you again to Dr. Doyon.
Erin Allmann Updyke	Make sure that you smash that subscribe button so that you don't miss that episode when it drops next week. It's going to be great.
Erin Welsh	It's going to be great. And to tide you over until then, if you're like oh my gosh but wait, poison control. Guess what? There are sources that you can read.
Erin Allmann Updyke	There always are.

Erin Welsh

So I have a long list of sources actually for this episode. I'm going to shout out just a few of them and then you can check out our website where you can find lots more. So the one that I mentioned earlier in the episode where I was talking about sort of the rise of environmentalism that is by Burnham from 1995 and it's called 'How the discovery of accidental childhood poisoning contributed to the development of environmentalism in the United States'. Another source that I used is by Burda and Burda from 2000 called 'Taking a stand against accidental childhood poisoning: The founding of the nation's first Poison Control Center in Chicago'. And then there was a paper that I liked from 1978 because it was a little bit older, so it had a different perspective on like the history of Poison Control Centers. This was by Scherz and Robertson and it was titled 'The History of Poison Control Centers in the United States'. So from 1978. So it was like very new at that point but I liked that. Anyway, you can find a full list of all of our sources on our website [thispodcastwillkillyou.com](http://thispodcastwillkillyou.com). So go check it out.

Erin Allmann Updyke

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Erin Welsh

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Erin Allmann Updyke

Thank you to everyone at Exactly Right network.

Erin Welsh

And thank you to you, listeners. We hope that you are as jazzed about poison control centers as we are.

Erin Allmann Updyke

Jazzed is a good word.

Erin Welsh

We're pretty jazzed.

Erin Allmann Updyke

Super jazzed. Like jazz fingers over here.

Erin Welsh

Yes.

Erin Allmann Updyke

And especially thank you to our patrons. We appreciate your support so, so, so, so much. We can't say it enough.

Erin Welsh

Yes. Thank you. Thank you. Thank you. Until next time, wash your hands.

Erin Allmann Updyke

You filthy animals.