

Annual report 2019



Tox Info Suisse is the proper address for private individuals, professionals, organisations and companies for all questions regarding poisoning.

Summary of the most important services:

- Emergency hotline 145
- Information and advice concerning poisoning for private individuals and medical professionals
- Consultations concerning poisons (theoretical enquiries, tel. +41 44 251 66 66)
- Tox Info app (free of charge for iOS and Android)
- Documentation and treatment schemes
- Consultations and services for companies
- Risk assessment and expert opinion
- Poisoning prevention
- Veterinary pharmacovigilance
- Postgraduate education for specialist physicians in clinical pharmacology and toxicology
- Research and education

Cover:

Rubroboletus satanas (Devil's bolete) – Tox Info Suisse, Zurich

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Dear reader,

*What lessons have we learnt from Covid-19 over the past few months?
We cannot plan for every circumstance as we thought we could.
We by no means have everything under control as we thought we had.
There are many unexpected circumstances and surprises despite global
protection.*

*We are not prepared or not prepared enough for such happenings.
We will never be fully prepared.
We think too much in the short term and fail to take in the bigger picture.
We often ignore changes.*

*We cannot protect ourselves against everything.
But we can look ahead and correct our mistakes from time to time.
We can come up with creative ideas and explore new paths.
We should keep acting and not just stand still.
We should try to combine new ideas with proven ones to shape the future.*

*We need to learn to accept and put up with inconsistencies
and complexities.*

*Expert advice in case of poisoning is vital for the population.
This service has always been reliable in case of emergency.
This should also be maintained in future.
Recognising changes and adapting to new realities is therefore
also applicable to Tox Info Suisse!*

*This is how Tox Info Suisse will have a great future –
I am convinced of that!*

A handwritten signature in black ink, appearing to read 'F. Anderegg-Wirth'.

*Elisabeth Anderegg-Wirth
President of the Foundation Council of
Tox Info Suisse*

Constant demand for toxicological expertise and consultations

Telephone consultations in toxicological emergencies and responding to prevention questions remained the core task of Tox Info Suisse in 2019 as in the past. In addition, the broad expertise of its toxicologists was much in demand in many areas in the public and private domains.

In 2019 the information service of Tox Info Suisse received 39,217 enquiries (-4.71 % compared to 2018). Two thirds (67.6 %) of these enquiries came from the general public, one quarter (24.0 %) from medical professionals, and 8.3 % from other sources. The website containing up-to-date information regarding poisoning was visited 505,120 times. Nearly 14,000 people have been using the Tox Info app.

Decrease in the number of inquiries

Despite continuous population growth and contrary to the long-term trend, Tox Info Suisse registered a decrease of nearly 5 % in the number of inquiries in 2019. Over half of this decrease is due solely to inquiries which are charged a fee (hospitals have been charged for inquiries once a year since 2015, and veterinarians for each consultation since 2019).

Experts on duty

Besides the telephone emergency service Tox Info Suisse compiles expert reports and case analyses for the industry and authorities. Senior medical staff regularly carries out clinical toxicological consultations at the wards and emergency department of the University Hospital of Zurich. Tox Info Suisse also provides medical emergency advice outside office hours for the pharmaceutical and chemical industry as well as hotline support related to material safety data sheets and international transport of hazardous materials. It also performs emergency unblinding in clinical trials.

Role in the Swiss antidote network

Mandated by the Swiss Conference of cantonal directors of public health, Tox Info Suisse

ensures antidote supply in Switzerland in collaboration with the Swiss Association of Public Health Administration and Hospital pharmacists (GSASA) as well as with the pharmacy of the Swiss Army. Updating the Swiss antidote list and the publication of monographs and leaflets on antidotes are also tasks of Tox Info Suisse.

Education

Hugo Kupferschmidt and Stefan Weiler contribute to the training of students as lecturers at the school of medicine at the University of Zurich, and in the MSc in Toxicology and MAS in Toxicology programmes at the Universities of Basel and Geneva. Permanent academic staff regularly gives lectures in clinical toxicology for the postgraduate and continuing education of physicians and other members of the medical profession and professional organisations. Structured education rounds are provided to the staff of Tox Info Suisse on a weekly basis.

Scientific activities

Research projects are conducted under the lead of PD Stefan Weiler, MD, head of the scientific services of Tox Info Suisse in line with the association with the University of Zurich. The main focus of the research efforts are the toxicoepidemiology as well as the dose-effect-relationships in human poisoning. Part of this work is performed in the context of medical theses. The research results are presented at national and international scientific meetings. Publications are listed on page 22 and on the website.



for iOS (Apple Store)



for Android (Google Play)

The Tox Info app has existed since 2015 and has been developed with the support of the Federal Office of Public Health (FOPH). It provides advice on first-aid measures, explains the hazard pictograms for chemical products and conveys news in the domain of human toxicology. To facilitate the identification of agents, EAN barcodes and photos can be sent directly to Tox Info Suisse when calling the emergency hotline 145 using the app. Downloading the Tox Info app is free of charge for iOS and Android in Switzerland and neighbouring countries.

Disinfectants – drugs – mushrooms

Synthetic cannabinoids in Switzerland

Cannabis consumption is widely spread among the Swiss population, especially among young adults (1). The acute toxicity of plant-based cannabis with THC (tetrahydrocannabinol) as the main psychoactive component is relatively low. Typical symptoms are euphoria, altered perception, sedation, increased heart rate, and slightly high blood pressure. Less typical symptoms are vomiting, movement and speech impairments as well as anxiety disorders. Severe symptoms such as loss of consciousness and seizures are described almost exclusively in children.

Synthetic cannabinoids have been available on the global drug market for over 15 years (2) and the number of such substances has considerably increased during that period (3). Since 2019, when analysing substances, synthetic cannabinoids have also been found more and more in samples sold as hashish/cannabis in Switzerland (4). These substances are called 5F-MDMB-PICA, 4F-MDMB-BINACA and MDMB-4en-PINACA (4).

The effect of these synthetic cannabinoids is considerably stronger than that of plant-based cannabis. Such substances can cause severe symptoms such as agitation and violent behaviour, muscle spasms, seizures, loss of consciousness, renal failure and cardiac complications such as heart attacks (2). Fatal cases are also described in the medical literature (2).

Cannabis tainted with synthetic cannabinoids cannot be distinguished from plant-based cannabis in its external aspect since synthetic cannabinoids sprayed on cannabis come in the form of an odourless liquid. Consumers will notice the difference only in the unexpected effect of the drug. Standard rapid urine screening tests will not detect the presence of synthetic cannabinoids but specialised laboratories can test urine for their presence.

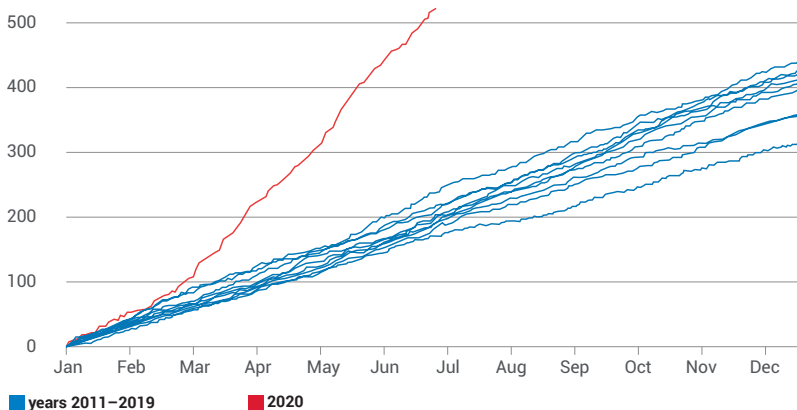
Consultation was provided about some cases of cannabis consumption where Tox Info Suisse suspected the presence of synthetic cannabinoids due to the unusual clinical appearance of these poisonings. However, Tox Info Suisse has recorded no cases with analytical evidence so far.

It remains to be seen if the growing availability of synthetic cannabinoids in Switzerland will also lead to an increase in cases with serious clinical outcomes, as it has been seen in other European countries (2).

Hand sanitisers

The more products are made available to the general public, the more inquiries Tox Info Suisse receives about them. Disinfectants are not different from other products in this respect. In order to combat the new coronavirus, the FOPH recommends, amongst other measures, washing hands thoroughly and regularly or disinfecting them. As a result, hand sanitisers have been available

Fig.: Inquiries about human exposures to hand sanitisers



in many homes, shops and public places since February 2020. Since the beginning of the coronavirus pandemic in Switzerland in early March the number of inquiries about disinfectants received by Tox Info Suisse has more than tripled (fig.).

Hand sanitisers usually contain ethanol, propanol and/or isopropanol in various concentrations and other substances such as glycerine for hand care, hydrogen peroxide in low concentrations used as a preservative as well as water. Ethanol causes well-known symptoms of drunkenness such as gait disorders, vomiting and euphoria followed by somnolence or even loss of consciousness in cases of ingestion of larger quantities. Propanol and isopropanol have a stronger effect than ethanol, but they cause similar symptoms. The concentrations of other substances in these products are not dangerous from a toxicological perspective.

Small children are also expected to have no more than minor symptoms in case of accidental ingestion of disinfectants. Tox Info Suisse has recorded no severe cases after accidental ingestion of these products. Alcohols contained in these disinfectants can strongly burn and irritate eyes in case of splashes, but they are not corrosive and, after rinsing with plenty of water, eyes will fully recover without any sequelae.

Mushrooms

With 733 cases, the number of mushroom poisonings hit a new record high in 2019. These numbers fluctuate significantly from year to year; these variations correlate closely with mushroom growth in forests (5). The trend of increasing mushroom poisonings, however, seems rather to be explicable by the rising popularity of mushroom picking. Evidence for this is the great interest in mushroom foraging courses, as reported by

Highlights

organisers. In addition, a prevention film, produced for the social media by the Swiss television SRF in cooperation with Tox Info Suisse in 2019, also sparked widespread public interest with 54,000 clicks (6).

Nevertheless, the number of dangerous poisonings due to amatoxin-containing mushrooms remains relatively constant at single-digit levels, whereas the number of poisonings due to improperly prepared edible mushrooms, inedible mushrooms, and poisonous mushrooms free of amatoxin, is subject to high fluctuations.

Consultations in cases of possible mushroom poisonings are tricky and time-consuming whereby identifying mushrooms is crucial. In such cases Tox Info Suisse can fall back on the long-standing and well-functioning cooperation with the Association of Official Mushroom Control Bodies (VAPKO). Whenever VAPKO experts are involved, they can often, by identifying mushrooms, rapidly make crucial assessment of how to proceed further. In child poisonings due to mushrooms from private gardens, Tox Info Suisse can give the all-clear in many cases where only small quantities are ingested. In 2019, out of 265 children exposed to mushrooms, 33 were treated in hospital, whereby in 15 cases the inquiry came directly from the hospital without previous contact with the parties concerned.

References:

1. <https://www.bag.admin.ch/bag/de/home/zahlen-und-statistiken/zahlen-fakten-zu-sucht/zahlen-fakten-cannabis.html> (on-line access 10.06.2020)
2. Tait RJ et al. A systematic review of adverse events arising from the use of synthetic cannabinoids and their associated treatment. *Clin Toxicol* 2016; 54: 1–13.
3. Potts AJ et al. Synthetic cannabinoid receptor agonists: classification and nomenclature. *Clin Toxicol* 2020; 58: 82–98.
4. <https://www.saferparty.ch/warnungen.html> (on-line access 10.06.2020)
5. Schenk-Jäger KM et al. Introducing mushroom fruiting patterns from the Swiss National Poisons Information Centre. *PLoS ONE* 2016; 11(9): e0162314.
6. <https://www.facebook.com/289943751120613/posts/241160072288228/?vh=e>

Emergency hotline 145: slight decrease in the number of enquiries

Although the number of inquiries decreases in some years, Tox Info Suisse receives more and more calls over the years. Despite the decrease in 2019, Tox Info Suisse registered 14.39% more inquiries than it did 10 years ago.

The core service of Tox Info Suisse is the telephone emergency consultation for the general public and for medical professionals in all situations of acute or chronic poisoning. Tox Info Suisse also answers theoretical calls without exposure and thus significantly contributes to the prevention of accidental poisoning. All enquiries are electronically recorded in a database which is the basis for this annual report and for scientific analyses. Medical confidentiality and data protection are respected.

General overview of all enquiries

Number of enquiries

In 2019 Tox Info Suisse received 39,217 enquiries. This represents a 4.71% decrease in comparison with the previous year.

Origin of enquiries

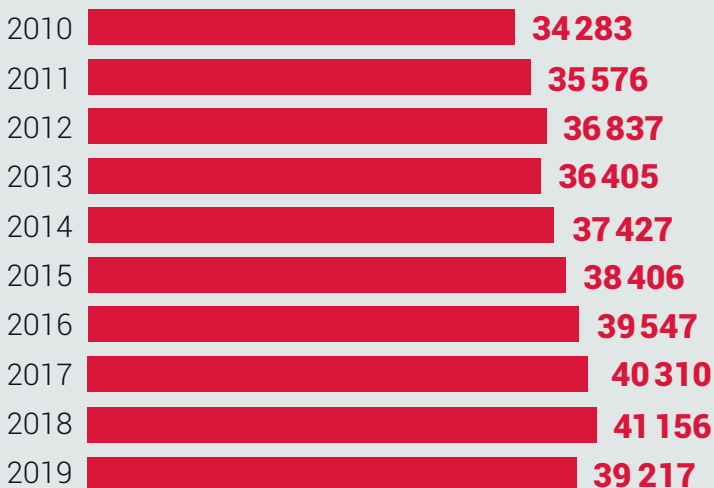
The largest number of enquiries came from the general public, which reflects its need for information and the growing reputation of Tox Info Suisse. Physicians used our services 8,536 times. The majority of these enquiries originated from hospital physicians, which corresponds to the trend that emergency care is increasingly provided by hospitals. Veterinarians accounted for 385 enquiries (-63.9%). Pharmacists submitted 508 enquiries to Tox Info Suisse.

In addition, Tox Info Suisse answered 95 requests for information from the media (newspapers, radio and television). 3,173 enquiries were received from organisations such as emergency services (+4.8%), nursery homes (-2.7%), industry, poisons centres abroad and unspecified organisations.

Enquiries with or without toxic exposure

Calls can be subdivided into enquiries without exposure and enquiries where an exposure has taken place. Among the 2,869 theoretical enquiries without exposure, information was provided on drugs and antidotes, the toxicity of plants to children and pets as well as the risk of poisoning from spoiled food, household products and chemicals, as well as venomous animals. These recommendations of Tox Info Suisse are predominantly of a preventive nature. This subcategory also includes advice and reports for authorities, media, private individuals and various organisations as well as the distribution of fact sheets and referring enquiries to appropriate experts.

The 36,340 enquiries with toxic exposures concerned 34,843 humans and 1,497 animals.



This represents a 14.39% increase over the last ten years.

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Origin of enquiries by cantons and population groups

Canton	Population	General public	Hospital physicians	Practitioners	Veterinarians	Pharmacists	Various	Total	Calls/1000 inhabitants	
									public	physicians
AG	678 207	2 141	578	58	32	51	227	3 087	3,2	1,0
AI	16 145	46	2	4	–	–	1	53	2,8	0,4
AR	55 234	175	26	5	2	1	26	235	3,2	0,6
BE	1 034 977	3 517	1 041	145	50	63	470	5 286	3,4	1,2
BL	288 132	905	198	42	21	10	103	1 279	3,1	0,9
BS	194 766	604	401	42	4	15	110	1 176	3,1	2,3
FR	318 714	810	141	25	10	28	81	1 095	2,5	0,6
GE	499 480	1 252	366	63	8	49	163	1 901	2,5	0,9
GL	40 403	93	36	4	2	–	8	143	2,3	1,0
GR	198 379	500	183	39	7	9	28	766	2,5	1,2
JU	73 419	163	92	3	3	5	14	280	2,2	1,3
LU	409 557	1 087	301	68	16	16	180	1 668	2,7	0,9
NE	176 850	453	83	10	8	15	56	625	2,6	0,6
NW	43 223	98	20	6	3	1	6	134	2,3	0,7
OW	37 841	161	29	7	–	2	13	212	4,3	1,0
SG	507 697	1 385	372	69	19	10	172	2 027	2,7	0,9
SH	81 991	243	96	6	1	2	37	385	3,0	1,3
SO	273 194	807	219	43	9	13	129	1 220	3,0	1,0
SZ	159 165	392	80	14	12	6	26	530	2,5	0,7
TG	276 472	813	181	35	16	8	89	1 142	2,9	0,8
TI	353 343	591	360	26	7	24	31	1 039	1,7	1,1
UR	36 433	83	24	3	2	1	6	119	2,3	0,8
VD	799 145	2 114	378	87	56	57	208	2 900	2,6	0,7
VS	343 955	744	144	44	10	21	82	1 045	2,2	0,6
ZG	126 837	363	61	19	4	7	54	508	2,9	0,7
ZH	1 520 968	5 849	1 500	291	56	88	780	8 564	3,8	1,2
FL	38 378	107	24	10	1	3	5	150	2,8	0,9
foreign		265	403	16	25	2	92	803	–	–
unknown		759	–	13	1	1	71	845	–	–
Total	8 582 905	26 520	7 339	1 197	385	508	3 268	39 217	3,1	1,0
%		67,6	18,7	3,1	1,0	1,3	8,3	100	–	–

Human poisoning

Children below 5 years of age most frequently involved

The highest number of cases involved children below five years of age (44.2%). Overall, children (54.6%) were more frequently involved in toxic

exposures than adults (45.1%). Boys were more frequently represented amongst the children (51.4% vs 47.5%) and women amongst the adults (57.1% vs 42.3%). This distribution has hardly changed in comparison with the previous year.

Age and gender of human cases with toxic exposure

Age		female	male		unknown	Total		
Children		8 410	47,5 %	9 114	51,4 %	195	17 719	54,6 %
Age	< 5 years	6 786	80,7 %	7 478	82,0 %	95	14 359	
	5 – <10 years	720	8,6 %	938	10,3 %	10	1 668	
	10 – <16 years	653	7,8 %	474	5,2 %	1	1 128	
	unknown	251	3,0 %	224	2,5 %	89	564	
Adults		8 376	57,1 %	6 196	42,3 %	90	14 662	45,1 %
Age	16 – <20 years	534	6,4 %	335	5,4 %	–	869	
	20 – <40 years	1 548	18,5 %	1 378	22,2 %	1	2 927	
	40 – <65 years	1 287	15,4 %	1 064	17,2 %	1	2 352	
	65 – <80 years	317	3,8 %	281	4,5 %	–	598	
	80+ years	232	2,8 %	160	2,6 %	–	392	
	unknown	4 458	53,2 %	2 978	48,1 %	88	7 524	
unknown		13	13,1 %	7	7,1 %	79	99	0,3 %
Total		16 799	51,7 %	15 317	47,2 %	364	32 480	100 %

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Most toxic exposures are accidental, in other words non-intentional. Small children are mainly involved.

Accidental poisonings prevail over intentional poisonings

A distinction must be made between the circumstances of poisoning which can be divided into three categories: accidental (non-intentional) poisonings, intentional poisonings and adverse drug reactions. Accidental poisonings occur at

home (private housing and garden), occupational (workplace) and environmental (caused by human activities via food, drinking water or breathing air). Intentional poisonings are suicides, attempted suicides, drug abuse and criminal poisonings (by a third party).

Circumstances of toxic exposures in humans

Circumstances of toxic exposures		Acute poisoning (exposure ≤ 8 h)		Chronic poisoning (exposure > 8 h)	
accidental domestic	23471	72,3%	475	1,5%	
accidental occupational	1142	3,5%	62	0,2%	
accidental environmental	10	0,03%	10	0,03%	
accidental others	1668	5,1%	71	0,2%	
Total accidental	26291	80,9%	618	1,9%	
intentional suicide	3088	9,5%	55	0,2%	
intentional abuse	600	1,8%	105	0,3%	
intentional criminal	93	0,3%	17	0,05%	
intentional others	664	2,0%	156	0,5%	
Total intentional	4445	13,7%	333	1,0%	
Total accidental and intentional	30736	94,6%	951	2,9%	
Total acute and chronic		31687	97,6%		
adverse drug reactions		184	0,6%		
unclassifiable/others		609	1,9%		
Total		32480	100%		

In both groups of toxic exposures it is necessary to distinguish between acute poisoning (exposure ≤ 8 hours) and chronic poisoning (exposure > 8 hours). Repeated single exposures happening

over a short period of time are often difficult to classify. In addition, there are adverse drug reactions defined as toxic reactions in the context of a therapeutic drug administration.

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Agents

For analysis, the agents (toxins) involved were split into 12 categories. The distribution has not changed significantly in comparison

to the previous year. A supplement with details to the individual agent groups is available on www.toxinfo.ch.

Frequency of agent groups in all cases of human poisoning

Agents/ Age groups	Adults	Children	Age unknown		Total
Pharmaceuticals	5 908	5 547	15	11 470	35,3%
Household products	2 761	5 573	31	8 365	25,8%
Plants	688	2 178	6	2 872	8,8%
Cosmetics and personal care products	386	1 754	–	2 140	6,6%
Technical and industrial products	1 646	444	7	2 097	6,5%
Food and beverages (excl. mushrooms and alcohol)	864	734	17	1 615	5,0%
Recreational drugs and alcohol	697	404	1	1 102	3,4%
Mushrooms	463	263	7	733	2,3%
Agricultural and horticultural products	317	323	–	640	2,0%
Venomous animals	215	113	4	332	1,0%
Veterinary drugs	74	54	–	128	0,4%
other or unknown agents	643	332	11	986	3,0%
Total	14 662	17 719	99	32 480	100%

Severity of poisoning

8,322 enquiries from physicians (97.5% of all medical enquiries) were related to cases of expected or already established poisoning. In these cases, the treating physicians received a summary of the telephone consultation, together with a request for feedback on the clinical outcome. Tox Info Suisse received a report on the outcome in 68.2% of these cases. Thus Tox Info Suisse receives medically qualified information on symptoms, clinical outcome and treatment of acute and chronic poisonings which is entered and analysed in its in-house database.

Data capture and evaluation are standardised according to circumstances, causality and severity of poisoning. Severity is categorised as follows: no symptoms, minor, moderate, severe, or fatal. Minor symptoms typically require no treatment, moderate symptoms usually require treatment,

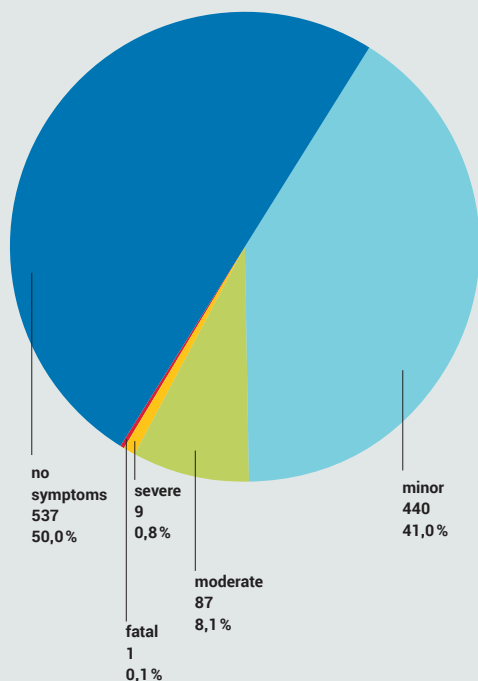
and cases with severe symptoms must invariably be treated.

This annual report only includes poisonings where causality was confirmed or likely. Confirmed means that the toxin has been analytically detected in the body, the time course and symptoms are compatible with the toxin, and the symptoms could not be explained by an underlying illness or any other cause. Likely causality fulfils the same criteria, but the agent has not been detected in the body.

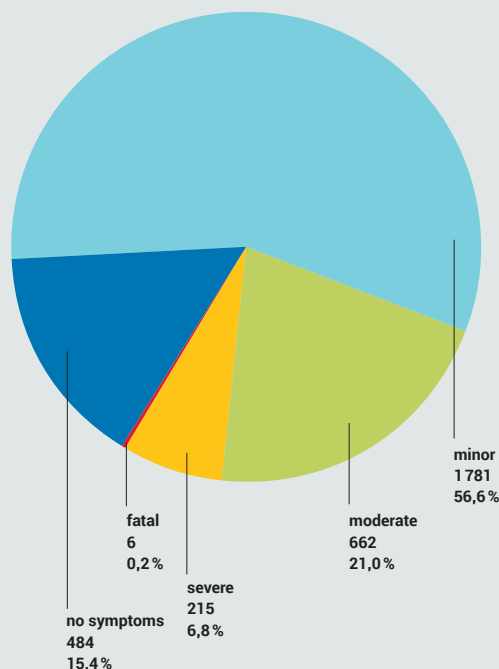
4,223 human cases both asymptomatic and symptomatic with sufficient evidence of causality were analysed further with regard to clinical course (-3.74% compared to 2018).

Clinical outcome of poisoning in children and adults

Children (n = 1,074)



Adults (n = 3,148)



Of the 4,223 cases where causality was confirmed or likely, about three fifths involved an ingestion of only one toxin. In two fifths of the cases, two or more agents were involved. These cases have been categorised according to the most important agent involved.

1 minor case could not be assigned to any age group.

Frequency of agent groups and severity of human poisoning in cases where medical feedback was received and analysed

Agent groups	Adults					Children					Total	
	N	Mi	Mo	S	F	N	Mi	Mo	S	F		
Pharmaceuticals	356	1045	375	155	4	330	205	42	5	1	2518	59,6%
Household products	41	165	24	10	-	95	136	18	1	-	490	11,6%
Technical and industrial products	34	255	40	5	-	18	17	10	1	-	381	9,0%
Recreational drugs and alcohol	17	123	142	30	-	10	16	7	1	-	346	8,2%
Plants	7	46	15	4	-	24	20	1	-	-	117	2,8%
Mushrooms	7	44	35	4	-	16	6	1	-	-	113	2,7%
Cosmetics and personal care products	9	20	2	-	1	19	24	4	-	-	79	1,9%
Venomous animals	-	15	10	3	-	1	5	2	-	-	36	0,9%
Agricultural and horticultural products	4	16	4	1	1	8	2	1	-	-	37	0,9%
Food and beverages (excl. mushrooms and alcohol)	3	11	8	1	-	7	3	-	1	-	34	0,8%
Veterinary drugs	1	3	1	1	-	1	2	-	-	-	9	0,2%
other or unknown agents	5	38	6	1	-	8	4	1	-	-	63	1,5%
Total	484	1781	662	215	6	537	440	87	9	1	4223	100%

Severity of poisoning: N = no symptoms, Mi = minor, Mo = moderate, S = severe, F = fatal
*) 1 minor case could not be assigned to any age group. It is therefore mentioned only briefly

Animal poisoning

Animals involved

1,497 enquiries relating to 1,468 cases concerned a large variety of animals also in 2019: 1,119 dogs, 266 cats, 26 equines (horses, ponies), 19 bovines (calves, cattle, cows, goats, sheep), 11 lagomorphs (hares, rabbits), 11 rodents (guinea pigs, hamster, mice, rats), 8 birds (chickens, parrots, pigeons), 4 reptiles (tortoises), 1 alpaca, 1 fish, 1 pig, 1 unknown domestic animal.

Frequency of agent groups in all cases of animal poisoning

Agent groups		No. of cases
Pharmaceuticals	307	20,9%
Food and beverages (excl. mushrooms and alcohol)	284	19,4%
Plants	225	15,3%
Agricultural and horticultural products	221	15,1%
Household products	207	14,0%
Veterinary drugs	56	3,8%
Technical and industrial products	36	2,5%
Recreational drugs and alcohol	23	1,6%
Cosmetics and personal care products	22	1,5%
Venomous animals	21	1,4%
Mushrooms	15	1,0%
other or unknown agents	51	3,5%
Total	1468	100%

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Severity of poisoning

Veterinarians were also asked to submit clinical follow-up reports on animal poisoning. Tox Info Suisse received a total of 146 reports which could be analysed.

Frequency of agent groups and severity of animal poisoning in cases where medical feedback was received and analysed

Agent groups						Outcome	Total
	Severity of poisoning	N	Mi	Mo	S		
Pharmaceuticals		25	13	4	–	–	42 28,8%
Household products		12	9	–	–	–	21 14,4%
Agricultural and horticultural products		16	1	3	–	1	21 14,4%
Food and beverages (excl. mushrooms and alcohol)		11	7	1	–	–	19 13,0%
Plants		11	4	1	1	–	17 11,6%
Veterinary drugs		6	3	–	2	–	11 7,5%
Technical and industrial products		1	5	2	–	–	8 5,5%
Recreational drugs and alcohol		1	1	1	–	–	3 2,1%
Venomous animals		–	–	–	1	–	1 0,7%
Cosmetics and personal care products		1	–	–	–	–	1 0,7%
Mushrooms		–	–	–	–	–	0 0,0%
other or unknown agents		1	–	1	–	–	2 1,4%
Total		85	43	13	4	1	146 100%

Severity of poisoning: N = no symptoms, Mi = minor, Mo = moderate, S = severe, F = fatal

Annual financial statement well balanced

Income statement 2019

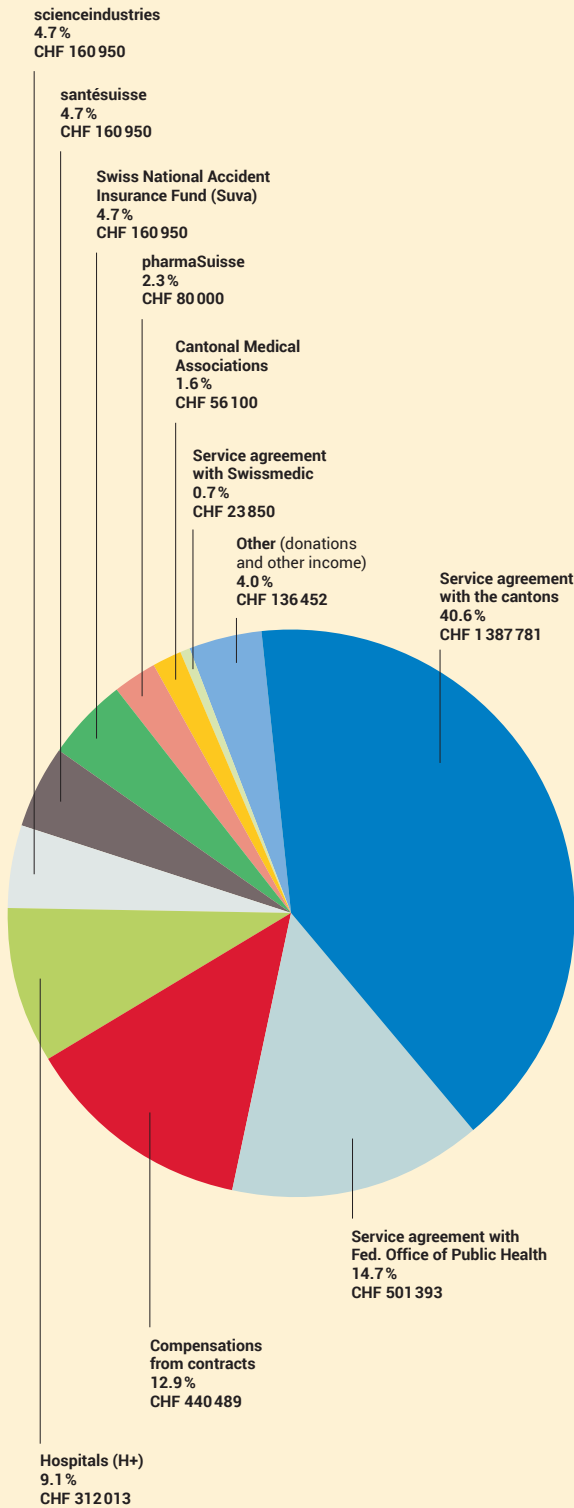
Income	CHF
Contributions from supporting bodies	618950
Income from contracts	
Confederation	525243
Cantons	1387781
others	440489
Hospitals (H+)	312013
Honoraria and expert opinions	12989
Research projects	17785
Donations	88301
other income	16516
Interest and benefits from equity	861
Total income	3420928
Expenses	
Staff costs [*]	2817572
Facilities	139291
Furniture and equipment	13813
IT costs	270998
Office and administration costs	29241
Communication	9167
Literature and archiving costs	3167
Research and education costs	74
Bank charges, interest	325
Telephone, postage, facsimile	31479
other expenses	48781
Allocation of provision to ensure liquidity	50000
Total expenses	3413907
Net profit	7021

Balance as at 31.12.2019

Assets	CHF
Current assets	
cash	3452414
trade accounts receivable	429983
other short-term receivables	257
prepaid expenses and accrued income	56455
Total assets	3939109
Liabilities	
Short-term liabilities	
trade accounts payable	39009
other short-term payables	33879
accrued expenses and deferred income	291397
provisions	2687589
foundation capital and general reserves	800400
profit carried forward	79815
Profit	7021
Total liabilities	3939109

^{*}) corresp. to 19.68 full-time jobs

Source of income



Auditor's report



Thanks to all donors!

Tox Info Suisse is a charitable non-profit making private foundation. It is partly funded by donations from companies, organisations and private individuals. The donations are used exclusively to support the poisons information service.

Donations 2019 of and above CHF 1,000

Each contribution to the donation account supports the future of the poisons information service! We thank all donors in advance for their payment to:

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Online donations can be made on our website.

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Dr. med. Markus Frey	1 000
Ideal Chimic SA	1 000
IVF Hartmann AG	1 000
SI Group Switzerland GmbH	1 000

Numerous smaller contributions not listed here are frequent and very welcome. We extend grateful thanks to all donors.

Emergency service in case of poisoning: quo vadis?

Contrary to population growth, the number of consultations provided by Tox Info Suisse decreased for the first time in 2019 after rising over the preceding years. This is partly due to a change in financing practice: veterinarians have been charged for each consultation for a year now and hospitals since 2015. Therefore, some groups of users have had certain reservations about calling the emergency hotline of Tox Info Suisse.

Position of the emergency service in case of poisoning

The emergency service in case of poisoning is undoubtedly one of the duties of the public healthcare system: all developed countries in the world have a poisons centre, some of them even more than one. The benefit of this service is undisputed. The World Health Organisation and the European Union reserve some pages on their websites for poisons centres. In practically all countries, poisons centres are financed by representatives of the public healthcare system. In this regard the finance model of Tox Info Suisse is an unusual exception, but it offers many advantages. The participation of all partners in the public healthcare system provides a strong network, and financing by many pillars brings stability and security. However, this stability presupposes that these pillars are well balanced, which has become less and less the case in recent years. The proportion of the contributions from the cantons and the Confederation is increasing but it is obvious that those from some of the supporting bodies are shrinking. This poses the question of who is ultimately responsible for poisons information in Switzerland, and who determines what mission the poisons centre must fulfil in Switzerland in the future.

Benefits of the emergency service in case of poisoning

The core task of the emergency service is unquestionably to provide quick and competent consultations to people seeking help in cases of poisonings. However, it must not be overlooked that this service, almost as a by-product, delivers valuable data on toxic activity from different angles, namely about the frequency and type of

exposures as well as the circumstances of individual cases. If poisoning cases are followed up, instructive data on their clinical course can be collected (for example symptoms, severity, outcome of poisonings). When monitoring poisoning cases systematically, it is possible to recognise short-term and long-term changes of poisoning in the population over time. Here are some examples: The introduction of 1g tablets of paracetamol did not only lead to an increase of poisonings with preparations containing this drug, but on average also to higher toxic doses and therefore to a higher risk of severe clinical courses (hepatotoxicity). The introduction of washing capsules in a concentrated form (laundry detergent pods) has led (in comparison with traditional washing powder) to new circumstances of toxic exposures and clinical courses.

When we look at the annual reports of Tox Info Suisse, we can see that the type of poisonings and the agents involved fluctuate only slightly. The consequence of the availability of these toxic substances is expressed in the number of poisonings, and is clearly shown by the increase of exposures to disinfectants during the Coronavirus crisis in the first semester of 2020. This fact is also reflected in the number of mushroom poisonings whose fluctuations follow mushroom growth (see the highlights of this annual report).

The epidemiological benefit of collecting this data is essentially based on following up cases systematically according to defined and constant criteria in order to create a homogeneous dataset which can be used to produce time series enabling a reliable comparison of the new figures with the old ones. To maintain this in the future, the way of collecting data and the underlying methodology must not be altered.

<https://www.who.int/ipcs/poisons/centre/en/>

<https://poisoncentres.echa.europa.eu>

The work of Tox Info Suisse enjoys broad support

Tox Info Suisse is a private foundation. It was established in 1966 and is based on a private-public partnership.

Supporting bodies



pharmaSuisse is the Swiss pharmacists' Association. It is the founder of the Swiss Toxicological Information Centre in 1966, now Tox Info Suisse.



santésuisse is the inter-trade organisation of Swiss health insurance companies in the domain of social health insurance.



scienceindustries is the Swiss business association Chemie Pharma Life Sciences. It is the co-founder of the Swiss Toxicological Information Centre in 1966, now Tox Info Suisse.



Suva is the biggest institution in the field of compulsory accident insurance in Switzerland.



The KKA is the Conference of the Cantonal Medical Associations

Partners



Tox Info Suisse is an associated institute of the University of Zurich in the domains of research and education.



Tox Info Suisse is involved with the European Association of Poisons Centres and Clinical Toxicologists (www.eapcc.org).



Tox Info Suisse collaborates closely with the Society of Clinical Toxicology (Gesellschaft für Klinische Toxikologie, GfKT) which is the professional society of the German-speaking poisons information centres and of clinical toxicologists.



Tox Info Suisse is represented in the foundation council of the SCAHT.

Service Level Agreements



GDK Schweizerische Konferenz der kantonalen Gesundheitsdirektorinnen und -direktoren
CDS Conférence suisse des directrices et directeurs cantonaux de la santé
CDS Conferenza svizzera delle direttrici e dei direttori cantionali della sanità

The services for the general population in Switzerland are regulated by a service level agreement with the Swiss Conference of Cantonal Directors of Public Health (GDK).



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Eidgenössisches Departement des Innern EDI
Bundesamt für Gesundheit BAG

By order of the Swiss Federation, and on the basis of the law and ordinance on chemicals, Tox Info Suisse contributes significantly to emergency consultation and poisoning prevention.



DIE SPITÄLER DER SCHWEIZ
LES HÔPITAUX DE SUISSE
GLI OSPEDALI SVIZZERI

H+ is the national central association of public and private hospitals, infirmaries, and nursing homes.

Swissmedic

By order of the Swiss Agency for Therapeutic Products (Swissmedic) Tox Info Suisse provides veterinary pharmacovigilance.

Individuals committed to Tox Info Suisse

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President: Elisabeth Anderegg-Wirth, pharmaSuisse
Vice President: Marcel Sennhauser, scienceindustries
Members: Prof. Michael Arand, University of Zurich / Philipp Brugger, GDK (as of 5.7.2019) / Dr. Roland Charrière, Federal Office of Public Health / Dominique Jordan, pharmaSuisse (until 5.7.2019) / Dr. Aldo Kramis, Conference of the Cantonal Medical Associations (until 5.7.2019) / Dr. Martin Kuster, scienceindustries (until 6.12.2019) / Verena Nold, santésuisse / Dr. Claudia Pletscher, Suva / Cantonal Government Councilor Petra Steimen, GDK / Dr. Samuel Steiner, GDK (until 5.7.2019) / Markus Tschanz, H+ (as of 5.7.2019) / Fabian Vaucher, pharmaSuisse (as of 5.7.2019) / Josef Widler, Conference of the Cantonal Medical Associations (as of 5.7.2019)
Honorary member: Dr. Franz Merki

Management

Director: Hugo Kupferschmidt, M.D., EMBA-HSG
Head physician and deputy director: Cornelia Reichert, M.D.
Senior physicians: Katharina Hofer, M.D. / Colette Degrandi, M.D. / Katrin Faber, M.D. / Katharina Schenk, M.D.
Head of scientific services: Stefan Weiler, M.D., PhD, MHBA
Head Administration: Elfi Blum (until 31.7.2019) / Maja Surbeck (as of 1.7.2019)

Advisors

Numerous experts from hospitals, institutes, state and federal organisations act as honorary advisers, most notably **Jean-Pierre Lorent** (former Director of the Tox) and **Professor Martin Wilks** M.D., PhD (SCAHT).

Staff

Natascha Anders, nurse / **Alexandra Bloch**, dipl. pharm. / **Danièle Chanson**, executive secretary/certified translator / **Trudy Christian**, triage / **Ioanna Farmakis**, cleaning service / **Andrea Felser**, PhD (until 31.5.2019) / **Joan Fuchs**, M.D. / **Mirjam Gessler**, med. pract. / **Karen Gutscher**, M.D. / **Rose-Marie Hauser-Panagl**, management secretary / **Teresa Hiltmann**, M.D. / **Evelyne Jina Prüss**, M.D. (as of 1.11.2019) / **Noëmi Jöhl**, med. pract. / **Irene Jost-Lippuner**, M.D. / **Seraina Kägi**, M.D. / **Kirill Karlin**, med. pract. (until 28.2.2019) / **Helen Klingler**, M.D. / **Sandra Koller-Palenzona**, M.D. / **Birgit Krueger**, med. pract. / **Jacqueline Kupper**, vet.D. / **Loredana Lang**, triage / **Saskia Lüde**, PhD (until 31.7.2019) / **Nadine Martin**, M.D. / **Franziska Möhr-Spahr**, triage / **Corinne Nufer**, nurse/ expert in emergency care / **Fritz Rigendinger**, med. pract. (1.2.-31.10.2019) / **Stefanie Schulte-Vels**, med. pract. / **Verena Sorg**, M.D. / **Joanna Stanczyk Feldges**, M.D. / **Jolanda Tremp**, triage / **Sonja Tscherry**, nurse / **Claudia Umbricht**, IT co-worker / **Margot von Dechend**, M.D. / **Karin Zuber**, triage.
Medical students: Celia Degonda (1.5.-31.12.2019), Michael Killian (as of 1.8.2019), Micheline Maire, PhD, Debbie Maurer (until 31.3.2019), Yves Waser (until 31.8.2019).

Scientific publications

The list of the scientific publications, doctoral theses and master theses can also be found on the website www.toxinfo.ch.

Some of the listed papers can be downloaded from our website www.toxinfo.ch. All others are accessible through scientific libraries. Leaflets about first aid and poisoning prevention are also available in German, French and Italian.

Association between osteoporosis and statins therapy: the story continues.

Burden AM, Weiler S.
Ann Rheum Dis. 2019 [early online].

PathoMaps – Klinisch-pathologische Übersichtskarten.

Cerny T, Karlin K.
Springer-Verlag GmbH Deutschland, 2019; 199 p.

Systemische Mykosen.

Cornely OA, Weiler S.
In: Herold G, Herold Verlag, Köln. Innere Medizin 2019; 387–90.

Überdosierung bei der Behandlung der Überdosierung.

Degrandi C, Aprili D, Weiler S.
Swiss Med Forum 2019; 19: 667–68.

Verätzung durch einen Nagellackentferner?

Degrandi C.
Schweiz Ärztztg 2019; 100: 648.

Statin-associated immune-mediated necrotizing myopathy: a retrospective analysis of individual case safety reports from VigiBase.

Essers D, Schäublin M, Kullak-Ublick GA, Weiler S.
Eur J Clin Pharmacol 2018 [early online]. (Eur J Clin Pharmacol 2019; 75: 409–16).

A confirmed bite by a beautiful pit viper (*Trimeresurus venustus*) resulting in local symptoms.

Fuchs J, Bessire K, Weiler S.
Toxicon 2019; 163: 44–47.

Envenomation by a Western green mamba (*Dendroaspis viridis*) – A report of three episodes in Switzerland.

Fuchs J, Weiler S, Meier J.
Toxicon 2019; 168: 76–82.

Poisonous plants – a new approach for assessing the risk of poisoning in small children.

Hermanns-Clausen M, Andresen-Streichert H, Pietsch J, Acquarone D, Fuchs J, Begemann K.
Bundesgesundheitsblatt – Gesundheitsforschung – Gesundheitsschutz; 2019; 62: 1336–45.

Folge 1: Wie giftig ist Oleander?

Hofer KE, Weiler S.
Prim Hosp Care 2019; 19: 179–80.

Folge 2: Versehentliche Einnahme verdünnter Entkalkungsmittel.

Hofer KE, Weiler S.
Prim Hosp Care 2019; 19: 209–10.

Folge 3: Im Rasen wachsende Pilze – wie gefährlich sind sie?

Schenk-Jäger K, Weiler S, Hofer KE.
Prim Hosp Care 2019; 19: 250–52.

Folge 4: Gefahr durch bittere Aprikosenkerne und Bittermandeln.

Hofer KE, Weiler S.
Prim Hosp Care 2019; 19: 285–86.

Folge 5: Waschmittelkissen (Liquid Caps) – kein Spielzeug!

Hofer KE, Degrandi C, Weiler S.
Prim Hosp Care 2019; 19: 324–25.

Folge 6: Zigarettentstummel oder ungerauchte Zigaretten – wie gefährlich für Kleinkinder?

Gessler M, Weiler S, Hofer KE.
Prim Hosp Care 2019; 19: 356–57.

The acute toxicity profile of a teething gel containing salicylamide in toddlers: an observational poisons centre-based study.

Hofer KE, Kaegi S, Weiler S.
Clin Toxicol 2018 [early online]. (Clin Toxicol 2019; 57: 220–21).

Pharmacovigilance in ophthalmology in Switzerland: an analysis of the most frequently reported ocular adverse drug reactions within the last 25 years.

Karrer JE, Giovannoni L, Kullak-Ublick GA, Weiler S.
Swiss Med Wkly 2019; 149: w20085.

Characteristics of emergency department presentations requiring consultation of the national Poisons Information Centre.

Liakoni E, Berger F, Klukowska-Rötzler J, Kupferschmidt H, Haschke M, Exadaktylos AK.
Swiss Med Wkly 2019; 149: w20164.

Kounis syndrome: A retrospective analysis of individual case safety reports from the international WHO database in pharmacovigilance.

Orion K, Mack J, Kullak-Ublick GA, Weiler S.
Int J Clin Pharmacol Ther 2019; 57: 240–48.

A comprehensive analysis of attempted and fatal suicide cases involving frequently used psychotropic medications.

Pfeifer P, Greusing S, Kupferschmidt H, Bartsch C, Reisch T.
Gen Hosp Psychiatry 2019 [early online] (Gen Hosp Psychiatry 2020; 63: 16–20).

Pilzvergiftungen 2018.

Schenk-Jäger K.
SZP – Schweiz Zeitschr Pilzkd 2019; 97: 24–27.

Von Morcheln und Lorcheln: Unterscheidungsmerkmale und Toxikologie.

Schenk-Jäger K, Zoller B.
pharmaJournal 2019; 25: 6–8.

Severe reduction in tacrolimus concentrations with concomitant metamizole (dipyrone) therapy in transplant patients.

Sigaroudi A, Jetter A, Mueller TF, Kullak-Ublick G, Weiler S.
Eur J Clin Pharmacol 2019; 75: 869–72.

Medikamenteninteraktionen in der Onkologie.

Weiler S, Winder T.
InFo Onkologie & Hämatologie 2019; 7: 8–13.

Vergiftungen in der Schweiz.

Weiler S, Kupferschmidt H.
Schweiz Ärztztg 2019; 100: 1611–14.

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