



Swiss Toxicological
Information Centre

■ Annual Report 2010

www.toxi.ch

Contents

- 3 **Editorial**
- 4 **Introduction**
- 5 **Focus**
- 6 **Emergency and information service**
 - 6 Overview of all calls
 - 8 Human poisoning
 - 14 Animal poisoning
- 16 **Other activities**
 - 16 Services
 - 16 Teaching and continuing education
 - 16 Research projects
 - 17 Collaborations
- 18 **The Swiss Antidote Network**
- 20 **Publications**
- 21 **Income and expenditure**
- 22 **Donations**

■ Editorial

Dear Readers

Although the continued prosperity and acceptance of the STIC in the past years have been very gratifying, this has always been accompanied by concerns over the financial stability of our institution. This was not different in the reporting year – on the contrary: The management of the Swiss Insurance Association SIA put its previously announced intention to cease being a funding body of the STIC into effect as of the end of the year 2010. This loss is extremely painful and has already led to a large budget gap in the current year, i.e. an operating loss of presumably CHF 120 000. This alarming development calls for swift action if our reserves are not to diminish drastically in a very short period of time. Fortunately, there is still a balanced budget in the reporting year. However, it has to be stressed in this context that we are not talking about the loss of just any supporting organisation, allowing us to continue as if nothing had happened. The SIA has turned its back on a mutually supportive venture which benefits the public and notably their insured clients which in turn – thanks to expert advice and the preventive work of the STIC – leads to significant cost reductions for the insurance companies. I cannot help the impression that the Association and in particular its individual members are not aware of the significance of their decision or have decided to downplay it. The responses received from individual insurance companies asked to take over as supporting organisations were mostly brief declines which did not address the issue raised. Such an attitude and this development are embarrassing in a country that is home to world-renowned insurance companies and reflects badly on those who are responsible. In the course of the year the STIC will have to increase its efforts to convince at least the big players in the insurance industry to reconsider.

It is therefore all the more pleasing to see that all other supporting organisations of the foundation have strongly declared their continued support for, and contribution to, the STIC. My heartfelt thanks go to them.

We continue in our efforts to regain the support of the medical profession as one of the main users of the STIC and to bring them back into the Foundation Council as a supporting member. I am once again confident that we may achieve a breakthrough in this respect in the current year.

The negotiations with the University of Zurich concerning the STIC's association have come to a successful conclusion in the reporting year following the contract's approval by the appropriate authorities at the University; the contract now awaits final signatures. This is a firm basis for future collaboration and integration with a large potential for synergies.

For the rest we can again report that the STIC provides an impeccable service, that there is excellent collaboration in the team and that the public perception and acceptance are very good, not least due to frequent media work. The same is true for scientific networking.

My thanks go to the management and staff of the STIC for their commitment as well as to the Foundation Council and the supporting members for their trust and support.

DR. FRANZ MERKI
PRESIDENT OF THE FOUNDATION COUNCIL



Introduction

The annual report for the year 2010 of the Swiss Toxicological Information Centre (STIC) provides in the usual manner information on enquiry statistics, type and severity of poisoning incidents, educational activities, research projects, collaborations, the Swiss Antidote Network and publications. The section entitled «human poisoning» is limited to a tabular format of poisoning incidents. More detailed information can be found in an appendix to this annual report which is accessible on our website. Graphical illustrations have been added to the website showing the development over the last ten years.

In 2010 there has been a system change which affects the statistical analysis of poisoning incidents: in the new database system an incident refers to an individual patient and no longer to each call (consultation). We have included the number of calls, of which there can be several per patient, in the annual report to document the demand for the STIC's services only. These are clearly described in the text as «consultations». In all other citations and tables the number of patients («cases») is given. Therefore the figures given cannot be directly compared to those up to the end of 2009. The difference between the number of cases and the number of consultations (i.e. «multiple consultations») is 6.8 % for 2010. Thus the focus of data collection and documentation has moved away from the mere reporting; it now concentrates on the medical aspects that make the STIC's contribution to medical care and its scientific analysis easier. A further change refers to the so-called «harmless exposures» which are no longer listed separately as this differentiation has always been diffuse and subject to substantial fluctuations.

In 2010 34 283 consultations were carried out by the STIC. Thus we have seen a further rise in the number of consultations in the reporting year (+0.77 % versus 2009 and +7.4 % in the past three years). Theoretical (preventive) enquiries have decreased further which can be explained by the fact that the general public as well as experts have easy access to information via the

internet, especially in non urgent cases. The STIC is continuously expanding the information available on its website, now also available in Italian. Our experience also shows that we are being contacted for advice in cases where the information available via the internet is not sufficient to solve the problem of the caller who is looking for information from an identifiable source that can be trusted. The STIC's poisons information officers not only offer reliable advice with regard to the treatment to be undertaken, but also help with identifying the toxins involved and suggest suitable diagnostic steps. It is not unusual that the experienced staff of the STIC, based on circumstances and symptoms, recognise a toxin other than the one the caller was suspecting.

Following a marked increase in recent years the number of consultations for accidental poisonings has decreased slightly (-1.19 %). In contrast, consultations with regard to intentional poisonings have increased by 10.2 %. The number of moderate and severe poisonings has increased substantially compared to the previous year (1 138 versus 968, +17.6 %). The STIC registered 10 fatal poisonings in the reporting year which is below the average of previous years. We recorded 4 fatal cases in animals. Pharmaceuticals are predominant in fatal human poisonings, mostly antidepressants, sedatives and cardiovascular drugs. The two non-pharmaceutical fatal poisonings were caused by a detergent and insecticide, respectively.

We are pleased with the development of our scientific activities. A number of research projects are being undertaken by the scientific service, several of them in collaboration with other research groups both in Switzerland and abroad. Publications relating to completed research projects can be found amongst the publications listed in this annual report. The negotiations relating to an association with the University of Zurich were concluded in the reporting year. The University's management has agreed to the association which has also been approved by the University's governing council. Thus the association can be formally set up in 2011.

Focus

In the last years we have seen an increased number of complaints by consumers experiencing an unpleasant bitter taste in their mouth following consumption of **pine kernels**. Several hundred cases are known in France, sixteen cases were reported to the STIC up to the end of May 2011. The symptoms start one to two days after eating and can last up to 2 weeks. Improvement is spontaneous and no other adverse health effects are observed. The cause for these taste disturbances was unknown for a long time. No substances could be found in the samples collected which would account for the symptoms. It was noticeable that the symptoms occurred mainly after ingesting pine kernels from China. Nowadays it is assumed that two kinds of pine kernels, *Pinus armandii* and *Pinus massoniana*, are responsible for this so-called «pine mouth syndrome». Those two kinds of pine kernels are considered as inedible. In a recent scientific article all samples examined which had led to taste disturbances contained *Pinus armandii*.

The use of **activated charcoal** to prevent poisonings has been known since the early 19th century with predominantly animal studies with arsenic and strychnine dating from this time. However, its routine use for primary decontamination was only introduced in about 1980. Today the administration of activated charcoal has mostly replaced other decontamination measures such as gastric lavage and forced emesis. It is only in exceptional cases, such as poisoning with substances that do not bind to charcoal (alcohols, heavy metals amongst others), that other methods for gastrointestinal decontamination are considered.

After several decades the authorities have recently approved an activated charcoal containing suspension (Carbovit®) for use in Switzerland. This has been a request for many years and can thus be considered a milestone in the history of this antidote. The individual production or direct import from abroad will therefore no longer be necessary. Activated charcoal has also been added to the new assortment for emergency services. Since the administration of charcoal is time

critical it is hoped that this measure will reduce the delay between ingestion of the poison and administration of this universal adsorbent. In 2010 the STIC recommended the use of activated charcoal more than 1 200 times. An analysis of incidents where medical feedback was received concerning the time of administration has shown that out of 213 patients only 62 % received charcoal within one hour. This has to be improved.

Stimulants continue to be very popular party drugs. Apart from the «classics» amongst these drugs such as ecstasy and cocaine, new drugs have appeared in the last ten years with gammahydroxybutyrate (GHB) and its analogues gammabutyrolactone (GBL) and 1,4-butanediol (1,4-BD) as well as the group of piperazines (e.g. A2, BZP) and new substances (synthetic cathinones, spice and herbal drugs). They are being called «research chemicals» or «legal highs» even if individual substances have been banned in several countries. **Synthetic cathinones** (e.g. mephedrone, methylene) are chemically related to amphetamines and have a comparable toxicity. They are often marketed for inappropriate uses, for example as plant food, bath salt and vacuum cleaner deodorant. Herbal mixtures sold as «Spice» contain **synthetic cannabinoids** (e.g. the aminoalkylindol JWH-018) of which there are a great number available by now and which account for their effects. Unwanted effects include injected conjunctival, pallor, hypertension, vomiting, tachycardia, anxiety, hallucinations, agitation, tremors, myoclonus and general convulsions. **Herbal drugs** with the potential for misuse are Aztec sage (*Salvia divinorum*), Hawaiian wood rose (*Argyrea nervosa*) and *Datura* species (*D. suaveolens* = angel's trumpet, *D. stramonium* = thorn apple). Preparations of the plant *Mitragyna speciosa* are being called Kratom. As it contains mitragynine and other alkaloids with effects similar to opiates this plant is traditionally being used in Asian countries for opiate withdrawal and for coughs. Mitragynine is stimulating in low dosage, but sedating in high dosage. The frequency of use in Switzerland is not clear; the STIC got consulted in one case each in 2004, 2008 and 2011.



Emergency and information service

The main services provided by the STIC are telephone consultations for members of the general public and physicians in cases of acute and chronic poisoning. In addition, the centre answers theoretical enquiries and contributes to the prevention of accidental poisoning.

All calls to the information service of the STIC are recorded electronically in its own data base, and are analysed in the Annual Report.

Overview of all calls

Use of the service

In 2010, the information service of the STIC received 34 283 enquiries which represents an increase of 0.77 % compared to the previous year.

Figure 1

Number of enquiries to the centre over the last ten years

2001	32 330
2002	33 111
2003	32 217
2004	31 404
2005	33 512
2006	31 184
2007	31 933
2008	33 366
2009	34 022
2010	34 283

Origin of calls

Table 1 shows the number of calls received in 2010 from the individual cantons of Switzerland and the different population groups.

The largest number of calls came from the general public (64.6 %). These calls reflect the need for information by the general public, and also how well the STIC is known amongst the public. The largest proportion of calls from the public originated from the canton of Zurich (4.0 per 1 000 inhabitants). The smallest number of calls was received from the cantons of Tessin, Wallis, Appenzell Innerrhoden and Jura.

Physicians used our service 9 069 (26.5 %) times. Calls made by hospital physicians increased by 474 compared to the year 2009. However, calls by general practitioners decreased by 13. Veterinarians accounted for 642 calls to the STIC. Based on population, the largest proportion of physician calls came from the cantons of Basel-Stadt and Jura, followed by the canton of Zurich. Pharmacists submitted 529 inquiries to the STIC.

The STIC answered 165 requests for information from the media (newspapers, radio and television). 1 718 enquiries were received from organisations such as emergency services, care homes, industry, poison centres abroad and non-specified organisations.

Table 1

The number of calls received in 2010 by cantons and population groups

Canton	Population	General public	Hospital doctors	Practitioners	Veterinarians	Pharmacists	Various	Total	Calls / 1000 Public	Inhabitants Physicians
AG	600 040	1 771	558	69	39	51	129	2 617	3.0	1.1
AI	15 681	31	3	4	2	–	6	46	2.0	0.6
AR	53 043	111	34	14	2	–	18	179	2.1	0.9
BE	974 235	2 879	888	188	88	69	231	4 343	3.0	1.2
BL	272 815	799	197	47	25	12	42	1 122	2.9	1.0
BS	187 898	536	355	57	5	19	64	1 036	2.9	2.2
FR	273 159	688	207	22	18	24	57	1 016	2.5	0.9
GE	453 292	990	402	83	15	48	72	1 610	2.2	1.1
GL	38 479	80	26	8	9	–	5	128	2.1	1.1
GR	191 861	432	164	42	20	6	30	694	2.3	1.2
JU	70 134	140	108	7	4	4	3	266	2.0	1.7
LU	372 964	811	286	82	20	10	88	1 297	2.2	1.0
NE	171 647	368	144	27	13	23	32	607	2.1	1.1
NW	40 794	85	16	4	–	1	4	110	2.1	0.5
OW	35 032	122	11	8	1	3	4	149	3.5	0.6
SG	474 676	1 132	392	106	33	23	116	1 802	2.4	1.1
SH	75 657	191	73	16	7	6	19	312	2.5	1.3
SO	252 748	691	133	45	11	12	66	958	2.7	0.7
SZ	144 686	364	105	26	6	4	29	534	2.5	0.9
TG	244 805	653	175	40	26	5	60	959	2.7	1.0
TI	335 720	524	358	35	4	16	19	956	1.6	1.2
UR	35 335	107	19	6	1	1	4	138	3.0	0.7
VD	701 526	1 630	600	87	59	64	107	2 547	2.3	1.1
VS	307 392	572	171	42	30	19	28	862	1.9	0.8
ZG	110 890	266	91	25	15	4	23	424	2.4	1.2
ZH	1 351 297	5 404	1 534	300	140	100	544	8 022	4.0	1.5
FL	36 010	104	14	10	1	1	5	135	2.9	0.7
Foreign	–	270	572	20	44	3	49	958	–	–
Unknown	–	409	3	10	4	1	29	456	–	–
Total	7 821 816	22 160	7 639	1 430	642	529	1 883	34 283	2.8	1.2
%	–	64.6	22.3	4.2	1.9	1.5	5.5	100	–	–

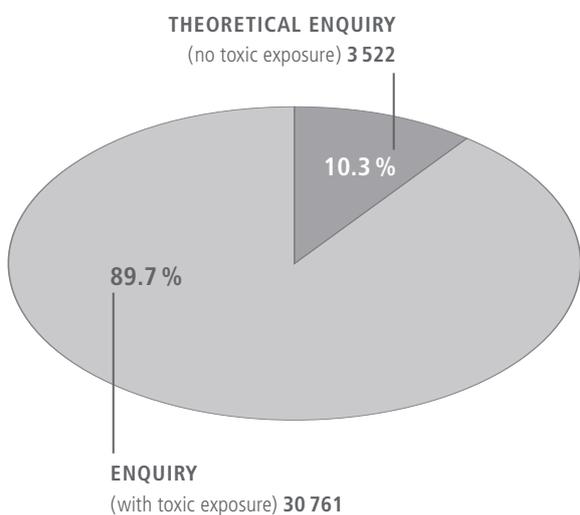


Types of calls

Calls can be sub-divided into enquiries without exposure and enquiries where exposure has taken place.

Figure 2

Types of calls (n = 34 283)



Among the 3 522 calls (compared to 3 874 in the previous year, -9.09 %) without toxic exposure, frequent questions concerned drugs and antidotes, toxicity of plants to children and pets, and the risk of poisoning from spoilt food, household products and chemicals, with the recommendations given by the STIC being predominantly of a preventive nature. This sub-category also includes advice and preparing reports for authorities, media, private individuals and various organisations as well as distribution of fact sheets and referring enquiries to appropriate experts.

The 30 761 enquiries following toxic exposure concerned 29 308 humans (compared to 28 677 in the previous year, +2.20 %) and 1 453 animals (compared to 1 471, -1.22 %).

The following section discusses human poisoning, whereas animal poisoning is dealt with in a separate section (pages 14–15).

Human poisoning

Table 2 shows an overview of the calls received with toxic exposure (27 313). Children were involved in 54.9 % of the cases, adults in 44.9 %. In 51 cases (0.2 %), the age group remained unknown.

The highest number of calls involved children below five years of age (45.9 %). Boys were more frequently represented amongst the children (51.0 % vs. 46.7 %) and women amongst the adults (58.2 % vs. 41.0 %).

Table 2
Age and gender of human cases with potentially toxic exposure

	Age	female	male	unknown	Total		
Children		7 007	46.7%	7 657	51.0%	338	15 002
Age	< 5 years	5 884	84.0%	6 426	83.9%	234	12 544
	5 – < 10 years	492	7.0%	676	8.8%	12	1 180
	10 – < 16 years	444	6.3%	382	5.0%	4	830
	unknown	187	2.7%	173	2.3%	88	448
Adults		7 137	58.2%	5 030	41.0%	93	12 260
Age	16 – < 20 years	447	6.3%	290	5.8%	2	739
	20 – < 40 years	1 770	24.8%	1 313	26.1%	5	3 088
	40 – < 65 years	1 392	19.5%	1 008	20.0%	13	2 413
	65 – < 80 years	290	4.1%	214	4.3%	5	509
	80+ years	158	2.2%	102	2.0%	–	260
	unknown	3 080	43.2%	2 103	41.8%	68	5 251
Unknown		12	23.5%	7	13.7%	32	51
Total		14 156	51.8%	12 694	46.5%	463	27 313

Circumstances of poisoning

Table 3 shows the circumstances of poisoning in the 27 313 cases with toxic exposure. **Acute accidental intoxications** (20 996 compared to 22 409 in the previous year, –1.19%*) represented the largest group. These occurred frequently at home with children ingesting easily accessible pharmaceuticals, household products or plant parts. Adults too were involved in toxic exposures at home, but a significant number of enquiries also involved work place accidents (989).

Acute intentional poisoning was mostly due to attempted suicide (3 244 cases, compared to 3 681 in the previous year, +3.78%*), less frequently due to drug abuse (481 cases), poisoning incidents in connection with criminal actions however were rare and remained unchanged (106 cases, previous year 106).

Chronic poisoning was relatively rare (851 cases) compared to acute intoxications. **Adverse drug reactions** in therapeutic doses led to 200 information requests. These were mainly related to the establishment of a causal link between the observed symptoms and the medication taken.

* The figures in this annual report reflect the number of patients («cases»), whereas until 2009 the number of consultations had been quoted (see introduction on page 4). The percentage figure compares the number of consultations in both years.



Table 3
Circumstances of toxic exposures

Circumstances of toxic exposures		Acute poisoning (Exposure < 8h)		Chronic poisoning (Exposure > 8h)	
Accidental domestic	18 853	69.0 %	313	1.1 %	
Accidental occupational	989	3.6 %	90	0.3 %	
Accidental environmental	37	0.1 %	26	0.1 %	
Accidental others	1 117	4.1 %	90	0.3 %	
Total accidental	20 996	76.9 %	519	1.9 %	
Intentional suicide	3 244	11.9 %	53	0.2 %	
Intentional abuse	481	1.8 %	90	0.3 %	
Intentional criminal	106	0.4 %	10	0.04 %	
Intentional others	1 019	3.7 %	179	0.7 %	
Total intentional	4 850	17.8 %	332	1.2 %	
Total accidental and intentional	25 846	94.6 %	851	3.1 %	
Total acute and chronic		26 697	97.7 %		
Adverse drug reactions		200	0.7 %		
Unclassifiable/others		416	1.5 %		
Total		27 313	100 %		

Agents involved

For analysis, the agents and toxins were split up into twelve groups. Table 4 shows these different groups and how often they were involved in the total of 27 313 poisonings in humans.

Most toxic exposures occurred with pharmaceuticals (36.5 %), followed by household products (26.6 %) and plants (9.2 %). Details of the individual agent groups are available in a supplement to this Annual Report which can be downloaded from the website.

Severity of poisonings

7 060 enquiries from physicians (77.8 % of all medical calls) were concerned with cases of expected or already established poisoning. In these cases, the treating physicians received a written follow-up of the telephone consultation, together with a request for feedback on the clinical outcome. The STIC received a report on the outcome in 72.1 % of these cases. Thus the STIC received additional information, evaluated by physicians, concerning symptoms, clinical outcome and treatment of acute and chronic poisonings which was entered and analysed in our in-house information system.

Table 4
Agents involved in all cases of poisonings in humans

Agents/Age groups	Adults	Children	Age unknown		Total
Pharmaceuticals	5 311	4 663	8	9 982	36.5%
Household products	2 236	5 010	11	7 257	26.6%
Plants	488	2 025	4	2 517	9.2%
Technical and industrial products	1 310	389	8	1 707	6.2%
Cosmetics and personal care products	251	1 260	–	1 511	5.5%
Food and beverages	606	419	4	1 029	3.8%
Recreational drugs, alcohol	528	381	1	910	3.3%
Agricultural and horticultural products	339	339	–	678	2.5%
Mushrooms	301	147	1	449	1.6%
Venomous animals	207	92	2	301	1.1%
Veterinary drugs	64	44	–	108	0.4%
Others and unknown agents	619	233	12	864	3.2%
Total	12 260	15 002	51	27 313	100%

Data capture and data evaluation was standardised according to circumstances, causality and severity of poisoning. This annual report only includes poisonings where the causality was confirmed or likely. Confirmed means the toxin has been found 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, except that the agent has not been detected in the body.

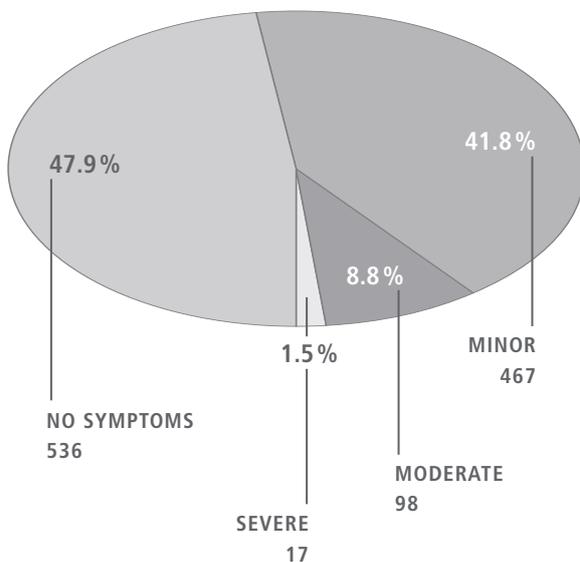
4 471 human cases both asymptomatic and symptomatic with sufficient evidence of causality were analysed further with regard to clinical course.

1 118 cases involved children and 3 353 adults. The severity of these cases is documented in Figure 3 with cases categorised as follows: no symptoms, minor, moderate, severe, or fatal. Minor symptoms generally require no treatment; moderate symptoms usually require treatment, and cases with severe symptoms must always be treated.

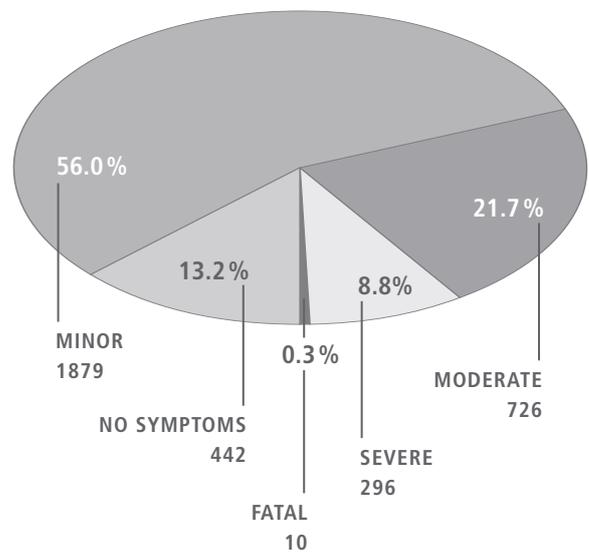


Figure 3
Clinical outcome of poisoning cases in children and adults

Children (n = 1 118)



Adults (n = 3 353)



Amongst children, almost half of the cases (536 = 47.9%) were asymptomatic in contrast to adults where only 442 (13.2%) were asymptomatic. Minor symptoms were observed in 467 children (41.8%) and in 1 879 adults (56.0%). Moderate symptoms were seen in 98 children (8.8%) and 726 adults (21.7%). Severe poisoning occurred in 17 children (1.5%) and 296 adults (8.8%). 10 cases in adults had a fatal outcome (0.3%).

Of the 4 471 cases where causality was confirmed or likely (Table 5), about three fifths involved ingestion of only one toxin. In two fifths of the cases, two or more agents were involved. For the purpose of this report, these cases have been classified according to the most important agent involved. In those cases where follow-up information was received and analysed, pharmaceuticals were again the most frequent cause of poisoning (63.7%), followed by household products (9.8%) and technical and industrial products (8.3%).

Table 5

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

Agent groups Severity of poisoning	Adults					Children					Total	
	N	Mi	Mo	S	F	N	Mi	Mo	S	F		
Pharmaceuticals	325	1 222	459	212	7	315	242	61	6	–	2 849	63.7%
Household products	36	135	23	6	1	104	111	17	3	–	436	9.8%
Technical and industrial products	28	219	52	16	1	16	29	4	4	–	369	8.3%
Recreational drugs, alcohol	21	117	115	47	–	9	10	5	2	–	326	7.3%
Plants	5	28	8	3	–	32	17	3	–	–	96	2.1%
Mushrooms	1	22	32	2	–	15	1	2	–	–	75	1.7%
Cosmetics and personal care products	7	27	1	–	–	13	17	1	–	–	66	1.5%
Agricultural and horticultural products	5	32	3	5	1	10	4	2	–	–	62	1.4%
Venomous animals	1	14	13	1	–	2	12	1	2	–	46	1.0%
Food and beverages	3	3	6	1	–	7	8	–	–	–	28	0.6%
Veterinary drugs	–	13	1	2	–	4	–	–	–	–	20	0.4%
Others or unknown agents	10	47	13	1	–	9	16	2	–	–	98	2.2%
Total	442	1 879	726	296	10	536	467	98	17	–	4 471	100%

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



Animal poisoning

Animals involved

The 1 408 calls received concerned the following animal species: 944 dogs, 299 cats, 63 equine animals (horses, ponies, donkeys), 32 bovine animals (calves, cows, cattle, sheep, goats), 35 rodents (degus, hares/rabbits, rats, mice), 5 guinea pigs, 14 birds (parrots, ducks, ravens), 4 reptiles (tortoises, snakes, lizards), 1 fish, 4 pigs, 2 chickens, 3 alpacas, 1 llama. The other cases related to several or unknown animal species.

Agents involved

Table 6 shows the number of calls for the twelve different groups of agents.

Table 6

Agents involved in intoxications concerning animals

Agent groups	No. of cases	
Agricultural and horticultural products	311	22.1 %
Plants	301	21.4 %
Human pharmaceuticals	268	19.0 %
Household products	151	10.7 %
Food and beverages	104	7.4 %
Veterinary drugs	87	6.2 %
Technical and industrial products	40	2.8 %
Venomous animals	24	1.7 %
Recreational drugs, alcohol	20	1.4 %
Cosmetics and personal care products	15	1.1 %
Mushrooms	13	0.9 %
Others or unknown agents	74	5.3 %
Total	1 408	100 %

The calls primarily concerned agricultural and horticultural products (22.1 %) followed with decreasing frequency by calls relating to plants (21.4 %), pharmaceuticals (19.0 %), household products (10.7 %), food and beverages (7.4 %) as well as veterinary drugs (6.2 %).

Severity of poisonings

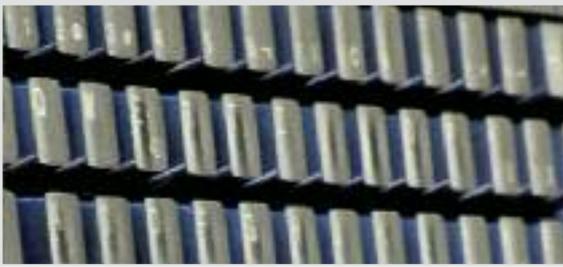
Veterinarians were also requested to submit clinical reports on animal poisoning. We received a total of 283 reports which could be analysed. Of those 144 cases remained without symptoms, 75 were classified as minor and 64 cases had moderate, severe or fatal outcomes (Table 7).

Table 7

Agent groups and severity of animal poisoning

Agent groups	Outcome					Total	
	N	Mi	Mo	S	F		
Pharmaceuticals	49	28	10	3	–	90	31.8%
Agricultural and horticultural products	39	12	7	3	1	62	21.9%
Veterinary products	14	7	9	1	1	32	11.3%
Plants	12	4	9	2	2	29	10.2%
Household products	11	11	3	2	–	27	9.5%
Food and beverages	10	4	3	–	–	17	6.0%
Technical and industrial products	1	4	1	1	–	7	2.5%
Venomous animals	–	4	2	1	–	7	2.5%
Recreational drugs, alcohol	3	1	–	–	–	4	1.4%
Cosmetics and personal care products	1	–	1	–	–	2	0.7%
Mushrooms	2	–	–	–	–	2	0.7%
Others or unknown agents	2	–	2	–	–	4	1.4%
Total	144	75	47	13	4	283	100%

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



Other activities

Services

The STIC was contacted to provide principally the following services:

- 1) compilation of expert reports paying particular attention to unpublished experience of the STIC
- 2) toxin-based anonymised case reports for the pharmaceutical and chemical industry
- 3) handling medical emergency advice for Swiss products abroad (utilising safety data sheets and transport documentation) while having detailed product information available
- 4) provision of medical emergency advice outside office hours for the pharmaceutical and chemical industry including unblinding in randomized clinical trials
- 5) distribution of printed materials, in particular 7 320 pamphlets.

The fee-for-service doping hotline for athletes whose establishment was mandated by Swiss Olympic was utilised 159 times.

The web site was visited 153 753 times (previous year 153 143).

Senior medical staff regularly carries out clinical toxicological consultations at the Department of Internal Medicine of the University Hospital Zurich (mostly on emergency and intensive care wards).

Teaching and continuing education

The STIC continues its collaboration with the Division of Clinical Pharmacology and Toxicology at the University Hospital Zurich headed by Prof. Gerd Kullak-Ublick. Academic staff of the STIC continues to participate regularly and actively in the joint continuing education activities in clinical pharmacology and toxicology.

H. Kupferschmidt contributes to the training of medical students as a lecturer in the subject of special clinical toxicology

(1st year Master studies) and in the module emergency medicine (4th year). Permanent academic staff regularly gives presentations in clinical toxicology for the postgraduate and continuing education of physicians and other members of the medical profession and professional organisations. Of particular note is the all-day seminar for paramedics offered annually in collaboration with the Zurich Emergency Services and the half day seminar for nurses taking place four times a year at the education centre of the University Hospital Zurich.

Ten papers were presented at the annual congress of the European Association of Poisons Centres and Clinical Toxicologists (EAPCCT) in Bordeaux. One paper was presented at the North American Congress of Clinical Toxicology (NACCT) in Denver. H. Kupferschmidt was invited to a workshop of the National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs) in London to give a presentation on the value of acute toxicity testing in animals for poison control centres. A book chapter entitled «Household chemicals: Management of intoxication and antidotes» by Christine Rauber-Lüthy and Hugo Kupferschmidt was published in «Molecular, Clinical and Environmental Toxicology» edited by A. Luch. This resumes the theme of Josef Velvart's «Toxicology of Household Products».

Research projects

The main focus of the STIC's research efforts in the newly established scientific services continues to be dose-effect relationships in human poisonings, in particular relating to drug overdose. Work has begun on four doctoral theses. Work on a study commissioned by the Federal Office of Public Health (FOPH) to determine the economic cost of domestic accidents with chemical products was completed. The European multi-centre study on eye exposure to automated dishwasher detergents (MAGAM) under the direction of A. Stürer was completed. H. Kupferschmidt represents the EAPCCT in an international project entitled «Development of an Alerting System and the Criteria for Development of a Health Surveillance System for the Deliberate Release of Chemicals by Terrorists

(ASHT)» of the European Commission which will result in a Rapid Alerting System for Chemical Releases (RAS-CHEM). The STIC also contributes to a project entitled «Plant Food Supplements: Levels of Intake, Benefit and Risk Assessment (Plant-LIBRA)» which is being financed by the 7th framework programme of the European Union (FP7).

Collaborations

Universities: Apart from collaborating with the Division of Clinical Pharmacology and Toxicology at the University Hospital Zurich, the STIC is a member of the Center for Xenobiotic Risk Research of the Universities of Basle and Zurich (XeRR) as well as EAWAG (Swiss Federal Institute of Aquatic Science and Technology). This collaboration increases staff competence in general and special toxicological questions and offers the opportunity to pass enquiries on to other specialists within this centre of excellence. H. Kupferschmidt was elected member of the strategic board of the Swiss Centre of Applied Human Toxicology (SCAHT).

Poisonings in animals were handled in part jointly with the Institute for Veterinary Pharmacology and Toxicology of the University in Zurich. A veterinarian from this Institute, Dr. med. vet. J. Kupper, works part-time at the STIC and is responsible for the areas of plant toxicology and poisonings in animals.

Authorities: It is the state's responsibility to protect its population from exposure to dangerous chemicals. By systematically gathering and evaluating incident data, necessary measures can quickly be taken to limit any potential damage and to recommend amendments to existing legislation to avoid such incidents in future. The new chemicals law has abolished comprehensive authorisation and registration of all compounds and preparations. Correspondingly, new ways had to be found to ensure protection of the population's health, and the STIC will be taking on parts of these. This involves particularly the availability of a Poison Centre for exposures with chemicals and compounds covered by this law. The Federal Office of Public Health (FOPH) benefits from the competence and 24-hour serv-

ice of the STIC, and the STIC in exchange has constant access to the confidential data in the Federal Office of Public Health's product database Indatox Plus.

Within the framework of collaboration with the CBRN-Laboratory Spiez and the Coordinated Medical Services (KSD) the STIC has been developing, together with a team of experts, an eLearning Module on the subject of «Medical CBRN-protection» which shall be completed in the course of 2011. In addition, the STIC organised for the second time the «Advanced Hazmat Life Support» (AHLs) course in collaboration with the SFG (Medical Rescue in major events under the direction of KSD).

The Swiss Agency for Therapeutic Products (**Swissmedic**) has contracted the STIC to ensure toxicovigilance for pharmaceuticals. This helps Swissmedic in the early detection, risk assessment, handling and prevention of poisoning with animal and human medicines. The STIC notifies Swissmedic of new or unusual toxicity and prepares a quarterly analysis on poisoning with pharmaceuticals as well as abuse of drugs and medicines. The STIC thus plays an important role in ensuring drug safety in the areas of overdose and misuse.

The STIC collates information on undesired drug effects as part of the national pharmacovigilance network under the technical leadership of the Division of Clinical Pharmacology and Toxicology at the Zurich University Hospital.

International: The STIC collaborates closely with partner poison centres abroad and gains access to other networks (such as Toxbase in the UK and Toxinz in New Zealand). It is represented in working groups of the Society for Clinical Toxicology representing German-speaking poison centres whose current president is A. Stürer. The STIC is also represented in the Executive Committee of the European Association of Poison Centres and Clinical Toxicologists (EAPCCT). H. Kupferschmidt was president of the association from 2008 until 2010 and in addition has been the association's webmaster for several years now.



■ The Swiss Antidote Network

Distribution and storage of antidotes in Switzerland is uniformly regulated by order of the Swiss conference of the cantonal directors of public health (CDS). Information on the individual antidotes and their availability is published regularly in the Swiss List of Antidotes. Antidotes are classified in complementary categories based on the frequency of poisonings, on the location where an antidote is needed, and its availability. In general antidotes are only included in the list if they do not belong to the standard range available at pharmacies in the community and in hospitals. The inclusion criteria stipulate that: 1) the substance is used as a classic antidote; 2) the substance used as an antidote is not commonly available in hospitals; 3) the quantity of the drug if administered as an antidote exceeds the quantity that is usually available in hospitals for therapeutic use; 4) the use of the drug as an antidote is not well known. The Swiss List of Antidotes does not aim to be fully comprehensive, but wants to ensure the safe and rapid availability of the selected substances.

News 2011: A recommended range of antidotes available to the ambulance and emergency services (pre-hospital use) was compiled by a group of experts from the Swiss Society for Emergency Medicine (SGNOR/SSMUS), the ambulance services responsible for major events (CEFOCA-SFG), the emergency medical services of Bern and Zurich, the air rescue organisation REGA and the Swiss Toxicological Information Centre and included in the Swiss List of Antidotes for the first time in 2011. A special bag («Swiss ToxBBox») is available for these antidotes.

To be included in the list, an antidote had to fulfil the following criteria:

- 1) The antidote is being used in life-threatening poisoning situations.
- 2) Timely use of the antidote is critical and should happen as early as possible.
- 3) There are no real therapeutic alternative to the use of the antidote.
- 4) The antidote can be administered solely based on clinical evaluation without the need for prior laboratory tests.

Detailed logistical specifications, especially with regard to the geographic location of storage depots, are not being made. The distance between storage depots should not exceed 50 km since the administration of several antidotes is critical in terms of time. At present emergency medical services in Bern, Zurich, Basle and Lausanne as well as all 12 helicopter bases of REGA in plains and mountainous regions keep this range of antidotes in stock which can be requested as required from every emergency service via the emergency number 1414. The STIC keeps a list of «Swiss ToxBBox» storage depots which facilitates access of emergency hotlines (national emergency number 144) and emergency services to the nearest «Swiss ToxBBox».

Sufficient data has now been collected on the use of 20 % lipid emulsion in cases of cardiac toxicity of lipophilic local anaesthetics (especially bupivacaine) to warrant its inclusion in the Swiss Antidote List (assortment B2 for emergency hospitals). There have also been individual reports of its successful use with other lipophilic cardiotoxic substances (clomipramine, amitriptyline, verapamil, propranolol, bupropion, amongst others).

The cantonal pharmacy in Zurich (KAZ) continues to hold a small range of antidotes for the decorporation of radionuclides. This assortment has now been included in the Swiss Antidote List to make this information more widely available.

Table 8

The categories of antidotes on the Swiss Antidote List

Basic supply available at pharmacies in the community: activated charcoal, biperidene (tablets), simeticone (drops or tablets).

Basic supply available at hospital pharmacies: amyl nitrite, atropine (1 ml), biperidene (ampoules), calcium gluconate (ampoules), calcium gluconate (hydrogel), colestyramine, dantrolene, ethanol, flumazenil, glucagon, insulin, lipid emulsion, magnesium, N-acetylcysteine (vials), naloxone, sodium bicarbonate, sodium polystyrene sulfonate, phytomenadione (vit. K), pyridoxine (vit. B₆).

Additionally available at regional centres: atropine (100 ml), calcium-disodium-EDTA, desferrioxamine, dexrazoxane, digitalis antidote, dimethylaminophenol (4-DMAP), dimercaptopropane sulfonate (DMPS, Unithiol), dimercaptosuccinic acid (DMSA, Succimer), iron-(III)-hexacyanoferrate(II) (Prussian blue), fomepizole, hydroxycobalamin, methylene blue, octreotide, obidoxime, phentolamine, physostigmine salicylate, silibinin, sodium thiosulfate.

Regional centres and their telephone numbers are included in the list.

Special supplies: The availability of antivenins for venomous snake bites can be seen on the list of the Swiss Antivenin Depot Network ANTIVENIN-CH (www.toxi.ch).

The STIC can arrange access to antidotes held by the armed forces pharmacy (including botulinum and diphtheria antitoxins).

Antidotes for radionuclides are held in stock by the cantonal pharmacy in Zurich.

The assortment for emergency services includes antidotes which have to be administered as early as possible, prior to arrival at the hospital.

Availability of antidotes: More than half of the preparations on the antidote list are not licensed in Switzerland. In order to provide a clear legal framework for the procurement and storage of these antidotes, Swissmedic developed new instructions in collaboration with the Swiss Toxicological Information Centre on simplified registration for important and rarely used antidotes which became effective on 1 March 2010 (corresponding instructions for the use of antivenins to treat poisonous animal bites are to be implemented in 2011).

Swissmedic decided to simplify registration requirements for these products in order to guarantee their supply in Switzerland. The application for registration is based on complete quality documentation. The lack of preclinical and clinical study results is compensated by intensive monitoring of their use in poisoning incidents (to be notified using the form «Notification of adverse drug events of antidotes»).

The Swiss Antivenin Depot Network ANTIVENIN-CH comprises the pharmacies of the University hospitals in Berne (Inselspital), Geneva and Zurich, the cantonal hospitals in Chur and Münsterlingen, and the Ospedale San Giovanni in Bellinzona.

The Swiss List of Antidotes is updated annually by a special working group of the STIC and the Swiss Association of Hospital Pharmacists. It is published in the Bulletin of the Swiss Federal Office of Public Health and can also be viewed on the Internet at «www.toxi.ch» or at «www.pharmavista.net».

Members of the working group are L. Cingria (Geneva), C. Fähr (Winterthur), D. Heer (Ittigen), Th. Meister (Ittigen), Ch. Rauber-Lüthy (Zurich), A. Züst (Zurich) and H. Kupferschmidt (Chairman, Zurich).



Publications

Retrospective analysis of stimulant abuse cases reported to the Swiss Toxicological Information Centre during 1997–2009.

Bruggisser M, Ceschi A, Bodmer M, Wilks MF, Kupferschmidt H, Liechti ME. *Swiss Med Wkly* 2010; 140: E1–9.

Arzneimittelinteraktionen mit antiretroviralen Medikamenten.

Ceschi A, Curkovic I, Kirchheiner J, Kullak-Ublick GA, Jetter A. *Internist* 2010; 51: 94–9.

The value of acute toxicity studies to support the clinical management of overdose and poisoning: a cross-discipline consensus. Chapman K, Creton S, Kupferschmidt H, Bond GR, Wilks MF, Robinson S. *Regul Toxicol Pharmacol* 2010; 58: 354–9.

Antidote bei Vergiftungen 2010. Cingria L, Fäh C, Heer D, Meister Th, Rauber-Lüthy Ch, Züst A, Kupferschmidt H. *BAG Bull* 2010; 7: 134–47.

Trimethoprim/Sulfamethoxazole pharmacokinetics in two patients undergoing continuous venovenous hemodiafiltration. Curkovic I, Lüthi B, Franzen D, Ceschi A, Rudiger A, Corti N. *Ann Pharmacother* 2010; 44: 1669–72.

Akute Paracetamol-Intoxikation. Faber K, Rauber-Lüthy Ch, Kupferschmidt H, Ceschi A. *Schweiz Med Forum* 2010; 10: 647–51.

Human envenomation by *Bitis parviocula* (Ethiopian mountain adder). [abstract] Faber K, Ceschi A, Botti P, Peruzzi S, Rauber-Lüthy Ch, Giampreti A, Smorlesi C. *Clin Toxicol* 2010; 48: 309.

In vitro testing of plasma protein binding of carbamazepine in relation to serum concentration. [abstract] Fischer S, Mueller D, Rentsch K, Ceschi A, Rauber-Lüthy Ch. *Clin Toxicol* 2010; 48: 652.

Multicentre data collection on paraquat poisoning in Europe. [abstract] Gutscher K, Rato F, Esteban M, Neou P, Kupferschmidt H. *Clin Toxicol* 2010; 48: 303.

Paracetamol orodispersible tablets: A risk for severe poisoning in children? [abstract] Hofer K, Rauber-Lüthy Ch, Stürer A, Kupferschmidt H, Ceschi A. *Clin Toxicol* 2010; 48: 278.

Minimal dose for severe poisoning and influencing factors in acute human clozapine intoxication: a 13-year retrospective study. Krämer I, Rauber-Lüthy Ch, Kupferschmidt H, Krähenbühl S, Ceschi A. *Clin Neuropharmacol* 2010; 33: 230–4.

Antidote bei Vergiftungen 2010. Kupferschmidt H, Stalder AB. *GSASA Journal* 2010; 24: 4–6.

Antidote bei Vergiftungen 2010. Kupferschmidt H, Stalder AB. *Schweiz Ärztzeitg* 2010; 91: 665–6.

Antidotliste: Neuerungen und wichtige Änderungen. Kupferschmidt H, Stalder AB. *PharmaJournal* 2010; 7: 29–30.

The feasibility of multicentre data collection on poisoning in Europe, using paraquat as an example. [abstract] Kupferschmidt H, Rato F, Esteban M, Neou P. *Clin Toxicol* 2010; 48: 245–6.

Vergiftungen in der Schweiz. Zum Jahresbericht STIZ 2009. Kupferschmidt H. *Schweiz Ärztzeitg* 2010; 91: 1938–43.

A fatal case of autumn crocus (*Colchicum autumnale*) poisoning in a heifer: confirmation by mass-spectrometric colchicine detection. Kupper J, Rentsch K, Mittelholzer A, Artho R, Meyer S, Kupferschmidt H, Naegeli H. *J Vet Diagn Invest* 2010; 22: 119–22.

Praxisrelevante Vergiftungen bei Pferden. Kupper J, Naegeli H, Wehrli Eser M. *Der Praktische Tierarzt* 2010; 91: 492–8.

Wann ist bei Pferden eine Vergiftung eine Vergiftung? Kupper J, Nägeli H, Wehrli Eser M. *Pferdespiegel* 2010; 2: 50–4.

Von Medikamenten, Pilzen und Chemikalien. Lüde S, Schenk-Jäger K, Kupferschmidt H, Rauber-Lüthy Ch. *PharmaJournal* 2010; 20: 21–4.

Household chemicals: management of intoxication and antidotes. Rauber-Lüthy Ch, Kupferschmidt H. In: Luch A (ed.): *Molecular, Clinical and Environmental Toxicology*. Vol. 2: *Clinical Toxicology*. Series: *Experientia Supplementum*, Vol. 100. Birkhäuser Verlag, Basel 2010.

Low-dose exposure to *Veratrum album* in children causes mild effects – a case series. Rauber-Lüthy Ch, Halbsguth U, Kupferschmidt H, König N, Mégevand C, Zihlmann K, Ceschi A. *Clin Toxicol* 2010; 48: 234–7.

Therapie der Kokainüberdosierung. Rauber-Lüthy Ch, Kupferschmidt H. *Schweiz Med Forum* 2010; 10: 720–1.

Überdosierungen bei Kleinkindern. Rauber-Lüthy Ch, Reichert C, Kupferschmidt H. *PharmaJournal* 2010; 15: 11–12.

Vitamin-D3-Überdosierungen bei Kleinkindern. Rauber-Lüthy Ch, Reichert C, Kupferschmidt H. *Schweiz. Ärztzeitung* 2010; 91: 1178–9.

Das Pilzjahr 2009. Schenk-Jäger K. *SZP – Schweiz Zeitschr Pilzkd* 2010; 3: 102–4.

Severe toxicity of a single therapeutic dose of baclofen in patients with impaired renal function. [abstract] Schenk-Jäger K, Reichert C, Rauber-Lüthy Ch, Kupferschmidt H, Ceschi A. *Clin Toxicol* 2010; 48: 258.

Carvedilol – A special beta-blocking agent? [abstract] Seidel C, Sauer O, Prasa D, Stürer A, Färber E, Merx C, Ganzert M, Hermanns-Clausen M, Scheer M, Heppner J, Hruby K, Augst D. *Clin Toxicol* 2010; 48: 280.

Poisons centres' data for expert judgement within classification, labelling and packaging regulation: Solid household automatic dishwashing products do not cause serious eye damage. [abstract] Stürer A, Seidel C, Sauer O, Koch I, Zilker T, Hermanns-Clausen M, Hruby K, Hüller G, Tutdibi E, Heppner HJ, Desel H. *Clin Toxicol* 2010; 48: 245.

Acute laryngotracheitis after accidental aspiration of clindamycin. [abstract] Von Dechend M, Krause M, Kengelbacher M, Stürer A, Ceschi A. *Clin Toxicol* 2010; 48: 258–9.

Further development of the alerting system for chemical health threats, Phase II (ASHTII). [abstract] Wyke S, Orford R, Duarte-Davidson R, Desel H, Schaper A, Pelclova D, Mathieu-Nolf M, Edwards N, Sutton N, Kennedy K, Tizzard Z, Dragelyte G, Good AM, Kupferschmidt H. *Clin Toxicol* 2010; 48: 271.

The evaluation of standard medical terminology systems to describe symptoms of poisoning, an output of the ASHTII project. [abstract] Wyke S, Orford R, Duarte-Davidson R, Pelclova D, Edwards N, Kennedy K, Sutton N, Good AM, Desel H, Schaper A, Bronstein A, Dragelyte G, Mathieu-Nolf M, Kupferschmidt H. *Clin Toxicol* 2010; 48: 271.

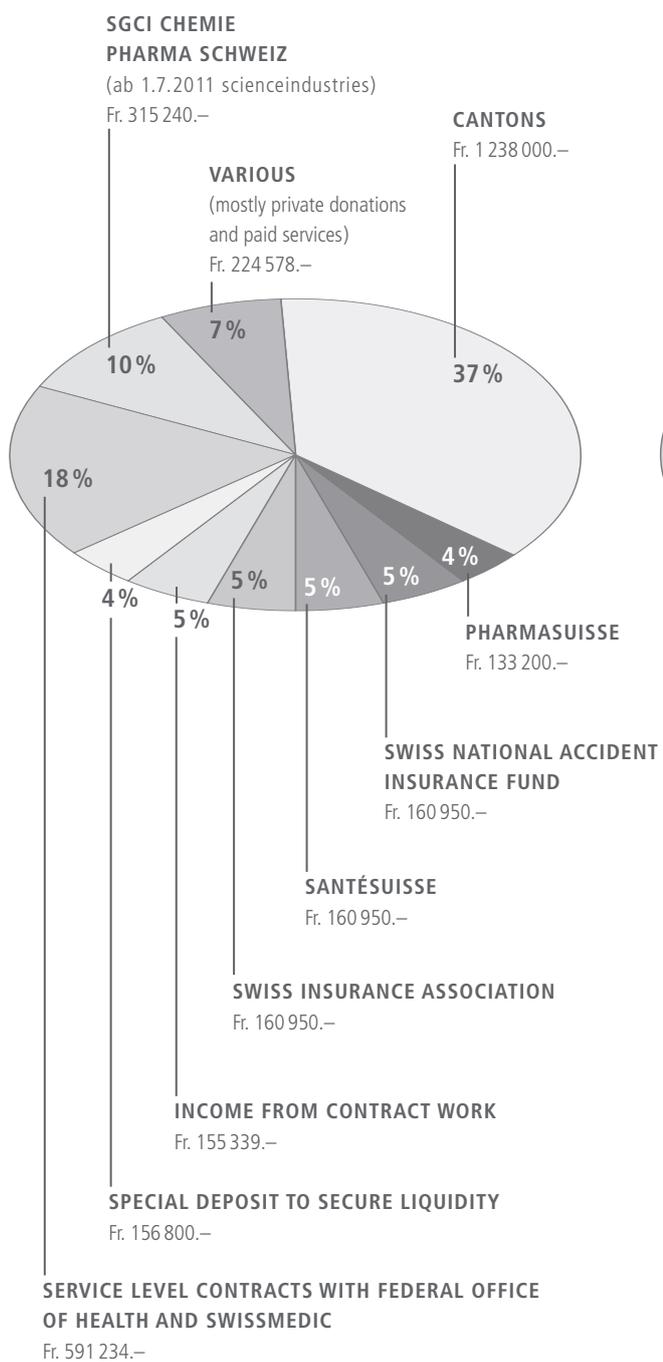
Escitalopram causes fewer seizures in human overdose than citalopram. Yilmaz Z, Ceschi A, Rauber-Lüthy Ch, Sauer O, Stedtler U, Prasa D, Seidel C, Hackl E, Hoffmann-Walbeck P, Gerber-Zupan G, Bauer K, Kupferschmidt H, Kullak-Ublick GA, Wilks M. *Clin Toxicol* 2010; 48: 207–12.

The publications listed above may be ordered via telephone (+41 44 251 66 66), fax (+41 44 252 88 33), or by e-mail to info@toxi.ch. Some of these publications can be downloaded from our website www.toxi.ch.

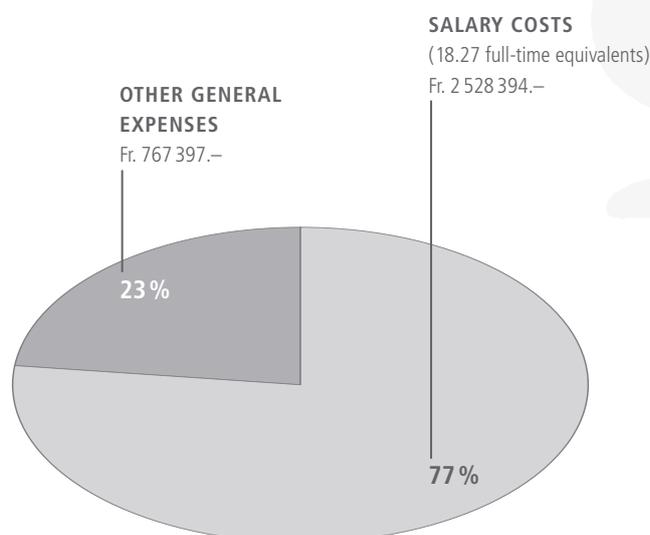
In addition, the revised leaflet about first aid and poisoning prevention is available as well as emergency telephone number stickers in German, French and Italian. Dissertations are only available on loan.

Income and expenditure

Income Fr. 3 297 241.–



Expenditure Fr. 3 295 791.–





■ Donations

Stadt Zürich	10 000
Colgate-Palmolive AG	6 000
Janssen-Cilag AG	5 000
Reckitt Benckiser (Switzerland) AG	4 000
Henkel & Cie AG	3 000
Procter & Gamble Switzerland Sàrl	3 000
Schweizerischer Kosmetik- und Waschmittelverband SKW	3 000
Unilever Schweiz GmbH	3 000
Kernkraftwerk Gösgen-Däniken AG	2 500
Familien-Vontobel-Stiftung	2 000
Schweizerische Zahnärzte Gesellschaft SSO	2 000
Unione Farmaceutica Distribuzione SA	1 500
Aldi Suisse AG	1 000
Biomed AG	1 000
Chemia Brugg AG	1 000
Compo Jardin AG	1 000
Coop	1 000
Ebi-Pharm AG	1 000
Frutarom Schweiz AG	1 000
Gesellschaft Schweizer Tierärztinnen und Tierärzte	1 000
Hauert HBG Dünger AG	1 000
Kurt Wehrli Zürich AG	1 000
Martec Handels AG	1 000
Sanitized AG	1 000
SC Johnson GmbH	1 000
Schweizerischer Drogistenverband (SDV)	1 000
Spirig Pharma AG	1 000
Streuli Pharma AG	1 000
Victorinox AG	1 000

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

Support

The Swiss Toxicological Information Centre (STIC) is supported by a private charitable foundation and by the Swiss Conference of the Cantonal Directors of Public Health (CDS).

The supporting organisations are:

- pharmaSuisse
- the SGCI Chemie Pharma Schweiz (as of 1.7.2011 scienceindustries)
- the Swiss National Accident Insurance Fund (SNAIF)
- the Swiss Insurance Association (SIA)
- the santésuisse (SAS).

The Federal Office of Public Health (FOPH, consumer protection directorate) has a service level agreement with the STIC for tasks in compliance with the chemicals law. Swissmedic pays for services in the area of toxicovigilance of drugs, also on the basis of a service level agreement. Substantial donations and contributions are also received from private companies and individuals.

Foundation Council

President: Dr. Franz Merki (pharmaSuisse)

Vice-President: Dr. Dieter Grauer (SGCI)

Members:

Elisabeth Anderegg-Wirth (pharmaSuisse)

Hans Peter Brändle (SVV) (until 26.11.2010)

Dr. Roland Charrière (BAG)

Regierungsrat Armin Hüppin (GDK)

Dominique Jordan (pharmaSuisse)

Stefan Kaufmann (santésuisse)

Dr. Martin Kuster (SGCI)

Dr. Marcel Jost (SUVA)

Dr. Werner Pletscher (GDK) (until 26.11.2010)

Dr. Samuel Steiner (GDK) (as of 2.7.2010)

Dr. Thomas Weiser (SGCI)

Ehrenpräsident: Dr. Dr. h.c. Attilio Nisoli

Management

Director: Dr. med. Hugo Kupferschmidt

Head physician and Deputy Director:

Dr. med. Christine Rauber-Lüthy

Head of scientific services: Dr. med. Alessandro Ceschi

Senior physicians: Dr. med. Cornelia Reichert

Dr. med. Andreas Stürer

Head Administration: Elfi Blum

Advisers

Numerous experts from hospitals, institutes, state and federal organisations act as honorary advisers, most notably Jean-Pierre Lorent (former Director of the STIC), Martin Wilks M.D. (SCAHT) and Prof. Philippe Hotz M.D. (University of Zurich, occupational and environmental medicine).

Staff

Natascha Anders, nurse

Alexandra Bloch, dipl. pharm.

Danièle Chanson, executive secretary

Romina Chiappetta, secretary (as of 17.5.2010)

Trudy Christian, secretary

Colette Degrandi, M.D.

Anja Dessauvagie, med. pract.

Katrin Faber, M.D.

Elmira Far, M.D. (reemployed as of 15.9.2010)

Joanna Farmakis, cleaning service

Joan Fuchs, med. pract.

Mirjam Gessler, med. pract.

Brigitte Guldimann Commichau, secretary (until 30.6.2010)

Karen Gutscher, med. pract.

Rose-Marie Hauser-Panagl, secretary

Katharina Hofer, M.D.

Irene Jost-Lippuner, M.D.

Helen Klingler, M.D.

Sandra Koller-Palenzona, M.D.

Jacqueline Kupper, Vet.D.

Sara Kupferschmidt, temp. (as of 26.8.2010)

Saskia Lüde, Dr. phil. II

Marianne Meli, med. pract. (until 30.6.2010)

Franziska Möhr-Spahr, secretary

Gabriela Pintadu-Hess, secretary

Katharina Schenk, med. pract.

Stefanie Schulte-Vels, med. pract.

Jolanda Tresp, secretary

Sonja Tscherry, nurse

Margot von Dechend, M.D.

Responsible for information technology:

Daniel Künzi, Inf.Ing. HTL, Software-Entwicklungs GmbH, Bülach.

Images: © STIC

Graphics and Print: Stutz Druck AG, Wädenswil

Translation: Lisa Breitner



Swiss Toxicological
Information Centre

24-h-Emergency Service +41 44 251 51 51

Non urgent cases +41 44 251 66 66

Fax +41 44 252 88 33

Freiestrasse 16

CH-8032 Zurich

PC 80-26074-7

Internet: www.toxi.ch

eMail: info@toxi.ch