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Health

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Health and Statistics

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When we think about health, we often think about illness too. After all, health is not just considered the absence of illness but, according to the definition of the World Health Organisation, it is the state of complete physical, mental and social well-being.

For a long time, official statistics only recorded illnesses, especially those that lead to death. The statistics on causes of death date back to 1876. The analyses over the decades offer an exciting journey through time, giving us an insight into the lives of earlier generations. Christoph Junker examines the most common causes of death in recent years (p. 14). Nowadays, we are also interested in what type of complaints require a hospital stay, or more precisely, what the most common diagnoses and treatments are. These are recorded using medical classifications. Katharina Fehst explains what these data are used for (p. 17).

Since the 1990s, greater focus has been placed on prevention and the reasons for good health. The Federal Statistical Office (FSO) used the Swiss Health Survey for the first time in 1992 to ask healthy people about their well-being. Marco Storni explains how this survey takes a holistic approach to population health statistics (p. 8). It has increasingly been shown that living conditions and behaviour affect the population's health: Ralph Krieger and Jean-François Marquis present two surveys that highlight the correlation between work and health (p. 21). Renaud Lieberherr's contribution offers an up-to-date overview of the population's health behaviour (p. 11) and Martine Kaeser's contribution discusses the differences in health between the social classes (p. 19). Furthermore, the environment also has a considerable influence on our health. Which is why it is very much in our interest to know how our environment is faring. Laurent Zecha describes the population's perception of the environment (p. 25).

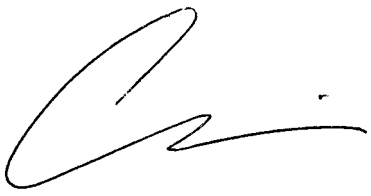
Our state of health shifts along a continuum between health and illness. Our society invests a great deal of resources to ensure we stay healthy or get better. This is one of the major challenges in keeping the Swiss health system affordable. The monitoring of expenditure is required so that we are aware of the extent of the direct costs. Michael Lindner and Ulrich Wagner explain the chemistry of the synthesis statistics *Healthcare costs and financing* (p. 28).

In 2013, the Federal Council approved a comprehensive strategy to further develop the health system with the *Health2020* programme. The aims and measures of this strategy are presented by Sabina Helfer (p. 4).

Monika Diebold describes how the Swiss Health Observatory supports the Confederation and cantons in relevant health issues (p. 31).

The topic of health is of central importance to both individuals and society as a whole. Reliable statistics that capture health data are indispensable in order to keep track of this complex structure.

I wish you an interesting read.



The quality of our healthcare is neither coincidental nor should it be taken for granted

Switzerland has an efficient healthcare system and the services it provides are of high quality. But what we may take for granted today could be in danger if the healthcare sector does not react in time to the great challenges ahead. With the *Health2020* programme, the Federal Council is aiming for improvements in all areas so that people in Switzerland can continue to receive high quality care throughout the country. Sabina Helfer

The Swiss public is satisfied with its healthcare system. Today it is taken for granted that people have easy, guaranteed access to medical services as well as a wide selection of insurances and healthcare service providers. The high quality of services grant us all a high quality of life and one of the highest life expectancies in the world. This high standard, however, comes at a price: In 2012, 11.4% of the Swiss gross domestic product (GDP) flowed into healthcare – the OECD average was 9.3% in 2012. One of the greatest challenges facing us is to maintain the Swiss healthcare system at an affordable level. That is, affordable for everyone – not just for those with large incomes or assets.

Facing tomorrow's challenges today

Growing costs are not the only challenge for which we must find a solution. The Federal Council has identified four problem areas:

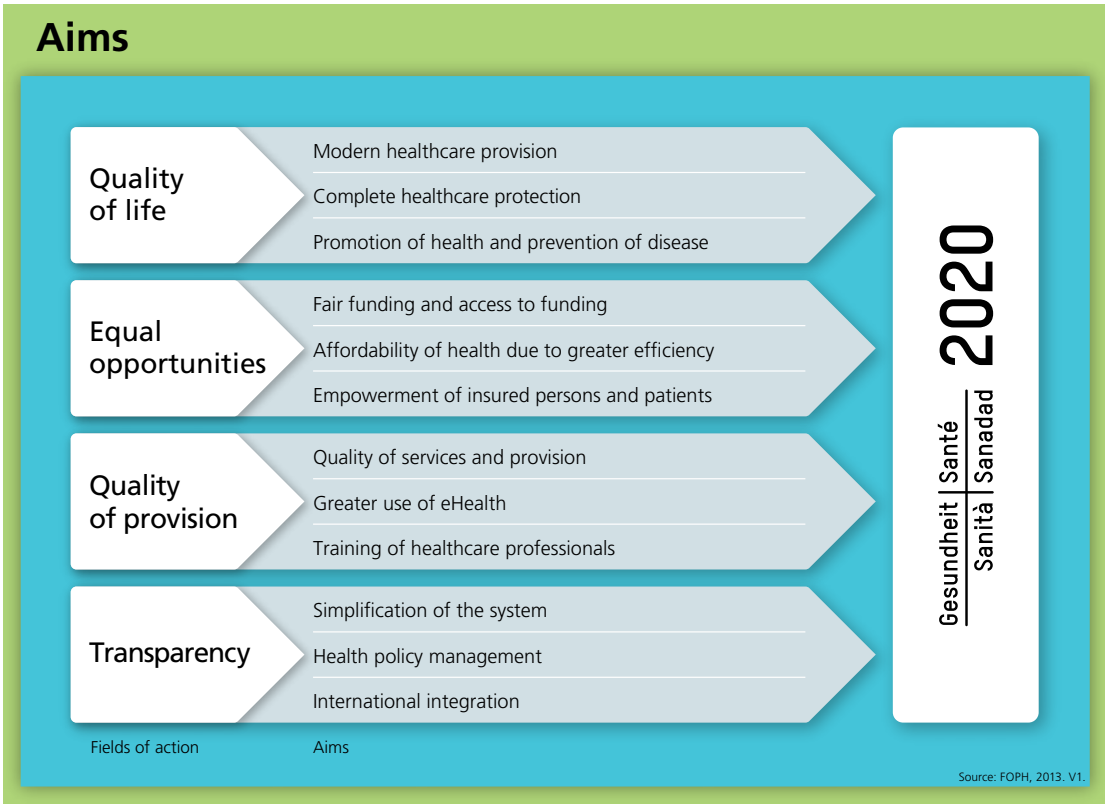
- *Firstly*, due to demographic changes, there will be an increase in *chronic illnesses*. Thanks to advances in medicine and technology, we are all living longer. However, this also means that there will be more and more people in Switzerland who suffer from chronic illnesses.
- *Secondly*, healthcare services will consequently have to change both in terms of scale and the *structure of services*. Services will have to be better tailored towards the prevention of disease and long-term care for chronic illnesses.
- *Thirdly*, as previously indicated, the *funding* of the growing health sector must be guaranteed. Medical progress, increasing demand for services and demographic change are driving up compulsory health insurance costs. This means that pressure on the premium subsidy system is constantly growing. In 2012, around 29% of insured persons were supported by subsidised premiums for their compulsory health insurance.
- *Lastly*, the *lack of traceability* and *transparency* must be rectified. The health system is extremely complex with responsibilities resting on many shoulders – from patients, training institutions, service providers to non-profit organisations, communes, cantons and the Confederation.

Further development of the entire health system

In January 2013, the Federal Council approved a comprehensive strategy to further develop the entire health system with the *Gesundheit2020* (*Health2020*) agenda. Since then, 36 coordinated measures have been implemented in all areas. Its aim is to increase the quality of provision, to ensure quality of life, to increase equality of opportunities and to improve transparency. People and their well-being are at the heart of the measures and the health system should be further developed based on their needs.

Intensive dialogue with all important stakeholders

Of the 36 coordinated measures that should be gradually implemented by 2020, the Federal Council prioritised twelve for 2014. They were drafted in close cooperation with the relevant stakeholders. Individual measures such as the family medicine and primary healthcare master plan were considered in special committees and where necessary, open discussion points were clarified at round tables. Discussion rounds took place, for example, on medicine prices, the management of outpatient services and the quality of provision. The following notions were developed in close cooperation with the relevant stakeholders:



– **Improve the quality of medical provision**
The Federal Council wishes to further improve the safety and quality of the health system. More specifically, the quality of medical services should be better measured and recognised standards for patient safety introduced as binding. National quality programmes will be launched and quality indicators developed for this purpose. Furthermore, services should be systematically examined for their benefits and proper use and health technologies evaluated (Health Technology Assessment, HTA). The Federal Council suggests that existing quality assurance activities are coordinated and extended in a network and the Confederation, cantons and service providers supported with scientific principles and concrete projects.

Following the consultation of a draft law for a national network, discussions were continued in a constructive dialogue with the stakeholders, which resulted in a proposal for the attention of parliament at the start of December 2015.

– **Federal act on cancer registration**
Better data help us to have a better understanding of cancer. Uniform registration of cases of cancer across Switzerland means that cancer prevention, screening and treatment can be implemented in a more targeted way. The Federal Council has remitted the drafting of the act and the corresponding dispatch to parliament.

– **Measures to prevent overprovision and underprovision (partial revision of the Health Insurance Act KVG)**
The planned amendment to the Health Insurance Act should give the cantons the opportunity to manage outpatient services over the long term in order to ensure high quality health provision. The Federal Council has suggested a solution for this purpose with which the cantons – in cooperation with the parties involved – are able to limit service provider authorisations in the event of overprovision and to implement support measures in the event of underprovision.

– **Federal act on protection from non-ionising radiation and ultrasound**
  Non-ionising radiation is generated by laser pointers, medical lasers or solariums. The Federal Council wants to introduce a new act to better protect the population from the health dangers of non-ionising radiation and sound.

– **Tobacco product act**
  The Federal Council wants to strengthen measures to protect young people from tobacco consumption. This is the main aim of the tobacco product act, which underwent consultation in 2014.

– **Federal act on the health professions: new legal foundations in the public interest**
  The quality of training should be promoted in the health professions at universities of applied sciences. The Federal Council wants to ensure that this happens with a new Federal Act on the health professions. A corresponding draft has been positively incorporated into the consultation.

– **Action plan to support and ease the burden on caregiving relatives**
  Care provision and nursing of sick family members by relatives will become even more important in the future, especially given that the health system has neither the personnel nor financial resources to offer complete professional care. The Federal Council is therefore launching various measures to support relatives and is examining how the reconciliation of care for relatives and employment can be further promoted.

– **Mental health report**
  The prevention, health promotion and early diagnosis of mental illnesses should be consolidated by targeted measures. Submitted to the Federal Council in the summer, the dialogue report project on mental health emerged from a cooperation between the Federal Office of Public Haelth (FOPH), the Conference of Cantonal Health Directors and the Health Promotion Switzerland foundation in 2014 as the basis for future appraisals and decisions.

In 2015, groundbreaking results have been achieved in the areas of *improved quality, optimal training of healthcare professionals* and *fight against non-communicable diseases*.

Coordinated provision – the focus of the second national conference

On 26th January 2015, more than 400 stakeholders from the healthcare and health policy sectors met in Bern at the invitation of Federal councillor Alain Berset, and Philippe Perrenoud president of the Swiss conference of health service directors, for the *second national Health2020 conferenc*e. The question as to how medical provision can be even better coordinated in the interest of patients was at the forefront of cross-departmental debates. In his closing remarks, Alain Berset stressed that the diversity of roles in the healthcare sector is an asset but must be well coordinated and organised. He promised to continue to actively involve all stakeholders in the process of developing solutions. According to Berset, a willingness to compromise is required – especially from the stakeholders – so that these solutions can also be implemented successfully.

The third national *Health2020* conference will take place in Bern on 1st February 2016. It will focus on inappropriate healthcare with regard to inadequate medical and nursing services.

Sabina Helfer is responsible for the *Health2020* dossier in the Communications and Campaigns Division at the Federal Office of Public Health

Health: Key figures

Population Health	2012
Percentage of population with good to very good self-rated health (% of population aged 15 and above)	82.8
Percentage of population with a long-term health problem (% of population aged 15 and above)	31.9
Determinants of health	**2012**
Percentage of population who are physically inactive (as % of population aged 15 and above)	10.7
Men	8.7
Women	12.7
Percentage of people who consume alcohol daily (as % of population aged 15 and above)	13.0
Men	17.4
Women	8.8
Percentage of smokers (as % of population aged 15 and above)	28.2
Men	32.4
Women	24.2
Life expectancy	
At birth (years)	**2014**
Men	81.0
Women	85.2
In good health at age of 65 (years)	**2012**
Men	12.5
Women	12.9
Mortality	**2013**
Infant mortality (as ‰)[1]	3.9
Number of deaths from all causes of which	64 961
Cardiovascular diseases	21 512
Total cancers	16 675
Total accidents	2 597
Suicide	1 070
Health services and personnel	**2014**
Hospital beds/1000 inhabitants[4]	4.6
Accommodation places/1000 inhabitants[4] in old people's and nursing homes	11.6
Number of outpatient sector doctors/100,000 inhabitants[4]	216
Number of dentists/100,000 inhabitants[4]	51
Services and their use by public	
Visits to doctor in 2012[2] (% of population 15 and over)	78.4
Visits to dentist in 2012[3] (% of population 15 and over)	66.0
Hospitalisation rate (patients) per 1000 inhabitants in acute hospitals in 2014[4]	116.6
Persons aged 80 and over living in homes for the elderly and nursing homes, as % of population aged 80 and over (31.12.2014)[4]	16.9
Costs and funding	**2013**
Health expenditure per capita and per month in CHF	713
Costs as percentage of GDP	10.9

[1] Infant mortality: Deaths in first year of life per 1000 live births
[2] At least one consultation in the past 12 months, including specialists and gynaecologists
[3] At least one consultation in the past 12 months
[4] Permanent resident population at end of year

Source: Federal Statistical Office

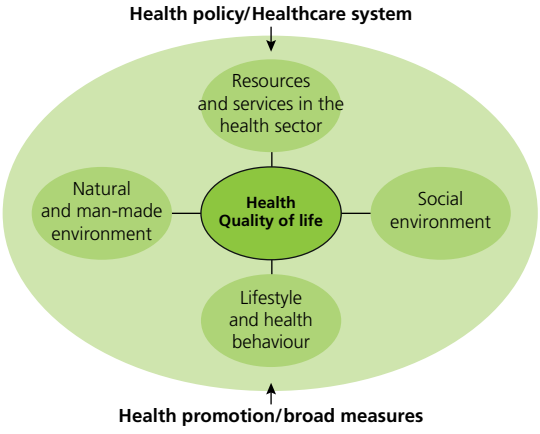
Holistic approach to population health statistics

Health used to be considered as the absence of illness. But this does not tell us much about health itself. For the World Health Organisation (WHO), health is a state of complete physical, mental and social well-being. A person's health, therefore, is not just a matter of good fortune or genetics. The environment, the healthcare system as well as lifestyle and personal behaviour are important too. Marco Storni

Our state of health is constantly shifting along a continuum between health and illness. We should ask ourselves not only what makes a person ill, but also what keeps him or her healthy. The WHO definition of health also includes the subjective aspect of well-being. The Swiss Health Survey incorporates this holistic and subjective view of health, for example by asking people to rate their own health. It also observes the influence on health of the ecological, social and cultural environment, lifestyle and individual behaviour and healthcare services.

It is important for the planification of health policy strategy and measures to be informed about these factors. To this end Switzerland, like most other countries, regularly collects data in order to recognise health problems and its trends and also examines the effectiveness of projects and programmes for the prevention of disease and the promotion of health.

Health model



Survey within the population census

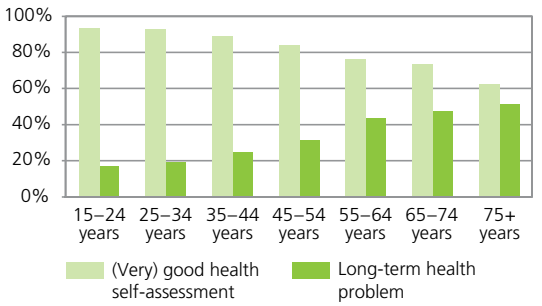
The Swiss Health Survey is the only health statistic with a holistic approach to health that covers the whole population regardless of whether people are in good or poor health. This is important, in order to find out who goes to the doctor and who does not, or who suffers from back problems and who does not, the whole population must be interviewed. For this reason a representative sample is taken from the resident population aged 15 and above living in private households. Questions asked involve state of health, personal and social resources, health service take-up, situation with regard to health insurance, living and working conditions as well as lifestyle and risk behaviour. The health survey is a thematic survey conducted every five years as part of the new Population Census. Many cantons have an interest in cantonal health reports and therefore fund additional interviews taking place within their canton. In the last health survey conducted by the Federal Statistical Office, a total of 21,597 telephone interviews were carried out and followed up by paper questionnaires.

From glasses to braces

The results of the survey are compiled into theme-based booklets, for example on obesity or working conditions but also published as sets of comprehensive tables. More than 160 standard tables provide an overview of population health or health behaviour. From these, one can learn for example that 64% of the population wears glasses or contact lenses and 28% have worn braces at some point in their lives.

The results are also included in various indicator sets which provide information on current trends within a given theme. Examples of this are the measurement of well-being or the situation of sustainable development in Switzerland.

Self rated health and long-term health problems, 2012



Source: FSO – SHS

Furthermore the data set is made available for research: with data from the previous health survey, around 60 research projects have been carried out that are mainly concerned with health promotion issues or the healthcare system. The cantons also use the data for the planning of health promotion projects as well as analysing their effectiveness.

Swiss population in good health

In the health survey of 2012, the majority of the population assessed their general health as good or very good. At the same time, almost one in three said that they had a long-lasting health problem. Nearly four out of five people had visited the doctor, and two-thirds the dentist, in the previous year. Two out of five people had backache, although less than 10% said this was severe. Three out of four people living in Switzerland had taken enough physical exercise in recent years. More people are taking part in sport than ten years ago but despite this fact, more people are overweight, men in particular. 6% of non-smokers are exposed to passive smoking for at least one hour every day. The proportion of teetotallers is roughly the same as in 1992. Furthermore, people's health is greatly influenced by their social status. These are some of the findings from the 2012 Swiss Health Survey.

International and temporal comparability

The Swiss survey tools were initially developed in cooperation with the WHO, so that data could be used in international comparisons. A questionnaire developed by EUROSTAT for the European Health Interview Surveys (EHIS) also found its way into the Swiss Health Survey. Many EU countries such as Germany, France and Austria produce health data that is mutually comparable and compatible with Swiss data.

In Switzerland, five surveys are now available, covering a time span of 20 years thus making the role of temporal comparisons more and more important. The survey's main themes remain the same over time, ensuring the observation of trends and developments. For example, the number of severely overweight people in Switzerland has doubled in the past 20 years.

Further information: www.ess12.bfs.admin.ch

Marco Storni is head of the Social Science Surveys unit in the Health Section and is project leader of the Swiss Health Survey, FSO

"No sports"

We live longer and healthier lives when we take enough exercise, eat healthily, do not consume alcohol or drugs and avoid risky sexual behaviour. The Swiss Health Survey investigates the health behaviour of the Swiss population. Renaud Lieberherr

No sports! was Winston Churchill's alleged response when asked by a journalist how he had reached his advanced age as a passionate cigar smoker and an avid whisky and champagne drinker. Winston Churchill was indeed either lucky or had good genes. He lived to the age of 91.

Churchill's provocative reply underestimates the health benefits of physical activity because our behaviour plays a crucial role in our health. Someone who does not smoke, drinks little alcohol, takes enough exercise, eats fruit or vegetables five times a day and doesn't take any risks in their leisure time is more likely to stay healthy than a person who takes risks with their health. This is something that has been epidemiologically proven. Which is why it would be more appropriate to cite another Churchill quote: "I never worry about action, but only about inaction."

In terms of physical activity, a substantial part of the Swiss population acts in an exemplary way. However, a little less smoking, drinking and eating would do no harm. The Swiss Health Survey 2012 shows the Swiss population's health behaviour based on scientifically-proven risk factors.

Health risk factors

According to an analysis from the Swiss Health Survey and the Cause of Death Statistics, around 15% of all deaths in Switzerland are linked to smoking. Smoking is a major risk factor for cardiovascular problems, chronic respiratory diseases and malignant tumours of the lungs, bronchial tubes, oral cavities, oesophagus, kidneys and pancreas. Alcohol consumption can also be a cause of premature death, affecting physical, mental and social health. It increases the risk of accidents and injury, readiness to use violence, premature disability, absence from work and social exclusion.

The consumption of opiates or cocaine is associated with a high risk of addiction, which can have a significant impact on a person's health and social relationships. Cannabis can also be addictive and can have a negative effect on psychosocial development.

Furthermore, regular physical activity is extremely important. This offers protection from cardiovascular disease, back pains, bowel cancer, breast cancer, diabetes and becoming overweight. However, sport also entails a certain risk of accident.

Nutrition is key for maintaining good health. It is closely linked with diseases of civilisation such as being overweight, diabetes, high blood pressure and cardiovascular disease. Other behaviour-related risk factors such as prescription drug abuse and risky sexual behaviour are discussed in the health survey.

A sporty and food-conscious-population

It is encouraging that 57% of the Swiss population aged 15 or over in 2012 said that they took part in sport. 72% of the population satisfy the current recommendations on exercise[1]. The share of people who take sufficient exercise during their leisure time has thus increased by 10% since 2002. Over the same period, the proportion of people taking no exercise at all has fallen from 18% to 11%.

In terms of nutrition, a large part of the population also said that they acted sensibly. In 2012, 68% stated that they paid attention to certain aspects of their diet. This awareness was less marked among men (61%) than among women (75%). Among young people and young adults, only 50% consciously choose a healthy diet.

Change in smoking habits

In spite of physical activity and nutritional awareness, in Switzerland 39% of men and 23% of women are overweight. At 11%, men are also more frequently obese than women (9%). The share of overweight persons increases with increasing age. From the age of 35 onwards, most men are overweight or obese. Nonetheless, Switzerland is among the countries with the lowest proportion of overweight persons.

In 2012, more than a quarter of the population smoked (28% in total). A slight decrease has only been observed among men during the last 20 years. Smoking habits have changed despite stable smoker figures. The share of people who smoke 20 cigarettes or more a day has almost halved within two decades from 12% to 7%. Whereas in 2007 16% of non-smokers were still exposed to passive smoking for at least one hour a day, this percentage was 6% in 2012. Young people and young adults are still particularly affected by passive smoking.

83% of the population consumed alcohol, with men consuming alcohol far more often than women. 68% of men and 46% of women consumed alcohol at least once a week and 1 in 6 men and almost 1 in 3 persons aged 65 or over consumed alcohol every day. Meanwhile, young people and young adults tend to drink in a sporadic, but sometimes uncontrolled way. Among men in this age group, binge drinking in particular was more common: 8% binge drink weekly and a further 28% once a month.

One in four people have tried illegal drugs

Cannabis was the most frequently consumed drug in Switzerland in 2012. 31% of men and 19% of women aged under 75 have smoked cannabis once in their lifetime. For 4 out of 5 people aged 25 to 75, this was a temporary phenomenon. In 2012 19% of men aged 15 to 24 had consumed cannabis in the previous twelve months and 28% at least once a week. Among women these figures were 11% and 19% respectively. Among those aged over 45 years, only 2% had smoked cannabis in the course of the year.

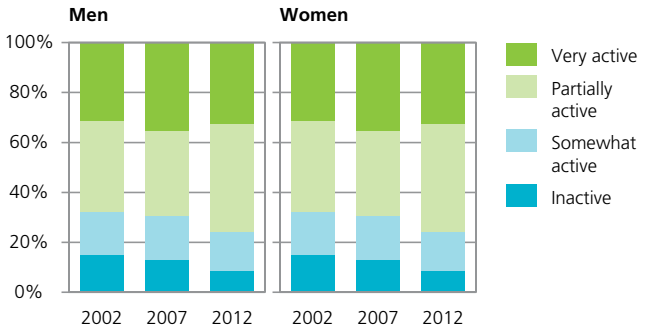
After cannabis, cocaine is the most frequently consumed illegal drug. In 2012, 5% of people aged between 15 and 49 had consumed cocaine once in their lives. This figure was almost 10% among 25 to 34 year old men. With the increased popularity of the techno culture since the start of the 1990s, ecstasy use has also become more widespread. In total, 4% of people aged under 50 in 2012 had taken ecstasy at least once. Heroin has not been in fashion for the past 15 years and the share of heroin users has remained stable.

Renaud Lieberherr is a research associate for the Swiss Health Survey, Health Section, FSO

1
According to the definition of the Swiss Health Survey, people are sufficiently active if they carry out an intense physical activity at least twice a week (during which they break into a sweat) or if they carry out a medium intensity activity for at least 150 minutes a week during which they run out of breath.

Physical activity

Population aged 15 and over in private households



Source: FSO – Swiss Health Survey (SHS) 2012 © FSO, Neuchâtel 2015

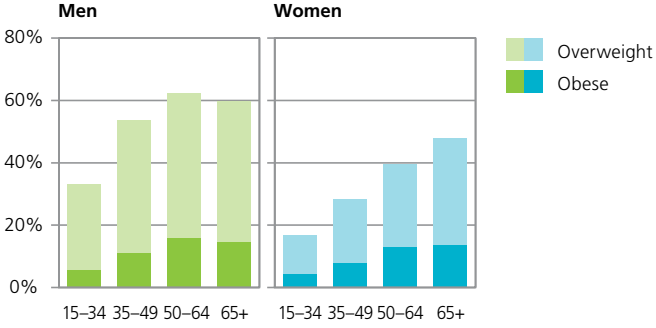
Number of cigarettes smoked

Population aged 15 and over in private households

Source: FSO – Swiss Health Survey (SHS) 2012 © FSO, Neuchâtel 2015

Overweight and obese by age, 2012

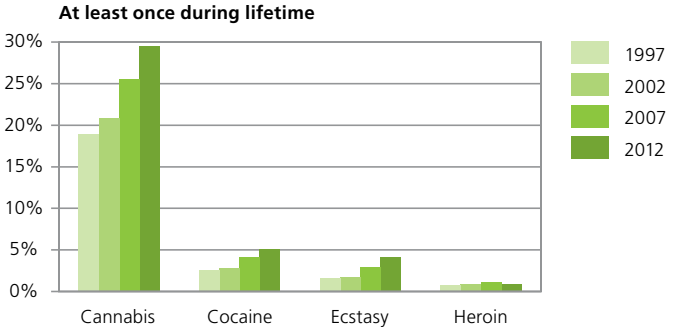
Population aged 15 and over in private households



Source: FSO – Swiss Health Survey (SHS) 2012 © FSO, Neuchâtel 2015

Consumption of illegal drugs

Population in private households, 15–49 years (cannabis: 15–59 years)



Source: FSO – Swiss Health Survey (SHS) 2012 © FSO, Neuchâtel 2015

“Cancer will soon be the most common cause of death”

Causes of death have been statistically recorded since 1876. On a year-to-year basis the figures have hardly changed; over the long-term, however, substantial changes have been seen. Project manager Christoph Junker discusses the most important developments from previous years and looks ahead to the future. Christoph Junker talks to Mirella Wepf

The latest data have now been evaluated.[1] What do you believe to be the main distinctive features?
From a statistical perspective, there is generally little change from year to year. Long-term development, however, is clearly evident: while cardiovascular diseases are still the most common cause of death, their prevalence has declined considerably since the start of the 1980s.

What are the reasons for this?
Four factors can be pinpointed here: Firstly, medical progress with new medication and operating methods. Secondly, secondary prevention also plays an important role. This means that many patients give up smoking after their first heart attack, because they have come to realise how harmful this is. In this way, a second heart attack is prevented. Thirdly, a large number of people avoid taking up smoking at all and are increasingly turning to fitness. And last but not least, living conditions in Switzerland are generally very good.

Some more information about the trends in the death statistics: It is also noticeable that other causes of death are coming to the fore due to the increasing average age of the population. Older people are generally dying for different reasons to young people and consequently the number of deaths caused by cancer are increasing. Dementia is also becoming a more common cause of death. A positive development over the last ten years is the fact that today asthma is rarely a cause of death.

Can regional differences in causes of death be found in Switzerland?
The examination of this question is not one of the FSO’s main priorities. It would, however, be interesting to consider. In the FSO’s older statistical yearbooks[2], this point is covered in substantial detail to some extent.

Is current immigration in Switzerland reflected in the cause of death statistics?
Migrants are usually young and healthy people. Consequently, the mortality rate of foreign nationals in Switzerland tends to be lower than that of Swiss citizens. Interestingly, the suicide rate is considerably lower among the foreign population than it is among the Swiss population. It is speculated that suicide is far less accepted in many cultures than it is in Switzerland, but it can also be assumed that those with psychological problems are unable to manage to migrate to another country.

Life circumstances shape the health and causes of death of entire generations. Are there any periods which have particularly stood out for you?
Between 1905 and 1920, far more women than men died from infectious diseases. There may be several reasons for this. They were possibly less exposed to the sun during housework, and were surrounded by more people – especially children – and were therefore more easily infected. Their eating habits were also probably different to those of men.

Meat is for the father...
I am pleased you mention that because as a researcher I don’t have any proof to support this statement. It might have been a factor, however.

Motorisation after the Second World War is also an example of the generation difference. Suddenly many people died in road accidents with three quarters of these being men. Young men aged between 20 and 39. At the height of this “epidemic” in 1971, a total of 1871 people died from accidents. In 2012, however, this figure was only 296 although the vehicle-kilometres covered during the same time more than doubled.

Similarly, 20 years later it was young men who were highly affected by Aids. HIV tests have been carried out and recorded in Switzerland on a wide basis since 1985. Unfortunately, the spread of HIV infection has not been able to be stopped entirely but the number of deaths due to Aids has fallen considerably since 1994.

It is known that women live longer than men but over the years or in international comparison, the difference is not always the same...
There are only very few societies in which men and women have the same life expectancy. The question is: can this be attributed to biological causes or is this triggered by life circumstances? Women probably have a slight biological advantage but the physical differences cannot definitively explain the current difference in Switzerland of 4.3 years; in 1991 the difference was even 7.1 years and in 1905 approximately 3 years.

It is supposed that women are slightly better protected from cardiovascular disease due to the hormone oestrogen. And female infants are less affected by recessive diseases due to their two X chromosomes. Similarly, men are known to take more risks, whether in sports, in the car or the consumption of alcohol and tobacco, thus also increasing their mortality risk.

There are various reasons why the life expectancy gap between men and women is narrowing in this country. Tobacco consumption is increasing among women whereas it is decreasing among men. Stricter safety measures in road transport also mean fewer deaths among men. Furthermore, there has been a significant decrease in the number of heroin victims, who also tend to be men.

The cause of death statistics act as a guideline for health policy. What are the latest developments?

It is highly likely that cancer will soon be the most common cause of death. This is something that has been recognised by politicians. The cancer registry law is currently being drafted. With the help of the widespread introduction of such registers, regional differences in the number of cancerous diseases will be able to be determined, enabling conclusions to be drawn as to which treatments are more or less effective. This also means that regions are able to learn from one another.

The statistical recording of dementia is another example. Dementia has only been statistically recorded since the coding rules were revised in 1995. While the illness was well-known, only since the statistical recording has it become clear that dementia is already the third most common cause of death. This finding led the Confederation to begin to strengthen its palliative medicine.

You also compile statistics on the potential years of life lost. What does this mean exactly?

We survey this figure to show which diseases take the lives of a particularly high number of young people. It should be seen as a call to improve the corresponding preventative measures and therapies. In principle, it is assumed today that people in Switzerland could live to reach the age of at least 70 or 80.

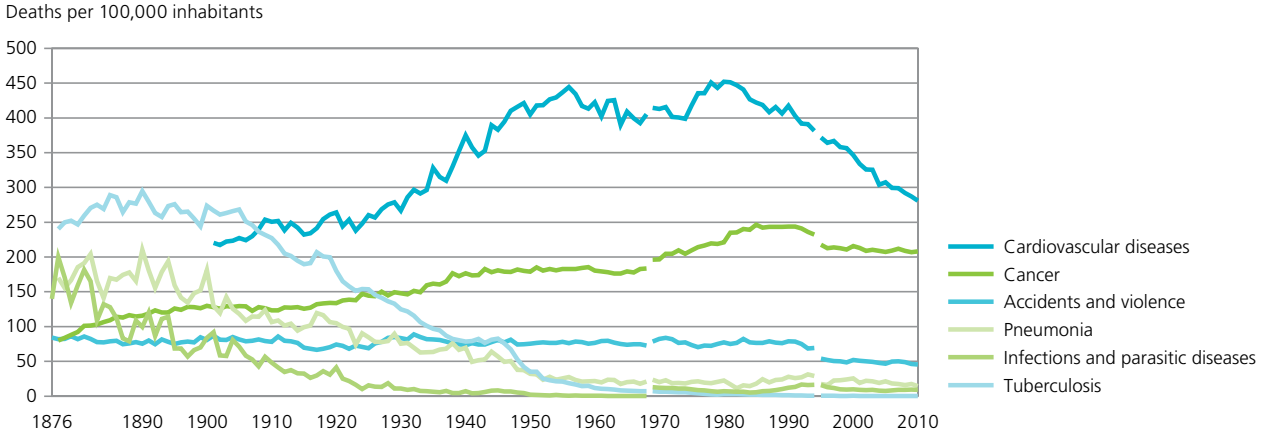
For example a colleague of mine who is a doctor uses these data to show his patients which factors and behaviour could put a premature end to their lives.

The years of potential life lost help to illustrate that breast cancer appears far earlier on and thus shortens life far more considerably than prostate cancer. In these terms, breast cancer is thus far more dangerous. In 2012, cancer was responsible for almost 50% of potential years of life lost among women whereas for men this figure was "only" one third.

In recording statistics, the FSO orientates itself on the World Health Organization's standards. If you could make a recommendation to the WHO, what changes would you make to the system?

Actually, the *International Statistical Classification of Diseases and Related Health Problems* is currently being revised with the ICD-11. It is thus expected that the causes of death will be able to be shown in more detail and more unusual diseases will also be captured. In principle, it would be preferable if multimorbidity could be better indicated. For example: in the published statistics today we only give a main reason for the death. A case of flu which has contributed to aggravating an underlying disease such as cancer is not picked up on because it is highly likely that cancer is specified as the main cause of death in this instance. In turn, this means that in some circumstances the population is not sufficiently appreciative of prevention campaigns because the danger of certain diseases such as the flu is not even realised. But if you're asking me for recommendations, I'll have to answer the question from another perspective. The coding and publishing of causes of death take around 18 months and we will soon be publishing the 2014 data. We want to become faster and evaluate data more intensively. For this, however, the necessary means and resources are required.

Development of causes of death



Source: FSO – Cause of death and stillbirth statistics (eCOD)

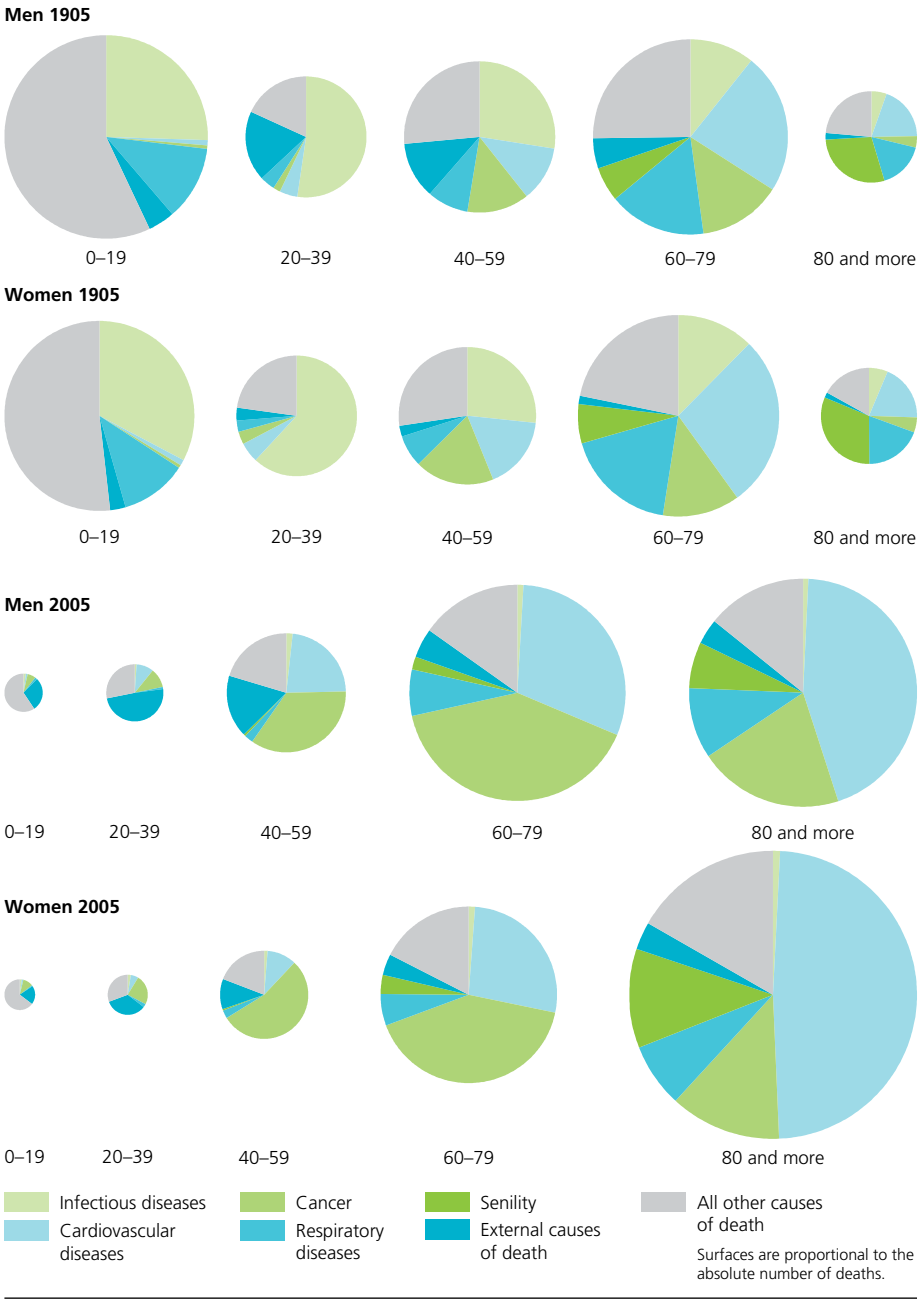
You are a doctor and have worked for the FSO for twelve years. Are there any facts that have astounded you despite your medical knowledge?

The great increase in cardiovascular disease as a cause of death between 1925 and 1955 is particularly striking. The main cause for this was tobacco consumption among men. After 1980, numbers fell again at the same speed. If this trend continues, this type of disease will no longer be the most common cause of death and will be overtaken by cancer instead.

Dr. med. Christoph Junker is head of vital statistics and epidemiology at the FSO's Health Section

Mirella Wepf is a freelance journalist

Leading causes of death by age group



Source: FSO – Causes of death statistics

1
You can find the latest figures for 2013 online at www.statistique.ch → Thèmes → 14 – Santé → Survol → Quoi de neuf? → Tout sur cette publication.
Further information can be found online at www.statistique.ch → Thèmes → 14 – Santé → Santé de la population → Mortalité, causes de décès.

2
Link to the Yearbook Archive 1891–1965: www.statistique.ch → Services → Les publications de Statistique suisse → Ouvrages de synthèse et atlas → Annuaire statistique de la Suisse → Archives de l'Annuaire.

A code for every case

During a hospital stay, all treatments and diagnoses are recorded according to a structure based on medical classifications. These serve both as the foundation of the hospital medical statistics and for the calculation of the costs in the SwissDRG case-based flat rate system. The Federal Statistical Office manages and maintains the corresponding classifications and supports all those who work with this system. Katharina Fehst

Mr Smith has appendicitis and has to go to hospital, where his appendix is then removed. During his hospital stay, doctors, nurses and any other specialists involved record the treatments that they administer, including any diagnoses, procedures, examinations and medication. Special software processes this information, generating a four-digit DRG code[1]. The DRG code for Mr Smith's appendix operation, for instance, is G23C.

Every DRG code has its own fixed cost weight[2]. The cost weight multiplied by the base rate[3] is the invoice amount that needs to be paid by the health insurance. The collected patient data is used for invoicing according to the SwissDRG billing system. This relies on a case-based flat rate. These data are also the basis for the FSO's hospital medical statistics.

Structured recording of medical reality

Various data for diagnoses and treatment need to be recorded in hospitals in a standardised way. This is why the Federal Statistical Office has issued coding guidelines and two classifications: the *International Statistical Classification of Diseases and Related Health Problems* (ICD 10) and the *Swiss Classification of Operations* (CHOP).

The ICD 10 classification is used to record the diagnosis. It contains more than 13,000 classified diseases and health problems – from code A00.- *Cholera* to code Z99.4 *Dependence on artificial heart*.

The CHOP is used to record treatments and examinations and contains more than 12,000 encodable treatments. The coding guidelines of both classifications help to ensure that patient data is correctly recorded in hospitals. The cases are coded by specially trained doctors, nurses and other personnel in the health sector. They receive instruction in medical coding and how to use the classification tools. The FSO has a hotline that offers support in the recording of patient data to those responsible for coding as well as other users.

Hospitals in Switzerland are legally required to supply the cantonal statistical offices with the recorded diagnosis and treatment recorded for the hospital medical statistics. The cantonal statistical offices then forward these data onto the FSO. All stages of data collection, forwarding and processing are accompanied by quality assurance measures to ensure uniform representation of diagnoses and treatments.

Tree structure enables differentiated evaluations

Medical classification systems enable medical knowledge to be classified. They follow a set structure in which connections exist within the classifications. In the case of CHOP, for instance, there are 17 chapters that are mainly based on the corresponding anatomical organ systems (see example). The individual chapters are then divided into categories and sub-categories, into independent operations that are not further differentiated. This last step is used for the medical coding. Based on this tree structure, evaluations can take place on various levels as the higher-level structures are related to and include the lower levels. The adjacent table with two examples illustrates the classification system's structure.

Valuable patient data

Patient data collected in hospitals also serve as the basis for the functioning and further development of the SwissDRG tariff system and are essential for invoicing. Certain patient data are also used for statistical purposes. They provide information on the frequency of diseases resulting in hospital stays and thus allow for the planning of preventative or therapeutic measures. Furthermore, the collected data enable analysis of the services performed by

1
Diagnosis Related Groups describes a classification system for flat rate billing that can be used to allocate hospital patients to case groups. By means of medical data or service designators (primary and secondary diagnoses, procedure codes, demographic variables), patients are allocated to case groups based on similarity of method.

2
Cost weight (CW) (severity or relative weight) – is a coefficient used in medical-economic classification systems such as DRGsystems for the billing of medical services in hospitals. It is allocated to a group of patient cases (DRG) and indicates a medical case's severity in economic terms, and thus, together with the base rate, a case's receipts.

3
The base rate used to calculate the DRG prices (diagnosis related groups) for hospital treatment.

hospitals and their quality, the frequency of certain operations or the frequency of cases of rehospitalisation for certain diagnoses or treatments. Accordingly, the data assist provision planning at cantonal and intercantonal level and are used in an international context (WHO, Eurostat, OECD) as the basis for international comparability and decision-making at supranational level. These data are also used for scientific issues and research.

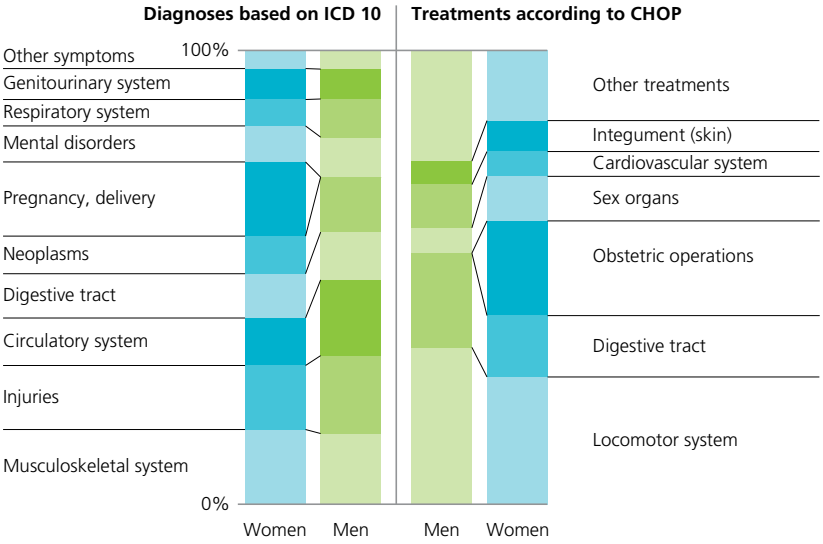
Classifications are constantly evolving

Due to medical progress, both classification systems need to be amended on an on-going basis. For this reason, the CHOP is revised on an annual basis. Requests for new titles, changes and deletions of codes and their additional information may be made via a uniform, national procedure. For example, new cancer treatments (chemotherapy) were included in CHOP 2016. The FSO processes an average of more than 100 requests per year in cooperation with all social partners of the Swiss health system (medical professional associations, the umbrella organisation of Swiss hospitals, health insurers and the cantons).

The CHOP and the coding guidelines are published every year while the ICD 10 is published every two years in French, German and Italian. In total the sector currently publishes more than 6500 pages of medical coding instruments.

Katharina Fehst is head of medical classifications and head of the Health Section a. i., FSO

Hospitalisations: from diagnosis to treatment, 2013



Source: FSO – Hospital Medical Statistics

Example 1: Appendix removal

9 Operations on the digestive tract (42–54)

47 Operations on the appendix
INCL. Appendix stump
Endoloop and intestine clipping
Similarly, code: Application or administration of an adhesive barrier substance (99.77)

47.0 Appendectomy
EXCL. Incidental appendectomy (47.1)
Laparoscopic incidental appendectomy (47.11)
Other incidental appendectomy (47.19)

47.01 Laparoscopic appendectomy

47.09 Other appendectomy

Example 2: More complex operations (heart-lung transplantation)

6 Operations on the respiratory system (30–34)

33 Other operations on lungs and bronchus

33.6 Combined heart-lung transplantation
Similarly, code: Type of organ conservation (00.90.4-)
Cardiopulmonary bypass
[Extracorporeal circulation (ECC)] (39.61.-)
To report donor source – see codes 00.91-00.93

33.6X Combined heart-lung transplantation

33.6X.0 Detail of subcategory 33.6X

33.6X.00 Combined heart-lung transplantation, not otherwise specified

33.6X.10 Combined heart-lung retransplantation, during the same in-patient stay

33.6X.99 Combined heart-lung transplantation, other

Source: FSO – Swiss Classification of Operations (CHOP), 2015

Education influences health

Health differences between social classes already existed in antiquity. As shown by the 2012 Swiss Health Survey and by figures from the population census, these differences also exist in Switzerland today. Educational level has a greater influence than income on health. Martine Kaeser and Caroline Schnellmann

A survey of tombstones in and around Rome has revealed that as early as the first century AD, people from lower social classes died at a younger age than those from higher classes. Doctors first called in the mid-19th century upon the government to improve housing conditions and to introduce measures to protect the health of the poorer classes. With the scientific advances made in the second half of that century – various bacteria were discovered and recognised as pathogens – the social causes of disease were for a time set to one side. It was only at the beginning of the 20th century that they were once again the focus of attention, this time in the form of poor housing and working conditions as well as malnutrition.

Today scientists and statisticians attribute health differences in particular to health behaviour, as well as personal and social factors. In this way, people with lower social status more often show signs of behaviour that damages health and more frequently endure unfavourable living and working conditions. Meanwhile, social status has a far greater impact on health than vice versa. But long-lasting health problems can have a negative effect on labour market integration as well as a detrimental impact on an adequate existence relying on one's own resources. This is shown by figures from the Swiss Health Survey and the Swiss population census. These make distinctions between people based on their educational level and income.

Life expectancy and health

People living in Switzerland generally have a very high life expectancy. Males born in 2012 will live to an average age of 80.5 years, whereas females will live to 84.7 years. At the age of 30, the differences between the highest and lowest educational level are at their greatest. The predicted life expectancy of men in this age group with few qualifications is 4.6 years less than their counterparts with a high educational level, whereas the difference is 2.3 years among women. For both sexes, this gap decreases with increasing age.

A person's self-rated health is a good indicator of a person's actual state of health. Although the Swiss population mainly assesses their health positively, those only having completed compulsory education assess their health as good or very good far less often than those with higher qualifications. Income[1] also plays a role: 90% of persons in the highest income category assess their health as good or very good, whereas this percentage is only 70% for those in the low income group.

Other indicators which can be used to deduce health status are also dependent on education and income. 11% of persons with a low educational level state are severely limited in their everyday life as the result of a health problem. This figure is only 3% among persons with a tertiary education. The various income classes show a similar pattern.

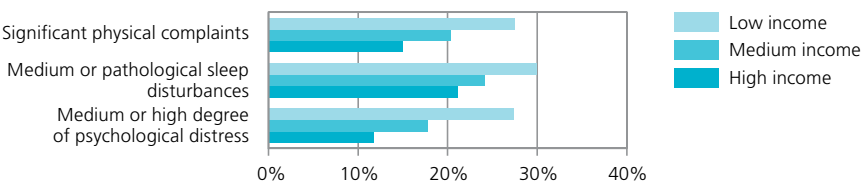
Severe physical impairments such as back, shoulder, neck and arm pain or a general feeling of weakness are often far more common among people who have not completed further education and training. The greatest difference is seen in middle age between the ages of 45 and 64. 27% of people on low incomes suffer from such complaints, whereas only 15% of those on high incomes do so. Similar trends can be seen in terms of sleep disorders or psychological distress.

Health behaviour, personal and social resources

A good social network and the feeling of having control over one's life are factors that have a positive effect on health and strengthen the "psychosocial immune system". Overall, people who have only completed compulsory education are less convinced that they have control over their own life and often have little social support. Most affected are middle-aged men with a low educational level. 40% have a weak locus of control. People without a post-compulsory education are also far more likely to have little social support compared with people who have completed tertiary level education (27% versus 9%). This applies to all age groups and both men and women.

Health status by income, 2012

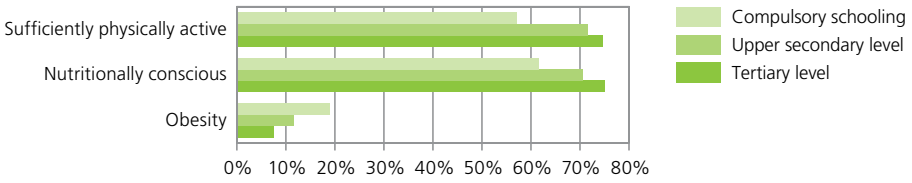
Permanent resident population aged 15 or over



Source: FSO – Swiss Health Survey (SHS) 2012

Health behaviour and obesity by educational level, 2012

Permanent resident population aged 25 or over



Source: FSO – Swiss Health Survey (SHS) 2012

People with a low level of education or low income are also more likely to show signs of health-damaging behaviour. Being overweight, a lack of physical activity and consuming tobacco can encourage cardiovascular disease. Cancer is more common among smokers while diabetes and musculoskeletal system disorders are more common among those who are overweight. Physical activity also offers protection against colon cancer, breast cancer and osteoporosis.

Women in all age categories who only have a compulsory school qualification are far more often severely overweight compared with women with tertiary level education. In the 45 to 64 year old age group, this applied to 22% of women with a low educational level compared with 6% of women with tertiary level education. 19% of women of the same age group with a low income are severely overweight, whereas this was the case for only 5% of those with a high income. The gap between men is less marked.

Physical activity and dietary habits show a similar pattern. Around three quarters of people with a tertiary level education are sufficiently physically active compared with 57% of those who have completed compulsory education. 75% of people with tertiary education also ensure that they eat healthily compared with 62% of those with few qualifications. The greatest difference can be seen among 25 to 44 year-old women. 81% of well-educated women pay attention to what they eat. This figure is only 53% for women with few qualifications. Among men the difference is 68% compared with 42%.

A difference can also be seen for tobacco consumption by social status. 37% of 25 to 64 year-olds with few qualifications smoke, whereas 26% of persons with tertiary education do so. The difference is greater among men than women. Furthermore, more people who have only completed compulsory education smoke more than 20 cigarettes per day than those with higher education. Men with a low income smoke more than men with a high income.

Work and health

Employed persons aged 25 or over with a low educational level are more often exposed to at least three physical risks in the workplace compared with those holding a tertiary diploma. Physical risks include arduous work, toxic substances, long periods of standing and noise. Among men the proportion is 80% compared with 33%; among women 69% compared with 32%. Psychosocial strains such as too little room for manoeuvre, appreciation and social support or fear of losing one's job are more common among those with fewer qualifications. However, women with high educational attainment are more often exposed to discrimination, whereas men with high educational attainment often work longer hours.

Doctor visits

In principle the state ensures a good supply of health services which are equally accessible to the entire population. However, several studies indicate that certain groups have greater difficulty in accessing treatment which is not covered by health insurance. Trips to the dentist are one such example, especially in old age: While three quarters of people with high educational attainment visited the dentist in the course of the year, this was only the case for half of those without post-compulsory education. Similar patterns were also seen according to income.

In 2011, 5% of the population had to go without a medical or dental consultation on at least one occasion due to financial reasons. The percentage of people who went without a consultation is more than twice as high among people without post-compulsory education compared with those holding a tertiary diploma (9% compared with less than 4%).

Martine Kaeser is a research associate for the Swiss Health Survey in the Health Section of the FSO

Caroline Schnellmann is a freelance journalist

1
The 20% of people having the lowest equivalent disposable income (1st quintile: less than CHF 2608) are compared with the 20% of people having the highest equivalent disposable income (5th quintile: more than CHF 6000).

Work can harm your health

Work – having a job and the conditions in which professional activity is carried out – is one of the main determinants of population health and social inequalities in this area. Two regular surveys allow the situation in Switzerland to be documented. Their results highlight the permanence of the main types of work-related risks as well as the poorer state of health of those exposed to these risks. These statistical data can invite debate and inspire the public to take action. Ralph Krieger and Jean-François Marquis

Since the industrial revolution of the 19th century, work's impact on health has been a medical, social economic and political issue and coincides with the appearance of the first labour laws protecting workers in such areas as child labour, working hours, exposure to toxic substances or accidents. Since the 1980s health protection at work has been confronted with new issues, due in particular to lasting high unemployment in many industrialised countries as well as the emergence of new risks related to a society of services and new models for the organisation of labour.

A national and a European survey provide information

For the past ten years Switzerland has conducted two complementary surveys on a regular basis, enabling it to measure the frequency of working conditions which present a risk to health and to study their relationship with population health.

– *The Swiss Health Survey* (SHS). Carried out every five years since 1992, it is the first source of information in Switzerland on population health and on factors that can influence it. The topic of work, present from the start, was developed considerably in 2007 and 2012 by taking inspiration from surveys conducted on this subject at European level. The strength of the SHS is the large size of its sample. In 2012, 21,597 people aged 15 and over living in private households were interviewed, of whom 11,157 were economically active with a worktime percentage of at least 20%. This enables a more detailed analysis of the differences between economic sectors or socio-professional categories. The SHS also brings together considerable amounts of information about health. In contrast, the data it collects on working conditions do not have the diversity nor the level of detail of a specialised survey such as the European Working Conditions Survey (EWCS). Furthermore, the SHS for the time being allows only limited historical comparisons to be made and it was not designed to make direct international comparisons.

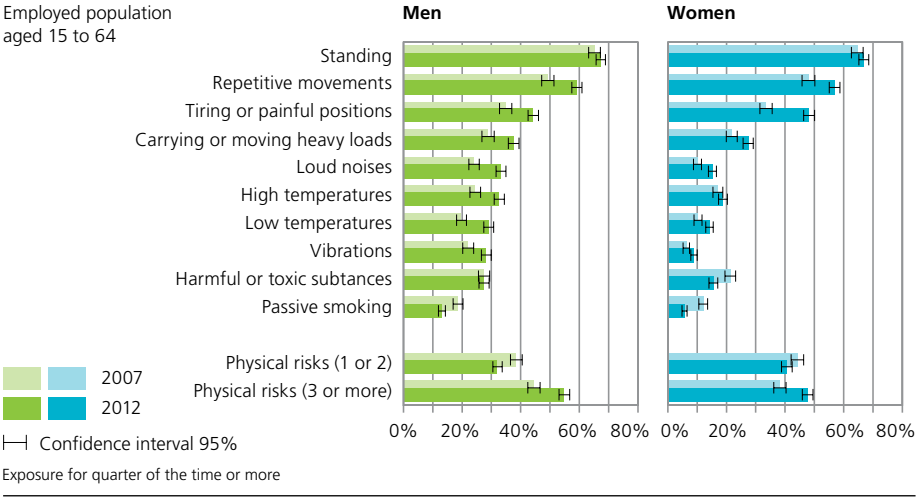
– *The European Working Conditions Survey* (EWCS). Carried every five years since 1990, this survey covers the countries of the European Union (EU) as well as interested non-member countries. In 2015, Switzerland took part for the third time (directly or indirectly), after 2005 and 2010. The EWCS is designed to be a source of detailed information on all of the main aspects of working conditions. It enables comparisons to be made between countries and to follow how risks evolve over a long period.

This survey's main limitation is the small size of its sample – roughly 1000 workers are interviewed in Switzerland. This limits the possibilities for detailed analysis by economic activity. Moreover, there is less information on population health and the factors not related to working conditions that influence health than in the SHS.

Physical risks that don't decrease

What image of working conditions and their trends in Switzerland emerges from these two surveys? Here is a brief overview: today it is often stress, mobbing or

Physical risks by sex



Source : FSO – Swiss Health Survey 2012

other psycho-social risk factors that are mentioned in relation to work-related health risks. But data from the SHS show that physical risks (such as carrying heavy loads, noise, exposure to toxic substances, etc.) have not lost their importance. 52% of workers were exposed to at least three physical risks in 2012. This is 10% more than in 2007 (see graphic p. 21). This increase concerns almost all of the physical risks with the notable exception of passive smoking[1]. The percentage of people exposed for a very long time to these risks (at least three-quarters of the time) is, however, stable (13%). The EWCS shows an increase between 2005 and 2010 of certain physical constraints in Switzerland, whereas in European average they remain stable, although at a higher level.

Overall, men are more exposed to physical risks than women: 55% of men compared with 48% of women say they are exposed to at least three physical risks. This gap is particularly pronounced for carrying heavy loads, for environmental risks (noise, extreme temperatures) as well as for vibrations and exposure to toxic substances. Women, on the other hand, are more often constrained to adopt painful or tiring positions and also have to lift or move people more often, a typical healthcare sector risk.

Unsurprisingly, the percentage of people exposed to a cumulation of physical risks is highest in agriculture (87%) and construction (79%). But this percentage is also above average in several service sectors, such as transport (62%), wholesale and retail trade (60%) and, for women, health and social work (57%). Health is the sector in which employment (which is predominantly female) has seen the greatest growth in recent years.

Fast work pace represents a psychosocial risk

A job that offers good working conditions has a positive effect on people's psychic health. In contrast, any job that carries with it psychosocial risks can be detrimental to people's health. For this reason, protective factors are important in this area. If these factors are unable to compensate for constraints and mental stress, people's health can be compromised in the long term.

Compared to the European average and to its neighbouring countries, Switzerland stands out due to a high level of psychosocial constraints as well as a high level of protective factors.

Switzerland does not cut a good figure in the European landscape as far as fast work pace, tight deadlines and disruptive interruptions are concerned in both 2005 and 2010. Switzerland holds first place in terms of fast work pace and tight deadlines and third place for breaks in employment (see graphic below). Moreover, Swiss full-time employees work considerably longer hours than their colleagues in the European Union. In 2010, Swiss employees were also more likely to experience restructuring or a reorganisation than the average European or employees in Germany or Italy and they worked relatively often in their free time to meet demands at work.

On the other hand, the 2010 EWCS shows that persons in employment in Switzerland have at their disposal quite a large number of protective factors which allow them to cope better with the demands of work and to alleviate the effects of physical and mental constraints (see graphic p. 24). Many employees are thus able to achieve a good or very good work-life balance, to obtain help from their colleagues or their manager, to be able to choose how they work or to determine their rhythm or pace of work, to be able to change the order of their tasks and to take breaks when they want to.

With regard to flexible working hours, Switzerland stands out considerably. Employees enjoy much more flexible working hours in Switzerland than employees in the European Union or in its neighbouring countries. No other country in Europe has introduced flexible working hours on such a large scale. Switzerland is also in the vanguard in European comparison for the perception of job security, the share of employees taking advantage of employer-paid training or the percentage of households with an income allowing them easily or very easily to make ends meet.

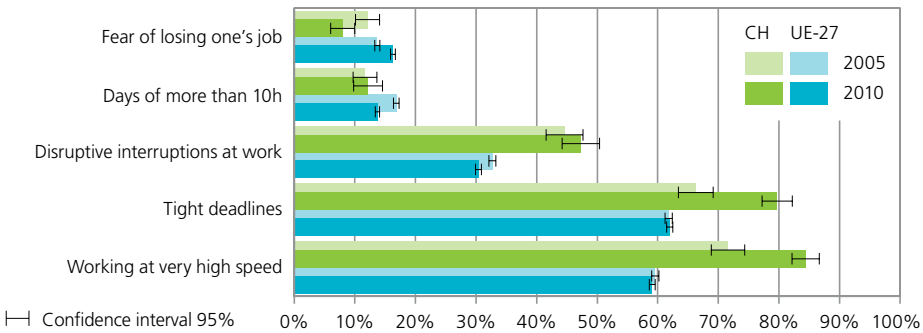
High psychosocial constraints and a lack of protective factors are associated with an increased risk of feeling stressed. In 2010, approximately a third of persons in employment in Switzerland (34%) stated that they felt stressed often or even very often. This figure is markedly higher than the results obtained in 2000 (27%).

A close link to health

The SHS and the EWCS are cross-sectional surveys which take a "snapshot" of the population at a given moment. Although the establishment of causal links is not possible with these surveys, they do, however, demonstrate close links between working conditions and population health. Thus SHS data show that persons exposed to at least three

Psychosocial constraints in Switzerland and in the European Union (EU)

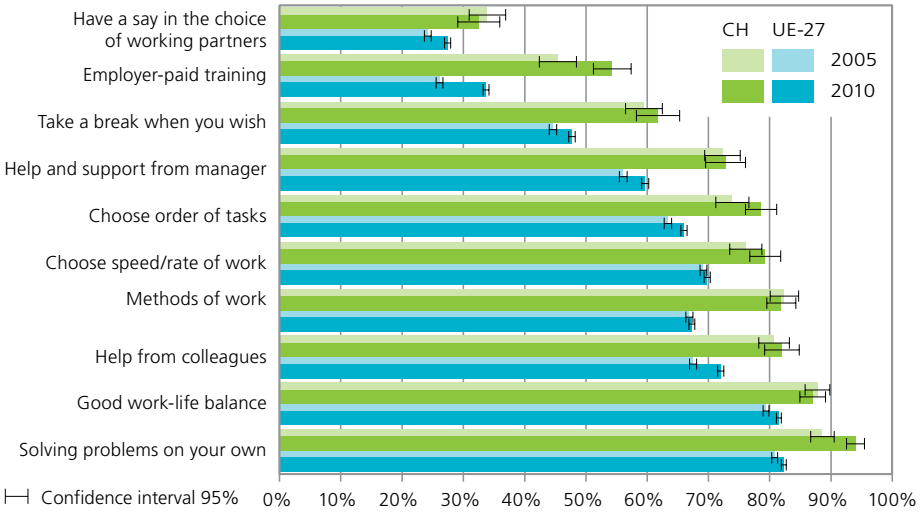
Employed population 15 years and older



Source: SECO – European Working Conditions Survey (EWCS)

Protective factors in Switzerland and in the European Union

Employed population 15 years and older



Source: SECO – European Working Conditions Survey (EWCS)

physical risks are considerably more likely to say that their general state of health is not good than those who are not exposed to any physical risk (13% compared with 5%). Similarly, 49% of people who are stressed at work have a feeling of emotional emptiness when carrying out their work, which is considered to indicate a risk of burnout, whereas this percentage is only 13% among people who are not stressed at work. Such connections are still observed even when other factors that could have an influence on health such as sex, age, level of education and nationality, are taken into account, as well as other working conditions.

Data for public debate

The EWCS and the SHS collect data which allows the frequency in Switzerland of the main risk-related working conditions to be measured, as well as the distribution of these risks (who is exposed), trends over time and their links to health. The picture that emerges confirms that working conditions are a major social and health issue. It is up to political, economic and social decision makers to use this information to inspire public debate on the subject of health at work as well as protective policy in this area.

For additional information:
Work and health. Results from the Swiss Health Survey 2012 (available in German and French) under www.statistique.ch → Thèmes → 14 – Santé → Santé de la population → Facteurs influant sur la santé → Analyses → Travail et santé

5ème enquête européenne sur les conditions de travail 2010 – Résultats choisis selon la perspective suisse (available in German and French). State Secretariat for Economic Affairs (SECO)/University of Applied Sciences and Arts Northwestern Switzerland (FHNW), 2012 under www.seco.admin.ch → Documentation → Publications et formulaires → Etudes et rapports → Travail → 5ème enquête européenne

Ralph Krieger is research associate in the Work and Health Section at State Secretariat for Economic Affairs SECO. He is the main author of the work *5ème enquête européenne sur les conditions de travail 2010 – Résultats choisis selon la perspective suisse* published by SECO in 2012

Jean-François Marquis is head of dissemination for the Health Section, FSO. He is the author of the study *Work and Health. Results from the Swiss Health Survey 2012* published by the FSO in 2014

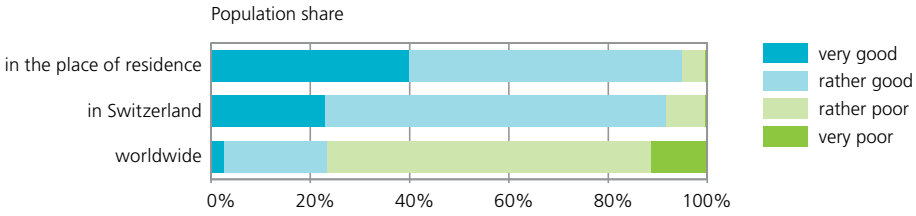
1
The comparison of values between 2007 and 2012 is limited by a change in the measurement of exposure to toxic substances.

How's our environment?

The environment's "general state of health" can be determined in a number of ways, but is usually calculated using measurements taken from nature. However, it is also possible to gain an insight into the environmental situation by surveying the population. In 2011 the Federal Statistical Office carried out a survey on the perception of the quality of the environment. A second survey of this kind is currently underway. Laurent Zecha

To find out the environment's "general state of health", data from various measurement networks, for instance, are used to assess the quality of soil, air, water etc. Commonly described as "objective", these data grant a varied – and to some extent contradictory – insight into the state of the environment. In fact, the assessment may vary considerably depending on the subject of investigation. It is therefore also difficult to make an overall assessment because pollutants may vary over space and time. General statements about the environmental situation should therefore always be interpreted with a degree of caution.

Assessment of quality of environment, 2011

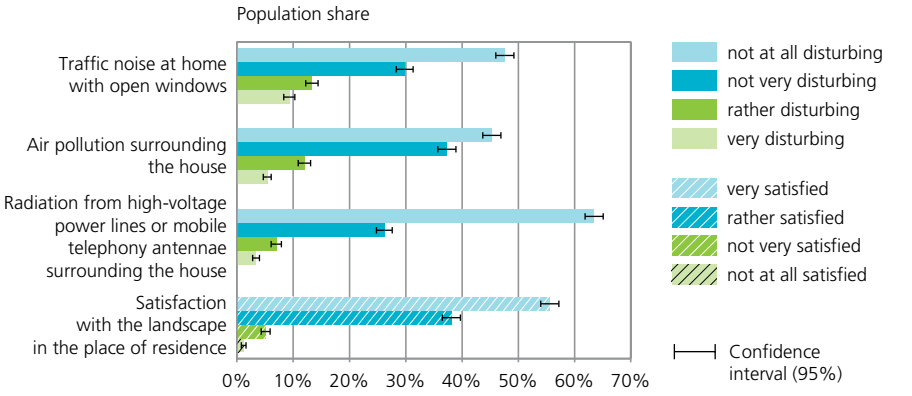


Source: FSO – Omnibus 2011: Multi-thematic survey on life in Switzerland

Subjective assessments

A population survey offers another way to statistically record the environmental situation. Such subjective data are comparatively easy to survey, as in principle everyone can express what they personally perceive. However, assessments of this kind also offer a somewhat simplified view of things because e. g. many pollutants cannot be perceived directly. Furthermore, perception is also affected by a number of factors. Conversely, there are also areas that can only be recorded by survey e. g. reasons for certain environmental behaviour. Thus, both objective measurements and subjective assessments are important – they complement each other and can both serve as the basis for political discussions and decisions.

Perception of environmental conditions in the place of residence, 2011



Source: FSO – Omnibus 2011: Multi-thematic survey on life in Switzerland

Perceived environmental situation

In 2011, the FSO carried out a survey on the perception of the quality of the environment for the first time. This showed that 95% of the population judged the quality of the environment in their place of residence to be very good or rather good. While the quality of the environment in Switzerland was evaluated as very good or rather good by a total of 92%, only 23% of the population held this opinion about the worldwide environmental situation.

Furthermore, respondents were asked about specific environmental conditions in their place of residence. For example, 23% of the population found traffic noise at home with open windows to be very or rather disturbing. 17% of the population were very or rather disturbed by air pollution surrounding the house and 10% by radiation from high-voltage power lines or mobile telephony antennae. 94% of the population were very or rather satisfied with the landscape in their place of residence.

Pollution as a problem

44% of the population generally judged pollution to be a very or rather substantial problem for Switzerland, with marked differences between the language regions: This figure was 41% for inhabitants in German-speaking Switzerland, 51% in the French-speaking part and 62% in the Italian-speaking region.

Differences were also found between women and men: Women were more likely than men to view pollution as a substantial problem (50% compared with 39%). Deviation by nationality can also be observed: while around half of Swiss nationals consider pollution to be a very or rather substantial problem, this figure was only 28% for foreign nationals.

Environmental behaviour

Furthermore, respondents were asked about motivations for certain kinds of behaviour that influence the environment. For example, 39% of persons who consume organically produced food at least occasionally said that they do so for health reasons. The second most common reason given by 21% of respondents was environmental protection. 15% specified the quality of organic products as their motivation for consuming these.

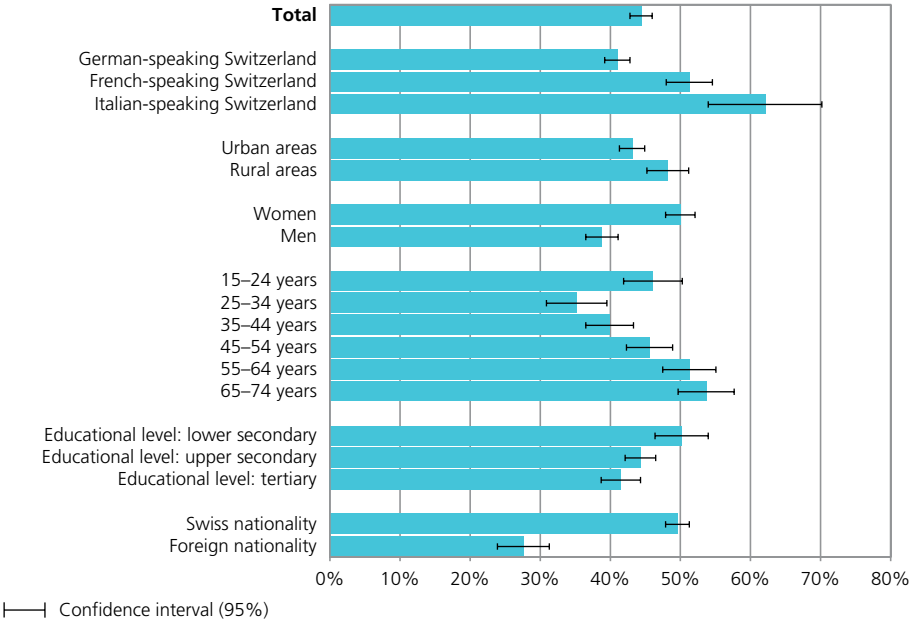
Conversely, 42% of persons who never or at least not exclusively buy organic products state the price as the reason for their behaviour, with the second most common reason being lack of supply (28%).

Recognise changes

The survey is currently being repeated to show if and to what degree the perceived quality of the environment has changed since 2011. Statistically representative results should be ensured once again based on around 3000 telephone interviews. The respondents are aged between 15 and 74 years old and randomly selected.

Assessment of pollution as a problem, 2011

Share of population that assesses pollution in Switzerland to be a very or rather substantial problem



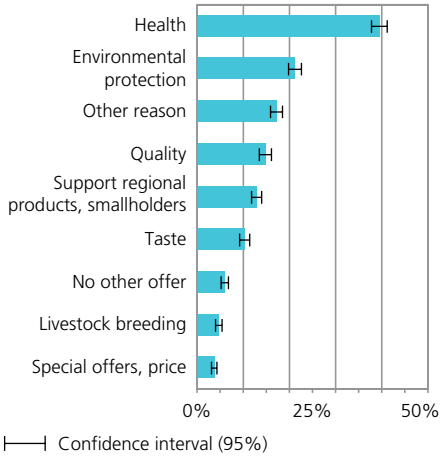
Source: FSO – Omnibus 2011: Multi-thematic survey on life in Switzerland

In addition to perceived environmental quality and the burden caused by specific environmental conditions in the place of residence, the survey once again covers environmental behaviour and the reasons for this behaviour, awareness of environmental issues, risk assessment of technologies and environmental changes. The first results for the 2015 survey will be available at the start of 2016.

Laurent Zecha is a research associate in the Environment, Sustainable Development and Territory Section of the FSO

Reasons for consuming organically produced food, 2011

Percentage of persons who consume organically produced food (more than one answer possible)



Source: FSO – Omnibus 2011

1
Omnibus survey 2011 on the "Perception of environmental quality and behaviour". Omnibus surveys are multiple-theme surveys and part of the FSO's new population census.

The chemistry of healthcare costs and financing

Healthcare expenditure in Switzerland is not calculated on the basis of a single survey, but by merging various data sources, similar to a chemical compound made up of different elements. The *Healthcare costs and financing* statistics provide an insight into the complex monetary flows of the production, consumption and financing of goods and services in the healthcare system.

Michael Lindner and Ulrich Wagner

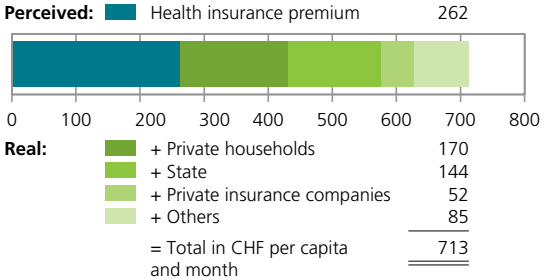
Comparing statistical raw data with chemical elements is not such a far-fetched idea. Neither can be used immediately. In order to make use of them, they first need to be processed. The FSO statistics on healthcare costs and financing are in fact a summary of statistics from various sources.

A synthesis statistics based on the results of several sources shares a number of major similarities with synthetic chemistry, such as the production of chemical fertilisers in the laboratory (or in industrial production). The production of chemical fertilisers involves a complicated process through which the starting products nitrogen and hydrogen are used to create something entirely new, ammonia, which is then used to produce ammonium nitrate. Crop yields rose significantly in the early 20th century thanks to chemical fertilisers.[1]

Monitoring financing flows

While the *Healthcare costs and financing* synthesis statistics cannot solve the food shortage, since 1985 they have provided important information to prevent the opposite problem, i. e. the "overprovision" of healthcare, in other words the uncontrolled usage of primarily financial resources. In Switzerland, there is still a high level of collective willingness to pay for high-quality healthcare, but the heavy macroeconomic burden caused by rising healthcare expenditure requires accurate monitoring of financing flows. Incidentally, the question of whether Switzerland's healthcare is "too expensive" can only be answered by comparing it with the healthcare costs of other OECD countries with a similarly efficient and effective healthcare system. The *Healthcare costs and financing* statistics are also used to conduct such comparisons in line with international requirements.

Financing in the health system, 2013



Source: Own calculation

Statistics bring clarity

The *Healthcare costs and financing* statistics also clear up misunderstandings: the Swiss population notices above all the visible cost burden of health insurance premiums – in 2013, these amounted to an average CHF 262 per person per month.

But the state contributes CHF 144 per person per month to this average premium, CHF 170 are paid by households (individual payments, deductibles etc.), CHF 52 come from private insurance schemes and CHF 85 from other financing institutions[2]. So the "visible" CHF 262 actually end up being a real CHF 713.

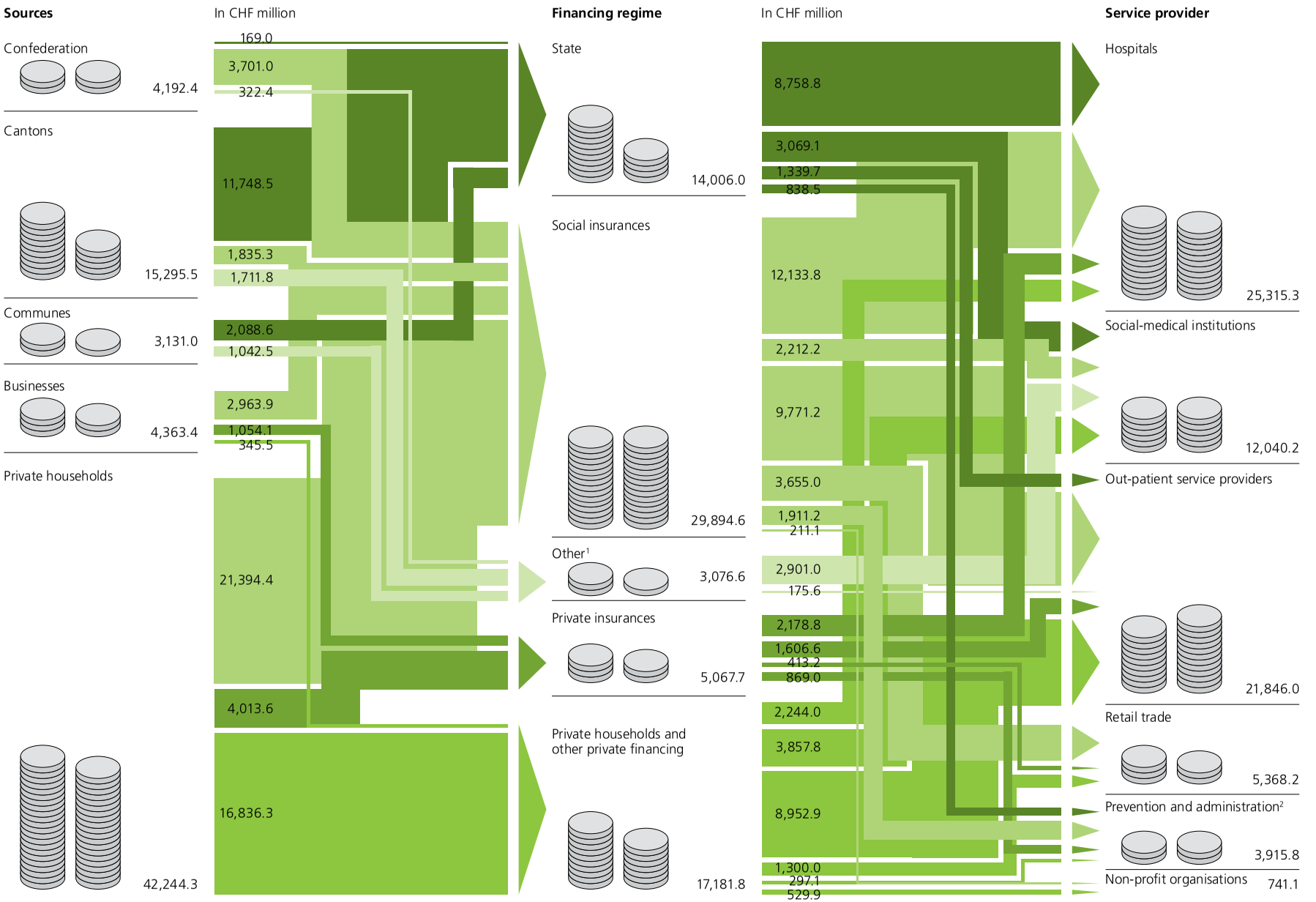
Simple end product, complicated process

As is the case with the manufacture of nitrogen fertiliser, the end product – total healthcare expenditure – is the result of a complex process. The *Healthcare costs and financing* statistics have three dimensions (healthcare providers, healthcare functions and financing) and up to 12,000 possible combinations. The underlying principles can be shown based on two dimensions with four combinations (see below with real data). A highly simplified end product could look like this (data in CHF billions, 2013). Although

1
The Haber-Bosch process, named after Fritz Haber and BASF chemist Carl Bosch, indirectly fed billions of people by enabling advances in agriculture.

2
OASI/IV supplementary benefits, assistance for the elderly and care, financing by foundations

Costs and financing of the health system, 2013



1 Supplementary benefits relating to old age and survivors' insurance and invalidity insurance AHV/IV, old age and nursing care 2 State and insurer

Source: FSO – Statistic on the costs and financing of the health system

	Financing		Total
	Health insurance	Other financing	
Service providers			
In-patient service providers[1]	12.1	25.3	37.4
Out-patient service providers, including administration	13.3	18.5	31.9
Total	25.4	43.8	69.2

[1] Establishments with patient overnight stays or home residents
Source: FSO – Healthcare costs and financing statistics. 2013

this is a simplified example, it is still complete. The statistics would even be complete with just one single output variable, i. e.:

Healthcare costs Switzerland 2013	**69.2**

This single output variable satisfies the need for information relating to healthcare expenditure. This figure can be used to derive the ratio of healthcare expenditure to gross domestic product (10.9%) and the expenditure per capita and per month (CHF 713).

Necessary and meaningful key tasks

In order to ensure reliable data for this statistical product, three points must in principle be satisfied with regard to healthcare:

1. Outward demarcation concerns the question of which institutions, services and products are included in healthcare. Whereas, for example, the services of university dental clinics are considered relevant for healthcare provision, sub-divisions of these teaching institutions may not be considered relevant for healthcare provision.[3]
2. When compiling a classification, the entire healthcare system is broken down into direct and indirect service providers. The classification used in the statistics is primarily geared towards international standards, which suggest at least a three-dimensional view and propose a structured classification system. Since Switzerland and other countries use the *Systems of Health Accounts* manual published by the OECD, WHO and Eurostat, international comparisons can easily be drawn.[4]
3. The allocation of data items to classification categories determines which data items can be allocated to which individual categories. Here, questions arise, for example, about whether insurance excess and deductibles should be regarded as financing by health insurance or not.[5]

The need for joined-up thinking

Once these points have been clarified, the most readily available data source and/or survey method must be selected. This task requires a great deal of creativity, joined-up thinking and expertise and also a feel for methodological problems. For example, there are no data for Switzerland regarding the allocation of expenditure of private health insurance schemes by healthcare provider group, but there are data for Liechtenstein. As the insurance markets in Switzerland and Liechtenstein are similarly structured, the question arises as to whether it may be better under these circumstances to use the data from Liechtenstein to estimate the Swiss data, rather than using a Swiss percentage allocation that is 15 years old.[6]

Similarly, in the Haber-Bosch process, the iron catalyst can be considered to be an essential element in making the process happen, but one which does not entail a great deal of work and costs.

Summary statistics provide diverse information about important topics, while offering a great deal of freedom when compiling and processing the information with regard to demarcating the healthcare system, classification, assigning data items to categories and regarding the choice of data sources and methods. Just like the work in a chemistry lab, the individual components have to be carefully coordinated in order to achieve a result that is relevant (to health policy).

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Ulrich Wagner is head of the Health economics and diffusion division within the Health Section, FSO

3
Analogy of synthetic chemistry: Which substances are involved in the overall reaction? Similarly, the three main components water, natural gas and (atmospheric) nitrogen are considered to be the starting products in the Haber-Bosch process, but not the iron catalyst used in the process.

4
Analogy of synthetic chemistry: Into which sub-processes is the process broken down and what should they do? Similarly, several stages can be defined in the Haber-Bosch process, namely the pre-production of hydrogen using a steam reforming process, the ammonia synthesis in the strict sense and the subsequent steps in the synthesis process to produce ammonium nitrate fertiliser.

5
Analogy of synthetic chemistry: Which substances are involved in the overall reaction? In a similar manner, not all products are used in every stage of the Haber-Bosch process. For example, nitrogen, which is one of the starting products, is not used in the pre-production of hydrogen.

6
Analogy of synthetic chemistry: How do we bring about the reaction?

The National Health Report 2015

In Switzerland, the cantons are mainly responsible for the population's healthcare. But the challenges expected for healthcare in the future – particularly the growing incidence of chronic diseases – require information to be pooled. The Swiss Health Observatory (Obsan) encourages us to look beyond cantonal boundaries. Monika Diebold

Information on the Swiss population's health is collected and evaluated in a number of places. However, often there is no overview offering analysis beyond cantonal boundaries. Which is why the Swiss Health Observatory is publishing the third National Health Report (following previous publications in 1993 and 2008). This report provides an extensive overview that paves the way for further developments in the healthcare sector.

Key issue chronic diseases

One of the National Health Report's main interests is to make health data accessible to everyone and to explain and to highlight possible future developments. The report, which can be downloaded free of charge from www.gesundheitsbericht.ch is divided into two parts. Clearly presented with a number of graphics, the first part covers various health aspects from childhood to old age. These passages may be used as an encyclopaedia and provide an overview of what is happening in the health sector in Switzerland. The second part of the health report focuses on chronic diseases. Four specialist reports were commissioned for the health report, supporting the statements in the book with scientific studies. The features covered included spread, types of illness, risk factors, healthcare provision for chronic diseases and consequences for the national economy. Special consideration is also given to the needs and livelihoods of people who are chronically ill.

The Confederation and the cantons are responsible for health

In Switzerland, responsibility for health mainly lies with the cantons, even if health insurance operates on a national level. Close cooperation between the Confederation and the cantons is required to better deal with the challenges in the healthcare sector. An institutionalised "National Health Policy Dialogue" has existed since 2003. The Federal Councillor (currently Alain Berset) meets with the cantons' directors of health services several times a year. These meetings help to coordinate joint action.

Obsan was formed in preparation for this dialogue in 2001. It provides support to the health institutions of the Confederation and cantons, supplying analyses and reports for the preparation of decisions. It receives its mandate from the Confederation and the cantons.

Health as a focus point. Obsan provides the answers

Some of the key tasks of the twenty members of staff on the Obsan team include formulating relevant questions for the health authorities as well as finding and analysing the best sources of data. Obsan deals with various themes in the health sector: *population health, costs and financing of the health system, the ageing of the population, use of health services, health professions, health provision structures* and *mental health.*

In addition to national and cantonal health reports, Obsan also publishes a web monitoring report on its website www.obsan.ch that contains key figures and graphics on different health themes. With its analyses and reports, Obsan does its utmost to keep up-to-date with current health policy developments. Which sectors will experience staff shortfalls in the future? How many people will make use of hospital or nursing home services in the next few years? How much can be saved on medication costs? Are people with mental illnesses in Switzerland treated in a satisfactory way? Obsan also takes part in international comparative studies. Obsan's reports are available to the public free of charge on its website.

Further information:
The National Health Report: www.gesundheitsbericht.ch
Swiss Health Observatory: www.obsan.ch
National Health Policy dialogue: www.nationalegesundheit.ch

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