



## Occupational statistics on dietitians in Switzerland: 2017 results

Dietitians' work settings, job conditions, education and professional development as well as their assessment of the profession's attractiveness

**Andrea Mahlstein, Esther Weishaupt**

**31st of October 2018**

Image source: <https://pixabay.com/>

# Contents

1	The main results in brief	3
2	Acknowledgements	5
3	Initial situation	6
4	Goal of the project	7
5	Dietetic counselling in Switzerland	7
	5.1 History of dietetic training	7
	5.2 Registered dietitians	7
	5.3 Shortage of dietitians	8
	5.4 Expectations of the profession	9
6	Methodology	11
	6.1 Study design and study population	11
	6.2 Questionnaire development and pretest	11
	6.3 Data collection	12
	6.4 Data evaluation	12
	6.5 Ethical aspects	13
7	Results	14
	7.1 Response	14
	7.2 Description of target population	14
	7.3 Dietetic Training	16
	7.4 Highest educational qualification	18
	7.5 Additional training/study	19
	7.6 Extensive further training	19
	7.6.1 Number of professional education courses	19
	7.6.2 Type of professional education	20
	7.7 Current occupational situation	21
	7.8 Dietitians' Employment context	21
	7.8.1 Number of jobs	21
	7.8.2 Type of employment (employee or self-employed basis)	22
	7.8.3 Job settings	23
	7.8.4 Managerial role	25
	7.8.5 Working hours	26
	7.8.5.1 Working hours in relation to age	26
	7.8.5.2 Working hours in relation to job setting	27
	7.8.6 Salary	28
	7.8.6.1 Salary in relation to job setting	28
	7.8.6.2 Salary in relation to region/canton	29
	7.8.6.3 Salary in relation to gender	30
	7.8.6.4 Salary in relation to age/professional experience	30
	7.8.6.5 Salary in relation to qualification	31
	7.8.6.6 Salary with and without a managerial role	32
	7.8.6.7 Employee hourly wages	32
	7.8.6.8 Annual income from self-employed work	32
	7.8.7 Activities in daily work	33
	7.8.8 Areas of professional focus in daily work	36
	7.9 Assessment of the profession	38
8	Discussion of methodology	40
9	Conclusion	42
10	List of figures	44
11	List of tables	45
12	List of abbreviations	46
13	Bibliography	47
14	Authors' contact details	49

# 1 The main results in brief

A total of 756 dietitians took part in the survey. This makes it the biggest nationwide survey of this occupational group so far.

## **Description of the target population:**

- Among the participants, 705 (95.3%) were female, 35 (4.7%) were male and 16 did not specify their gender.
- On average, dietitians in Switzerland are  $40 \pm 10.7$  years old and have been working in the profession for  $15.3 \pm 11.4$  years.
- In total, 468 dietitians (62.2%) state that they have no children under the age of 18, while 285 (37.8%) do have children under 18.
- A good 75% of participants are SVDE members.

## **Training:**

- Of those taking part in the study, 675 (89.4%) completed their training in Switzerland and 80 (10.6%) obtained their dietitian qualifications abroad.
- Of those who obtained their qualifications in Switzerland, 453 (67.1%) completed their training at a college of higher education (CHE) and 222 (32.9%) at a university of applied sciences (UAS).
- About a third of the participants hold a CHE title as their highest qualification. Around two thirds of the dietitians hold at least a bachelor's degree and 46 (6.1%) report obtaining a Master of Science (MSc) or Master of Arts (MA).
- In total, 314 out of 753 people (41.7%) state that they completed another training course before or after training to become dietitians.

## **Extensive further training:**

- Out of 663 dietitians, 218 (32.9%) have completed at least one extensive further training course amounting to a minimum of 300 hours or 10 ECTS credits.
- Out of the total 280 completed professional education courses indicated, the majority (55.0%) were categorised as professional specialisation. In total, 31.1% of the completed professional education courses were categorised as methodology/didactics. The categories of management and research account for 7.1% and 6.8% respectively.

## **Employment situation:**

- Three quarters (74.4%) of participating dietitians work exclusively in one job. In total, 25.5% of participants held two or more positions simultaneously.
- Out of the 870 jobs in total, 651 (74.8%) are held by employees and 219 (25.2%) were described as self-employment.
- On average, people working as an employee have working hours amounting to 61.2% of a full-time job whilst the self-employed work the equivalent of 37.3%.
- With regards to Switzerland's major regions, the percentage of self-employed positions is highest in Ticino, at 43.6%, and lowest in the Lake Geneva Region, at 19.2%.
- The largest job setting is the clinical setting, with 423 jobs. The second-largest is the practice setting, with 251 jobs.
- In total, 200 out of 858 jobs (23.3%) include a managerial role, while 658 (76.7%) do not. Of the jobs with managerial roles, 92.3% are held by women and 7.7% by men.
- Of those who provided information about their working hours, 79.3% (498 out of 628) have working hours amounting to 50–100% of a full-time job, while 20.7% (130 out of 628) work as dietitians less than 50%. Working hours are highest in the 21–30 age group, which is the career starters' age group, amounting to 85% on average.

**Salary:**

- The average gross annual salary for a dietitian in Switzerland is CHF 82,270.
- The median gross annual salary for an employee position in the various job settings ranges from CHF 71,540 in medical care centres/group practices to CHF 110,500 in educational institutions.
- The average gross annual salary for dietitians differs by major region. The regions Espace Mittelland and Central Switzerland have the lowest average gross annual salary, at CHF 78,000. With a gross annual salary of CHF 87,170, Zurich ranks highest on the list.
- In terms of cantons, dietitians in the Canton of Zurich receive the highest average gross annual salary (CHF 87,170), followed by the cantons of Neuchâtel and Geneva. The lowest average gross annual salaries are received in the cantons of Fribourg and Basel-Landschaft.
- The median gross annual salary rises as experience in the profession increases. The average salary for people with 0–5 years' experience in the profession is CHF 73,250. On average, people with 6–10 years' experience earn CHF 79,300, which is CHF 6,050 more than their younger colleagues. People with 31–35 years' experience in the profession earn CHF 102,570 on average.
- In 2016, the average annual income of self-employed people was CHF 75,000. When considering only the dietetic practice setting, the average income is just under CHF 80,000. The middle 50% of all incomes lies between CHF 60,000 and CHF 100,625. The average annual income in the clinical setting is CHF 66,667.

**Areas of professional focus:**

- A total of 73.8% of the dietitians (489 out of 663) see undernutrition and malnutrition as a technical focal area in their daily work. This makes undernutrition and malnutrition the most frequently indicated technical focal area. Overweight/obesity/bariatrics is in second place and was indicated by 71.8% of all members of the profession. Diabetology, food intolerances and gastroenterology/abdominal surgery also play an important role in dietitians' daily work.
- In contrast, complementary medicine, for example, is a topic that only plays a key role in the daily work of 3.2% of members of the profession. Technical areas such as rheumatology, gynaecology and neurology also constitute focal areas in daily work of less than 10% of members of the profession.

**Assessment of the profession:**

- The diverse and varied work, the compatibility of work and private life, the independent way of working, and the possibility to incorporate one's own professional skills, ideas and visions into daily work were seen as positive upon assessment of the profession's attractiveness.
- The awareness of the profession, availability of jobs, opportunities for career progression and development, and salary appropriateness tended to be rated as negative.

## 2 Acknowledgements

The authors thank all dietitians who took the time to participate in the 2017 occupational statistics survey.

Thanks also go to Ludivine Soguel Alexander, the members of the Swiss Association of Registered Dietitians (SVDE) executive committee, and the various colleagues in the Nutrition and Dietetics Department who incorporated ideas into the development of the questionnaire, took part in the pretest, or checked through the publication.

### 3 Initial situation

The repositioning of dietetic training to university of applied sciences level (2004 in Western Switzerland/2007 in German-speaking Switzerland) was an important step in the development of the profession. The repositioning did not create a new profession, but had a major influence on the profession's scope. Compared to the previous training at college of higher education level, the bachelor's degree course offers a significant broadening of skills in scientific work, as well as in disease prevention and health promotion. For dietitians in industry and research, but also in disease prevention and health promotion, this opens up new areas of activity that go beyond the occupation's previous settings and increase occupational possibilities. The qualification at university of applied sciences level provides dietitians with access to training programmes at master's level, as well as a wide range of professional education courses at university of applied sciences level, to which dietitians had hitherto been excluded. As a result of this development, changes are expected in the professional context. In England for example, occupational changes are ascribed to the fact that the profession now has a growing evidence base. Previously, the impact of dietetic work was poorly understood (Hickson, Child & Collinson, 2017).

As there is scant available data on the dietetic profession in Switzerland, frequently only assumptions can be made. The last occupational statistics were published by Ludivine Soguel Alexander from the Haute école de santé (HEdS) Geneva in 2010 (Soguel Alexander, 2010). Another survey is essential to capture the current situation as well as developments in the profession. To date, the only current data available pertaining for instance to the occupational context in which dietitians work, or their situation regarding employment, training and professional education, is from Bern University of Applied Sciences graduates. Since 2011, the careers of those who completed their training to become dietitians in the years 2007 to 2012 have been monitored via a survey of former students, conducted at various points in time (Mahlstein & Bleuer, 2017). In addition, the start and progress of the careers of those graduating with health-related bachelor's degrees from all universities of applied sciences in Switzerland have been monitored nationwide since 2016 (Bucher, 2017). Salary data can be found in the 2017 UAS salary study conducted by UAS Switzerland (<http://fhlohn.ch/>), although this only includes 98 dietitians.

Amongst other things, the future range and quality of dietetic services depends greatly on the availability of dietitians. In this respect, workforce growth and the length of time spent in the profession are key success factors. With regards to job settings, an increase of 11.6% was observed in rehabilitation clinics between 2011 and 2014 (Dolder & Grünig, 2016), whilst the majority of dietitians work in acute-care hospitals. In the 2016 nationwide healthcare report for health professions, no statement could be made regarding the number of dietitians working in nursing homes (Dolder & Grünig, 2016). There is also a lack of current data on dietitians who work outside of the clinical setting, be it in the private sector, in prevention/health promotion, or in the education system, for example.

The Swiss Association of Registered Dietitians (SVDE) defined three focal areas in its strategy for the years 2015 to 2018:

- **"Income** – Dietitians have a fair income, which increases with age and experience, and sufficient work-related opportunities and jobs.
- **Awareness** – Dietitians are known and recognised as professional service providers specialising in dietetic counselling and therapy, both in the regulated healthcare market (basic obligatory health insurance) and in the free market (supplementary insurance schemes/self-payers).
- **Networking** – Dietitians have close ties with each other and strengthen one another by means of mutual recognition and appreciation, as well as through the exchange of experiences and knowledge." (Swiss Association of Registered Dietitians, 2015)

For the introduction of measures concerning income and awareness, it is essential to have sound data on hand. To facilitate this data collection, the Bern University of Applied Sciences (BFH) collaborated with the Swiss Association of Registered Dietitians (SVDE) in its 2017 occupational statistics project. This cooperation makes it possible to address the topic at the educational and vocational policy level. The 2017 occupational statistics project was based on the 2010 occupational statistics survey of SVDE members, conducted by Ludivine Soguel Alexander.

## 4 Goal of the project

The goal of the project is to provide a sophisticated representation of Switzerland-based dietitians' work settings, job conditions, education and professional development as well as their assessment of the profession's attractiveness. In this study, the term "dietitian" means people who hold a qualification in dietetic counselling and are registered in the National Register of Healthcare Professions (NAREG) at the time of the survey. People who are not registered in the NAREG but who work as dietitians in the clinical setting are also to be included.

A comprehensive survey of the situation enables future-oriented measures to be introduced, so that in future, enough dietetic professionals are available and departures from the profession are minimised. To ensure that employers can fill positions in the field of nutrition and dietetics, a sufficient number of dietitians is essential.

## 5 Dietetic counselling in Switzerland

### 5.1 History of dietetic training

In 1933, the first school for dietary assistants in Switzerland was founded by Prof. Gloor in Zurich. The purpose of the school was defined as follows: "To train daughters in theory and practice, so as to enable them to prepare medically and culinarily sound food (diets) for the ill" (Jacob, 2009).

The school in Zurich remained the only one of its kind in Switzerland for some time. No other such school was founded until 1944, in Geneva, and 1972, in Bern. In addition, the Swiss Association of Dietary Personnel was founded on the 21st of April 1942, which became the Swiss Association of Qualified Dietitians in 1992 and celebrated its 75th jubilee in 2017 under the name Swiss Association of Registered Dietitians (Fontana, 2017).

On top of this, 1981 saw the first groundbreaking change regarding the job title, from dietary assistant to qualified dietitian (Jacob, 2009). In December 1982, the Swiss Red Cross issued the first regulations and guidelines on the recognition of educational institutions that offer dietetic training programmes (Swiss Association of Qualified Dietitians, 1992; Swiss Red Cross, 1983). Accordingly, dietitians' qualifications were registered with the Swiss Red Cross (SRC) from 1984 onwards.

In order to operate in the international context, another important step was raising dietetic training to the level of university of applied sciences (in 2004 for Western Switzerland and in 2007 for German-speaking Switzerland). Obtaining a licence to practise the profession in Switzerland currently requires a bachelor's degree, the minimum level of training recommended by the International Confederation of Dietetic Associations (ICDA). The ICDA advocates a minimum requirement of bachelor's-level training and 500 hours of supervised professional practice for every dietitian. By 2016, a total of 34 ICDA member nations had implemented the bachelor's degree as minimum level for dietitians. France and Germany hadn't yet set bachelor's-level training as the standard, while in Japan, there are two different training programmes, one at bachelor's level and another at a lower level. In four countries, namely Finland, Iceland, New Zealand and Norway, the master's degree is the profession's entry level (International Confederation of Dietetic Associations, 2016).

### 5.2 Registered dietitians

As of 02/08/2018, there are 1,907 dietitians registered in the National Register of Healthcare Professions ([www.nareg.ch](http://www.nareg.ch)). Some of these dietitians are SVDE members. On 31/12/2017, the association counted a total of 1,284 members, consisting of 1,024 active members, 224 student members, 5 honorary members, 15 extraordinary members and 16 retired members (Swiss Association of Registered Dietitians, 2018).

Since 1984, degrees in dietetic counselling have been registered by the SRC. Table 1 shows how the number of registered dietetic counselling degrees in Switzerland has changed over time since 1984, along with the number of recognised foreign qualifications in the field since 2007. The number of registered degrees has risen significantly in the past decade. While a total of 403 dietetic counselling degrees were newly registered from 1998 to 2007 (not including recognised foreign qualifications), there were 584 from 2008 to 2017 (Swiss Red Cross, 2017).

Table 1: Number of degrees in dietetic counselling registered by the SRC since 1984

Year	Registrations under old regulations	Registrations under new regulations	Total registered Swiss degrees in dietetic counselling	Recognised foreign qualifications	Total Swiss degrees & foreign qualifications
1984	11		11		11
1985	10		10		10
1986	23		23		23
1987	28		28		28
1988	33		33		33
1989	36		36		36
1990	34		34		34
1991	41		41		41
1992	32		32		32
1993	34		34		34
1994	35		35		35
1995	36		36		36
1996	32		32		32
1997	32		32		32
1998	49		49		49
1999	50		50		50
2000	39		39		39

Year	Registrations under old regulations	Registrations under new regulations	Total registered Swiss degrees in dietetic counselling	Recognised foreign qualifications	Total Swiss degrees & foreign qualifications
2001	37		37		37
2002	35		35		35
2003	39		39		39
2004	50		50		50
2005	32		32		32
2006	36	17	53		53
2007	36	19	55	17	72
2008	28	22	50	11	61
2009	27	21	48	19	67
2010	1	16	17 <sup>1</sup>	18	35
2011		61	61	21	82
2012		57	57	18	75
2013		65	65	13	78
2014		70	70	19	89
2015		70	70	15	85
2016		71	71	5	76
2017		75	75	5	80

Since 2009, retroactive attainment of the university of applied sciences title (NTE) has been possible for dietitians with a CHE qualification (State Secretariat for Education, Research and Innovation, 2017). According to the State Secretariat for Education, Research and Innovation (SERI), 375 members of the profession had retroactively attained a university-of-applied-sciences degree by the end of 2017 (personal communication, SERI, 5th of February 2018) (Table 2).

Table 2: Number of retroactively attained university of applied sciences titles per year

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Number of NTEs	52	64	52	40	66	34	27	23	17	375

### 5.3 Shortage of dietitians

Due to a lack of data, no clear statements can be made on the shortage of dietitians in Switzerland. Often, dietetics is not classed as a single profession, but is counted in the healthcare system's group of therapeutic professions. Nevertheless, a shortage of dietetic professionals is suspected (Lobsiger, Morlok, Frey & Oswald, 2014).

This suspicion is reinforced by the fact that newly qualified dietitians are able to start their careers very quickly. At the time of graduation, 72.6% of graduates already have a dietetic position (Mahlstein & Bleuer, 2017). In addition, the proportion of unemployed members of the profession is very low (Mahlstein & Bleuer, 2017; Soguel Alexander, 2010). Another indicator of a possible shortage of dietitians is the lack thereof in certain job settings. For instance, there are practically no dietitians providing long-term care in retirement and nursing homes. The survey of the employment situation of BFH graduates with a BSc in nutrition and dietetics shows that only around 1% of all graduates work in long-term care, with a low number of working hours on a part-time basis (Mahlstein & Bleuer, 2017).

<sup>1</sup> The number of registered degrees was very low in 2010 because in German-speaking Switzerland, the conversion from CHE to UAS occurred and no dietitians received a degree in 2010.



No statement on the activity of dietitians in long-term care can be made on the basis of the 2010 occupational statistics survey (Soguel Alexander, 2010). This job setting was not explicitly included in that survey, which in itself can be seen as a statement about the setting's relevance. Although the use of dietitians in nursing homes is recommended (Arvanitakis, Coppens, Doughan & Van Gossum, 2009), the current data shows that dietitians' potential is not being tapped in this area of the healthcare system. At the same time, a 2013 bachelor's thesis at the Bern University of Applied Sciences shows that, in order for retirement and nursing homes to make use of this profession, dietitians must demonstrate the benefits being part of the interdisciplinary team more clearly (Birrner, 2013). The current job situation in dietetics is very positive from the job seeker's point of view, such that members of the profession can obtain a job without going to the effort of entering new job settings where there is currently little, or too little, dietetic work.

The clinical setting still represents the largest job setting for dietitians (Mahlstein & Bleuer, 2017; Soguel Alexander, 2010). In the 2010 occupational statistics, 44.9% of all positions (267 out of 606) were attributed to the clinical setting. Close cooperation with a wide variety of different employers has made the SVDE and BFH aware of statements to the effect that it has become increasingly difficult for employers to fill vacancies with Swiss professionals in recent years. These statements are understandable: in the survey of BFH graduates with a BSc in nutrition and dietetics for instance, it is evident that dietitians find a job very quickly after graduation or are given continued employment directly at the place where they complete their mandatory additional module B at the end of their degree (Mahlstein & Bleuer, 2017). According to the 2016 nationwide healthcare report for health professions, today's training programmes will cover 90.7% of the annual demand for new professionals up until 2025 (Dolder & Grünig, 2016). According to Dolder and Grünig (2016), it is essential to invest in measures that increase the number of new dietitians and, at the same time, to initiate measures that encourage dietitians to remain in the profession, or that facilitate their return to the profession.

Another assessment of the potential for dietetic professionals in Switzerland can be made by looking beyond this country's borders. In 2016, the International Confederation of Dietetic Associations (ICDA) published figures on the number of dietitians per 100,000 residents in each country. The figures show major differences, ranging from 0.19/100,000 in Indonesia to 39.3/100,000 in Japan. With around 13 members of the profession per 100,000 residents, Switzerland is ranked in the upper-middle tier of the country list (International Confederation of Dietetic Associations, 2016).

The universities of applied sciences and the SVDE are aware of the need to train more professionals in nutrition and dietetics. The opening of a new university of applied sciences dietetic training course in 2015, along with the increase in student numbers in Bern and Geneva, should remedy this situation. Accordingly, a further annual increase in newly qualified dietitians is expected in the coming years.

#### **5.4 Expectations of the profession**

Starting in spring 2016, the nationwide survey of healthcare graduates from universities of applied sciences in Switzerland examines, among other things, what students expect from their future profession at the end of their degree. Initial data shows that the most important factor for those studying health professions is the feeling of doing something meaningful (Bucher, 2017).

Unpublished data from the aforementioned nationwide survey of BFH graduates with a BSc in nutrition and dietetics (see Figure 1) shows that 'good compatibility of work and private life' is most important, followed by 'doing something meaningful', and 'personal and professional development' (Mahlstein, 2018). The expectation regarding good compatibility of work and private life appears to have been met. Among the graduates with a BSc in nutrition and dietetics, 90% rate the compatibility of work and private life as quite appealing or appealing (Mahlstein & Bleuer, 2017).

Expectations regarding 'good salary' and 'good opportunities for career progression' are at the bottom of the list. Although these expectations are ranked lowest, they are not irrelevant to graduates. For 89% of the BFH graduates with a BSc in nutrition and dietetics, a good salary is quite or very important. Only 11% say that a good salary has little importance in their future job (Mahlstein, 2018).

The first discrepancies between expectations and the work reality also become evident in the results from the survey of BFH graduates with a BSc in nutrition and dietetics. Five years after graduation, 86% of participants say their salary is not appealing or barely appealing, and the situation is similar regarding opportunities for professional development, which 73% rate as not appealing or barely appealing (Mahlstein & Bleuer, 2017).

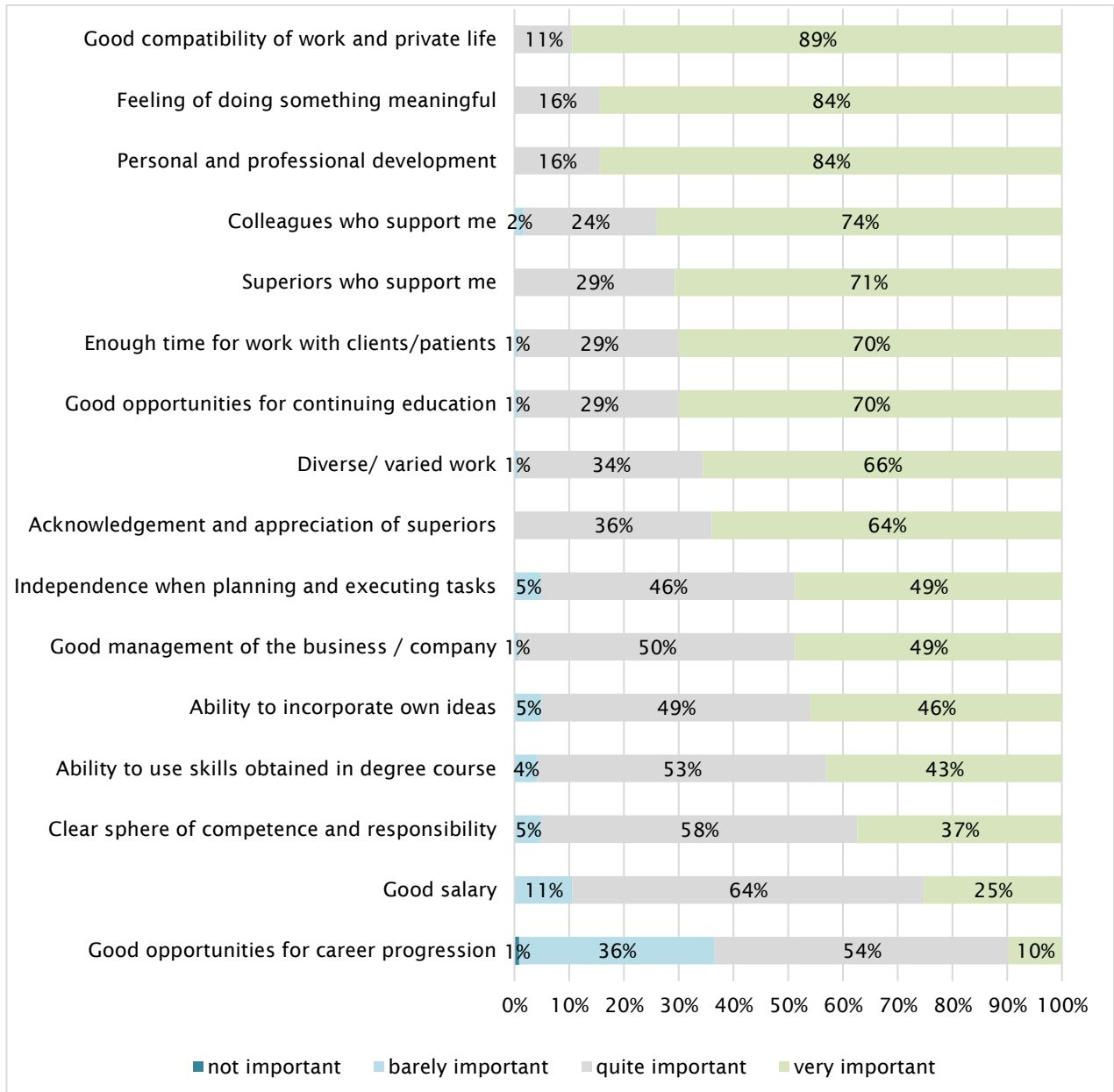


Figure 1: Expectations of future professional work among BFH students at end of BSc degree in nutrition and dietetics (n = 123)

Dietitians as an occupational group represent one of the smallest healthcare disciplines at universities of applied sciences. As of 02/08/2018, there are 1,907 dietitians registered in the National Register of Healthcare Professions (NAREG). In contrast, the NAREG counts 22,261 professionals working in physiotherapy, 4,758 in occupational therapy, 6,429 in obstetrics, 1,601 in speech therapy and 133,310 in nursing.

Awareness of a profession and the opportunities for professional development available depend greatly on the size of the occupational group. It is a challenge, for instance, to set up appealing training and professional education courses in languages covering the four linguistic regions and meeting the diverse needs of individual dietitians in such a small profession. The currently rather limited range of programmes must be expanded soon, so as to offer members of the profession new prospects and to prepare them for taking on demanding roles in integrated healthcare models. Another important step is to set up a Master of Science programme for members of the profession who wish to develop their therapeutic and counselling skills further.

## 6 Methodology

### 6.1 Study design and study population

The online survey was designed as a full-population survey, with the goal of surveying all dietitians who are legally recognised in Switzerland. The basic population comprises all people holding a qualification in dietetic counselling and registered in the National Register of Healthcare Professions (NAREG) at the time of the study. People not registered in the NAREG but working as dietitians in the clinical setting were also included.

The data in the NAREG served as the basis for the compilation of a list of names and addresses. As Switzerland has no national register that contains dietitians' contact details, lengthy research was conducted, so as to compile a comprehensive address list. The following channels were used as data sources, in order to obtain the required email contact details for the online survey:

- SVDE: list of SVDE members
- Haute école de santé, nutrition and dietetics degree programme: email addresses of dietitians managing dietetic placements and former students
- Bern University of Applied Sciences, Health Professions, nutrition and dietetics degree programme: email addresses of dietitians managing practical placements and former students
- Internet: individual research based on the list of names from the NAREG
- Internet: individual research on clinics' websites, seeking dietitians not registered in the NAREG
- Individual requests sent to dietitians, asking for addresses of former classmates

### 6.2 Questionnaire development and pretest

The survey was executed as an online survey. Previous dietetic occupational statistics surveys were conducted with a paper questionnaire. Several adjustments were made accordingly to the 2010 data collection tool and a more comprehensive questionnaire was created. The 2017 questionnaire was designed with the goal of surveying the heterogeneous employment situation of dietitians in Switzerland, the training and professional education completed by members of the profession, and their assessment of the profession's appeal.

The first question block, "Training to Become a Dietitian", covered the educational institution, year of graduation and highest qualification, including questions on foreign qualifications. The second question block, "Training", covered whether another training course or study in another discipline was completed before or after dietetic training. The "Professional education" question block covered the number of completed professional education courses with at least 10 ECTS credits or 300 hours' work, as well as the type and category of professional education. The content of questions on training was carried over from the 2010 questionnaire and supplemented with questions from the second question block, as well as a more detailed list of professional education courses.

The question block "Current Job" covered whether the survey participant was working as a dietitian at the time of the survey. This question block contained questions covering reasons for no longer being active in the profession and length of time spent in the profession. If a survey participant was working as a dietitian, the question blocks "Employment Context" and "Occupation" came next.

The question block "Employment Context" asked how many jobs the survey participant had. Next, different question blocks asked about the job situation regarding a maximum of three different positions. One question block served to provide a description of the job setting and another covered employment status, working hours and income. Those working as employees were asked about their monthly or hourly salary and the self-employed were asked about their annual income for the year 2016. Unlike in the previous questionnaire, income per occupation was surveyed and the nomenclature of the job settings was partially adjusted and expanded.

The question block "Activities in Daily Work" addressed each job separately and served to determine how often which activities are carried out daily by dietitians who work in the clinical or dietetic practice setting and who charge for their services via health insurance. This question block contained questions on activities relevant to the clinical or practice setting, e.g. outpatient dietetic counselling. It also included specific questions targeting the clinical workplace, e.g. on inpatient dietetic therapy or

participation in ward rounds, as well as questions geared towards the practice setting, e.g. projects at primary schools or mandates for companies.

The situation regarding training and professional education, as well as the employment context, was surveyed in more detail than in the previous questionnaire. A new question block was added, pertaining to assessment of the profession. This included, for example, questions on the compatibility of work and private life, opportunities for professional education and professional development, appropriateness of salary, and awareness of the profession.

The pretest was conducted in May 2017 with BFH staff, members of the SVDE executive committee, HES-SO staff and BFH students. The questionnaire was checked and evaluated with respect to clarity of questions, content, time required for the survey, and how smoothly the technical procedure went. The questionnaire was translated into French and Italian by the company weiss traductions.

### **6.3 Data collection**

The online survey was conducted from the 23rd of June 2017 to the 6th of August 2017 via the web-based survey software EvaSys, with a fully standardised questionnaire in German, French and Italian.

Each dietitian received a link to the online questionnaire via email, with an individual single-use TAN (transaction authentication number). The TAN procedure ensured that only dietitians could fill in the questionnaire and prevented them from participating more than once. The TAN was automatically deleted after completion of the survey. This procedure made it possible to increase participation by sending out an additional written reminder about completing the online survey to all those who had not yet used their TANs on the 12th and 26th of July 2017.

### **6.4 Data evaluation**

All statistical evaluation was conducted with the statistics software SPSS (version 24). The data was prepared and cleaned before being descriptively and analytically evaluated.

For the descriptive statistics, absolute and relative frequencies were used. Categorical variables like socio-demographic factors used to describe the study population (gender, children under 18, SVDE membership, payment office registry (ZSR) number), details about training (educational institution, foreign qualifications, highest qualification), professional education, areas of professional focus, and assessment of the profession were evaluated and presented using absolute and relative frequencies. Due to rounding differences, the sum of relative frequencies may deviate slightly from 100%.

The indicated year of graduation was subtracted from the year of the survey (2017) to calculate a new variable: Years in the Profession. The Age variable was divided into nine categories (21–25, 26–30, 31–35, 36–40, 41–45, 46–50, 51–55, 56–60 and  $\geq 61$ ) and the Years in the Profession variable (number of years since graduation) was divided into eight (up to 5, 5–10, 11–15, 16–20, 21–25, 26–30, 31–35 and  $\geq 36$ ). Each canton of residence was allocated to one of the seven major regions (Lake Geneva Region, Espace Mittelland, Northwestern Switzerland, Zurich, Eastern Switzerland, Central Switzerland or Ticino) as specified by the Federal Statistical Office (Federal Statistical Office, 2018b). The variable Number of Extensive Further Training Courses was re-coded as a dichotomous variable (no professional education course/at least 1 professional education course). The job settings including the acute-care hospital, the rehabilitation clinic, the psychiatric clinic, and the retirement and nursing home were combined as a single variable: Clinical Setting. The job settings including the one-person dietetic counselling practice, the dietetic counselling group practice and the medical care centre were re-coded as the variable Practice setting.

For numerical variables covering age, years in the profession, length of stay in the profession, and number of people in a dietetic practice, the mean and the standard deviation were used. For salary data, the median was used.

The gross annual salary with working hours amounting to 100% of a full-time job was extrapolated from the indicated gross monthly salary and working hours. If a 13th month's salary was received, the corresponding share was added, then multiplied by 12 for the full year. The gross annual salary was calculated for the indicated salaries from the first, second and third simultaneous jobs. The gross annual salary relates to an occupation as an employee. The annual income with working hours amounting to 100% of a full-time job was extrapolated from the indicated 2016 annual income and working hours

and relates to a self-employed position. The gross annual salary and the annual income were checked for extreme values (3 times the interquartile range) via explorative data analysis. Gross monthly salaries below CHF 3,000 and over CHF 27,000, annual incomes below CHF 20,000 with working hours amounting to 100% of a full-time job, and obvious incorrect entries were all replaced with blanks.

Questions on assessment of the profession were answered on a Likert scale with 5 levels, from "completely accurate" to "completely inaccurate". Questions on how often various activities are conducted in the clinic and practice work environments were also answered on a Likert scale with 5 levels, from "very often" to "never".

The t-test, single-factor analysis of variance and ordinal regression were used for the analytical statistics. The t-test was used to analyse differences in gross annual income between those with and without a managerial role. Single-factor analysis of variance (ANOVA) was used to test the influence of age (in age groups), and of the number of completed professional education courses, on the gross annual salary. Ordinal regression was used to test the influence of various factors, such as gender, age (in groups), years in the profession (in groups), qualification, and number of professional education courses, in relation to assessment of the profession (salary appropriateness and awareness of the profession). For all tests, the significance level  $\alpha$  was set to 0.05.

Evaluation of open questions was conducted with the software program MAXQDA (version 2018). This was used to evaluate answers to the open question on reasons for vocational reorientation, as well as the descriptions of study or training completed before or after dietetic training. The categories were formed inductively.

## **6.5 Ethical aspects**

The information sent via email, which contained the link to the survey, also included details about confidentiality, data protection and anonymity. The collected data is to be used for occupational statistics and no other purpose. Participation in the survey was voluntary.

Moreover, special care was taken to ensure anonymity in the descriptive data.

## 7 Results

The results of the 2017 occupational statistics are described in detail below. Due to the abundance of data, and in order to make this article easier to read, the authors have decided to compare the results with those of the 2010 occupational statistics, and with literature from abroad, directly within this results section.

### 7.1 Response

The questionnaire was sent via email to a total of 1,470 dietitians registered in Switzerland. There were 67 people to whom the survey link could not be sent because of invalid email addresses. After another search for addresses, the link was resent to 37 people, with 5 of these deliveries unsuccessful. In total, the questionnaire was successfully delivered to 1,435 people.

A total of two written reminders were sent. After the first dispatch of the questionnaire, 381 people took part in the survey. Another 244 filled in the questionnaire after the first reminder and another 133 after the second.

There was a response from 758 of the 1,470 emailed people and a total of 35 failures due to invalid addresses. This amounts to a response rate of 51.6% and a failure rate of 2.4%.

Two of the 758 returned questionnaires contained no data and were excluded. Thus, a total of 756 questionnaires were included in the data evaluation.

### 7.2 Description of target population

The majority of the 756 dietitians who took part in the survey reside in German-speaking Switzerland. The distribution of study participants among the various regions of residence approximately matches the distribution of the resident population among Switzerland's seven major regions (Table 3). At the time of the survey, 29 of the dietitians were residing abroad. Out of the 756 survey participants, 8 (1.1%) did not specify their canton of residence.

Table 3: Switzerland-based study participants' region of residence (n = 719)

Major Swiss region as per FSO (Federal Statistical Office, 2018b)	Number of participating dietitians per major region	Regional distribution of participants in 2017 occupational statistics study (%)	Regional distribution of Switzerland's permanent resident population at end of 2018's first quarter (%)
Lake Geneva Region (VD, VS, GE)	136	18.9	19.2
Espace Mittelland (BE, FR, SO, NE, JU)	193	26.8	22.0
Northwestern Switzerland (BS, BL, AG)	98	13.6	13.6
Zurich (ZH)	130	18.1	17.7
Eastern Switzerland (GL, SH, AR, AI, SG, GR, TG)	78	10.8	13.8
Central Switzerland (LU, UR, SZ, OW, NW, ZG)	55	7.6	9.5
Ticino (TI)	29	4.0	4.2

In total, 705 participants (95.3%) were female, 35 (4.7%) were male and 16 did not specify their gender. The gender distribution was similar in the 2010 occupational statistics, where the proportion of female participants was 96.5% (Soguel Alexander, 2010). Nevertheless, the number of male participants doubled, from 17 in 2010 to 35 in 2017. A very similar gender distribution is also to be found in this occupational group in the USA, where the proportion of women is 97% (Academy of Nutrition and Dietetics, 2015), as well as in South Africa, with 97.5% (Mackenzie, 2008). A study from Iran, on job satisfaction among "dietetic practitioners", shows a higher proportion of men in this professional field, at 13.8% (Ahmadi, Ranjbar Zahedani, Moazen, Hassan Eftekhari & Sareh, 2014).

On average, dietitians in Switzerland are  $40 \pm 10.7$  years old and have been working for  $15.3 \pm 11.4$  years in the profession. By way of comparison, dietitians in the USA had an average (median) age of 42 and 13 years' experience in the profession in 2017 (Rogers, 2018). Just two years earlier, the average age in the USA was still as high as 49 and the average number of years' experience in the profession was 19 (Academy of Nutrition and Dietetics, 2015). In 2015, the age structure among dietitians in the USA was such that 29% were aged 55–64 and this was the largest age group (Academy of Nutrition and Dietetics, 2015). The marked changes between 2015 and 2017 are put down to the baby-boomer generation's long-awaited retirement wave (Rogers, 2018). In contrast, those aged 26–35 make up the largest 10-year age group in Switzerland, accounting for 38.5%.

The 2017 occupational statistics show that as age and number of years' experience in the profession increase, the number of participants decreases, which is presumably related to the fact that fewer dietitians were trained in Switzerland in the past (see section 0) and the fact that it proved harder to find email addresses for older members of the profession.

A total of 468 dietitians (62.2%) state that they have no children under the age of 18, while 285 (37.8%) do have children under 18. Three people did not answer this question. Here, the picture has changed since the 2010 occupational statistics. In the 2010 survey, 47% stated that they had children under 18 (Soguel Alexander, 2010), so the proportion of members of the profession without children under 18 has risen by almost 10%. One reason for the significant deviation is surely that the proportion of members of the profession aged 35 or younger is considerably higher in the 2017 occupational statistics, at 42.4%, compared to around 35% previously. At the same time, surveys conducted by the Federal Statistical Office show that the average age of mothers giving birth has constantly risen since 1975. This age increase among mothers giving birth is also evident between 2010 and 2016 (Federal Statistical Office, 2017).

A good 75% of participants are SVDE members. Unlike in the 2010 occupational statistics, another 185 dietitians who are not SVDE members were also reached. The 2010 survey only included SVDE members. Around one third (31.6%) of the participants have a payment office registry (ZSR) number (Table 4).

Table 4: Description of study participants

	Dietitians	
	Count	Percentage
<b>Gender</b>	<b>n = 740</b>	<b>%</b>
Female	705	95.3
Male	35	4.7
<b>Age</b>	<b>n = 746</b>	<b>%</b>
21–25	29	3.9
26–30	153	20.5
31–35	134	18.0
36–40	110	14.7
41–45	81	10.9
46–50	83	11.1
51–55	91	12.2
56–60	46	6.2
≥ 61	19	2.5
<b>Years in the profession</b>	<b>n = 743</b>	<b>%</b>
Up to 5	187	25.2
6–10	142	19.1
11–15	108	14.5
16–20	73	9.8
21–25	61	8.2
26–30	74	10.0
31–35	53	7.1
≥ 36	45	6.1

	Dietitians	
	Count	Percentage
<b>Children aged under 18</b>	<b>n = 753</b>	<b>%</b>
Yes	285	37.8
No	468	62.2
<b>SVDE member</b>	<b>n = 752</b>	<b>%</b>
Yes	567	75.4
No	185	24.6
<b>ZSR number</b>	<b>n = 748</b>	<b>%</b>
Yes	236	31.6
No	512	68.4

Dietitians participating in the survey are shown distributed by year of graduation in Figure 2, grouped in five-year brackets. As was to be expected, those who graduated most recently (2011–2015) make up the group with the most members of the profession in the 2017 occupational statistics survey, at 24.5% (182). Those graduating from 2016 onwards account for only a low number of dietitians, as there was only one year's graduates to include at the time of the survey.

In most groups, participation was similar to that seen in the 2010 occupational statistics. In many subgroups, the 2017 occupational statistics show slightly higher participation, which can be explained by the fact that this survey was not limited to SVDE members and that the questionnaire was sent online.

Greater deviations in participation are seen in the 1991–1995 bracket, where a clear 25% decrease in participation occurred. A significant increase in participation, of around 60%, is seen in the 2006–2010 bracket.

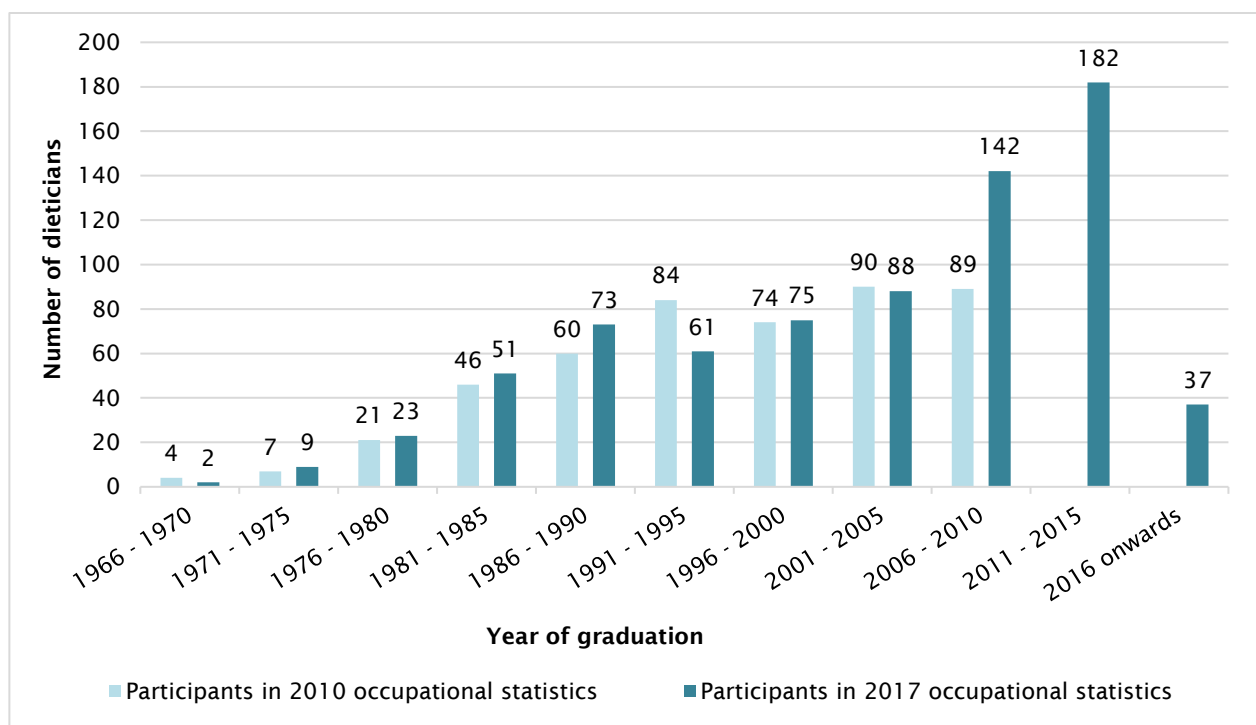


Figure 2: Study participants' year of graduation (n = 743)

### 7.3 Dietetic Training

Of those taking part in the study, 675 (89.4%) completed their training in Switzerland and 80 (10.6%) obtained their dietetic qualifications abroad (Figure 3). One person did not specify where they trained. The proportion of dietitians who obtained their qualifications abroad was already at 10% in the 2010 occupational statistics (Soguel Alexander, 2010).

Of those who obtained their qualifications in Switzerland, 453 (67.1%) completed their training at a college of higher education (CHE) and 222 (32.9%) at a university of applied sciences (UAS). Of the 453 dietitians who obtained their qualifications at CHE level, 246 now have at least a bachelor's degree.



The largest group of study participants graduated from the 'Schule für Ernährungsberatung' in Zurich (26.1%). A total of 153 participants (20.3%) obtained their qualifications at the Bern University of Applied Sciences. Graduates from HES-SO Geneva made up the smallest group (9.1%) (Figure 3).

In terms of linguistic regions, 495 people (65.6%) graduated in German-speaking Switzerland, 180 (23.8%) in Western Switzerland and 80 (10.6%) abroad. In the 2010 occupational statistics, the distribution was the same, with 67% graduating from educational institutions in German-speaking Switzerland, 23% in Western Switzerland and 10% abroad (Soguel Alexander, 2010).

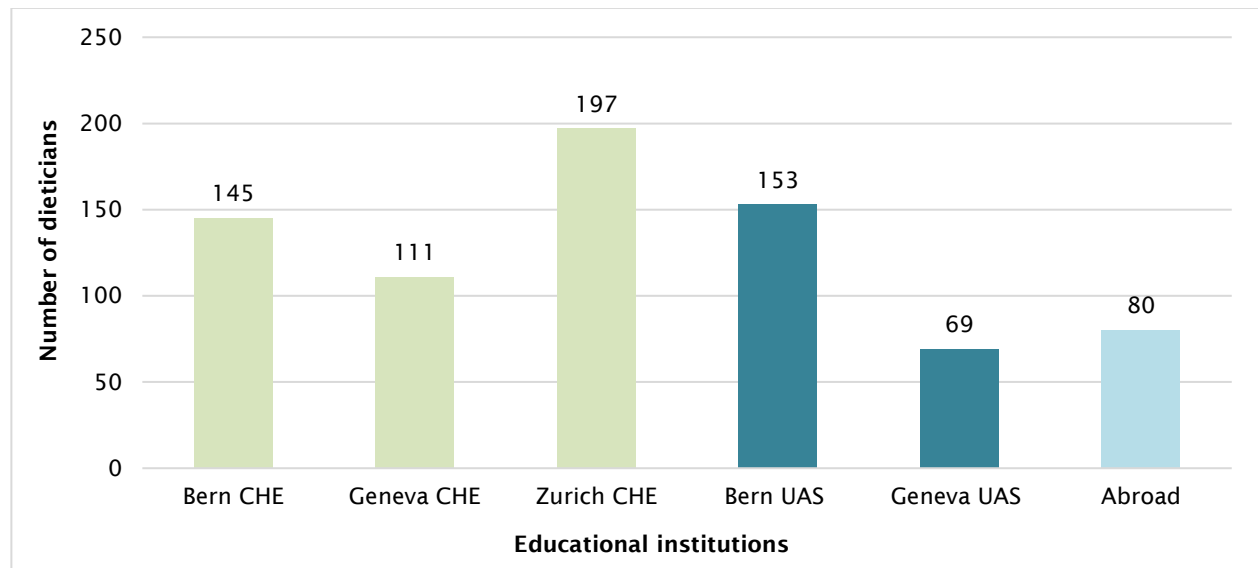


Figure 3: Educational institutions where study participants completed their training (n = 755)

People who obtained their qualifications abroad mainly did so in Germany (25.3%), France (20%) or Italy (21.3%). Around 50% of these qualifications were university degrees. Among holders of foreign qualifications, the SRC had recognised 92.5% of these qualifications by the time of the survey.

Table 5: Foreign qualifications (n = 80)

	Count	Percentage
<b>Country of graduation</b>	<b>n = 75</b>	<b>%</b>
Belgium	3	4.0
Germany	19	25.3
France	15	20.0
Holland	7	9.3
Italy	16	21.3
Austria	5	6.7
USA	2	2.7
Other	8	10.7
<b>Graduating institution</b>	<b>n = 79</b>	<b>%</b>
University of applied sciences	22	27.8
University	38	48.1
Other	19	24.1
<b>Request for recognition submitted to SRC</b>	<b>n = 80</b>	<b>%</b>
Yes, qualification recognised	74	92.5
Yes, request denied	2	2.5
No	4	5.0

The 80 holders of foreign qualifications hold a total of 94 jobs, whereby the region was specified for 83 of these positions. Holders of foreign qualifications are present in all job settings, but the job settings in which they mainly work are the clinical setting (52 positions: 39 × acute-care hospital, 8 ×

rehabilitation clinic, 5 × psychiatric clinic) and the practice setting (27 positions: 18 × one-person dietetic counselling practice, 5 × dietetic counselling organisation, 4 × group practice).

Among the 83 positions for which the region was specified, the most frequently indicated workplace canton is Ticino, with 29 instances, followed by Valais with 12, then Zurich and Basel Stadt with 6 each.

#### 7.4 Highest educational qualification

About a third of the participants hold a CHE title as their highest qualification. Around two thirds of dietitians hold at least a bachelor's degree (Figure 4).

In total, 46 people (6.1%) stated that they hold a Master of Science (MSc) or Master of Arts (MA). Among the 46 people whose highest educational qualification is at master's level, 41 specified the title, of which 23 qualifications were clearly a Master of Science or Master of Arts. Three were Master of Advanced Studies (MAS) degrees. For 11 of the named degrees, the information on the master's title was such that it was not clear whether they were MSc/MA or MAS degrees. Under professional education, 14 people who indicated that they hold an MAS also stated that they hold an MSc/MA as their highest educational qualification. It is therefore to be assumed that, based on evidence from the data evaluation, the proportion of dietitians who hold an MSc or MA degree is likely to be somewhat lower than the aforementioned 6.1%. In the 2010 occupational statistics, 9 participants had a master's degree (Soguel Alexander, 2010).

Of the 46 people who stated that they hold an MSc/MA, 9 (19.6%) no longer work in the profession.

Three people (0.4 %) hold a doctorate. In the 2010 occupational statistics, there was one person with a doctorate (Soguel Alexander, 2010).

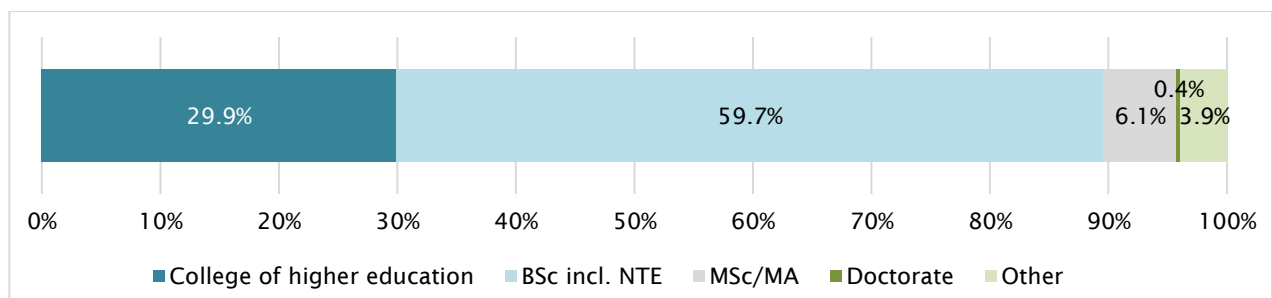


Figure 4: Percentage frequency of highest educational qualification (n = 750)

A glance beyond this country's borders shows that academisation has made more progress in other countries than in Switzerland. For instance, 50% of "registered dietitian nutritionists" in America hold a master's degree and 4% hold a doctorate (Rogers, 2018). In Iran, 17.9% held an MSc degree and 4.2% a doctorate in 2012 (Ahmadi et al., 2014). In South Africa, 9.1% were in possession of a master's degree and 3.5% had a doctorate in 2008 (Mackenzie, 2008).

Among the 453 graduates from the colleges of higher education in Bern, Geneva and Zurich, 192 (42.4%) still hold a CHE qualification today. Those whose highest educational qualification is a CHE title have an average age of 46.5 years. 16 people (8.3%) obtained their qualification in the period 1970–1979, 48 (25.0%) in 1980–1989, 52 (27.1%) in 1990–1999 and 72 (37.5%) in 2000–2009. Four people (2.1%) did not specify their year of graduation.

In total, 258 (57.0%) of the 453 CHE graduates have either completed the professional education courses required in order to retroactively attain a title, or have retroactively attained a title by acquiring a qualification in the form of an MSc/MA from an additional education course. People who retroactively attained the UAS title have an average age of 42.0 years. Three people who obtained their qualifications from a college of higher education did not specify their highest educational qualification. In the 2010 occupational statistics, 13.8% (59 out of 427 people) stated that they had retroactively attained a title (Soguel Alexander, 2010). This small proportion of members of the profession with a retroactively attained title in 2010 can be explained by the fact that it has only been possible to retroactively attain a title since 2009. As evident in Table 2 (page 8), the majority of dietitians who retroactively attained a title did so in the period 2009–2013. Since 2014, there has been something of a downward trend in retroactively attained titles.

## 7.5 Additional training/study

In total, 314 out of 753 people (41.7%) stated that they completed another training course before or after training to become a dietitian (Figure 5). The name of the completed training course was specified by 310 people. The most frequently indicated form of training was commercial vocational training, with 53 instances, followed by training to become a chef (40). Of those who trained to become a chef, 11 people also obtained a qualification as a dietary chef. Also frequently mentioned were vocational training courses for those wishing to become the following: pharmacist (23), adult educator (17), teacher (16), pharmaceutical assistant (15), healthcare professional or nurse (12), medical practice assistant (9), chemical laboratory assistant (6) and home economics teacher (5).

The names of the completed training courses show that some of these were professional education in the form of a certified course, CAS, DAS or MAS<sup>2</sup>. Accordingly, the actual number of people who completed a training course such as an apprenticeship, a teacher training course leading to a teacher's certificate, or a course at a college of higher education, is somewhat lower.

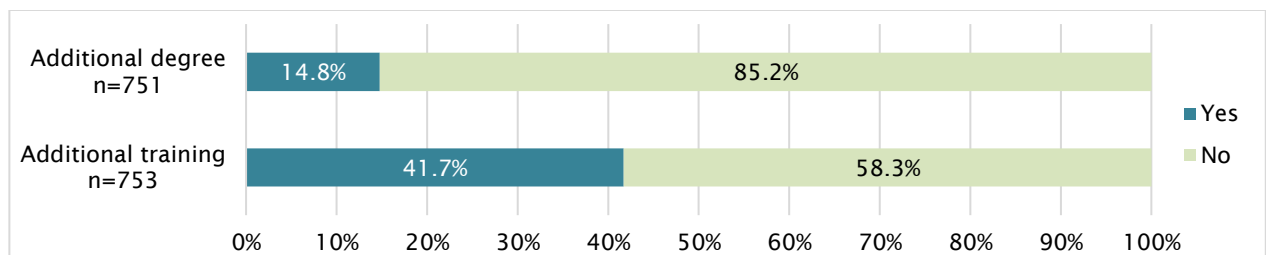


Figure 5: Additional training or study before or after dietetic training

In addition, 111 out of 751 people (14.8%) stated that they completed a degree course in another discipline at a university of applied sciences or university before or after training to become dietitians. Among these, 96 people specified the degree course. The completed degree programmes vary greatly and cover a very wide range of disciplines. Many of the completed degree programmes are in the fields of psychology, social affairs, management and education.

Among the 111 programmes specified, 35 were either MAS (8), CAS (19) or DAS (8) and therefore professional education courses. Accordingly, the actual number of people who completed a degree course before or after dietetic training is somewhat lower (around 79 people, so about 10%).

## 7.6 Extensive further training

### 7.6.1 Number of professional education courses

Out of 663 dietitians, 218 (32.9%) have completed at least one extensive further training course amounting to a minimum of 300 hours or 10 ECTS credits (Figure 6). In the 2010 occupational statistics, it was just 26% (Soguel Alexander, 2010). Accordingly, the number of dietitians having completed an extensive further training course has risen by around 7% since 2010. A total of 75 people (11.3%) have attended two or more extensive further training courses.

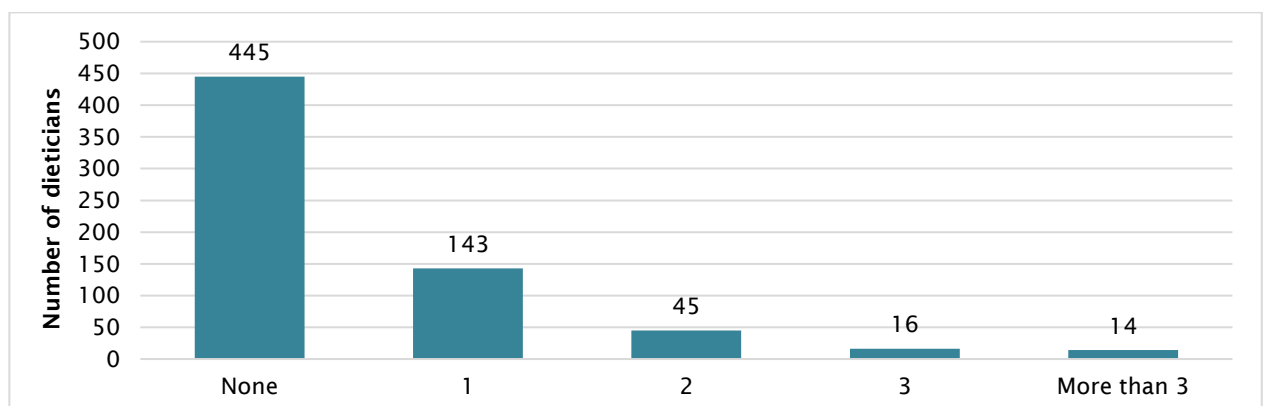


Figure 6: Number of completed professional education courses amounting to  $\geq 300$  h or 10 ECTS credits (n = 663)

<sup>2</sup> CAS: at least 10 ECTS-Credits / DAS: at least 30 ECTS-Credits / MAS: at least 60 ECTS-Credits

The older the dietitian and the more experience in the profession they have, the higher the number of extensive further training courses they have completed. On average, dietitians yet to complete any extensive further training are 38.8 years old and have 13.7 years' experience in the profession. In comparison, people who have completed three extensive further training courses are 47.2 years old on average and have 25 years' experience in the profession (Table 6).

Table 6: Age and experience in the profession in relation to number of professional education courses

	Number of extensive further training courses			
	None	One	Two	Three
Age (years)	38.8	40.9	43.0	47.2
Years in the profession	13.7	15.7	20.0	25.0

With regards to the highest educational qualification, it is evident that dietitians with a higher qualification are more likely to have also completed an extensive further training course. Among members of the profession with a CHE qualification, 23% have completed at least one extensive further training course, compared to 35% among those with a BSc degree. Among members of the profession with an MSc degree, 44% have completed at least one extensive further training course.

Further differences in the completion of extensive further training courses are evident between graduates from universities of applied sciences in the various linguistic regions. Among graduates from the Bern University of Applied Sciences, 14.4% state that they have completed at least one extensive further training course. Among graduates from the University of Applied Sciences and Arts of Western Switzerland in Geneva, 34.4% state that they have completed at least one extensive further training course. There are also differences between those with children aged under 18 and those without. In total, 37.1% of people with children under 18 years of age state that they have completed at least one extensive further training course, versus 30.4% of those with no children under 18. The lower figure among people with no children is probably linked to the lower average age in this group.

### 7.6.2 Type of professional education

The largest percentage of completed professional education courses are those in the form of a CAS/DAS (51.1%). In total, 33 of the indicated professional education courses (11.8%) have the scope of an MAS or MBA.

Out of the total 280 professional education courses indicated, the majority (55.0%) were categorised as professional specialisation. In total, 31.1% of the completed professional education courses were categorised as methodology/didactics. The categories of management and research account for 7.1% and 6.8% respectively (Figure 7).

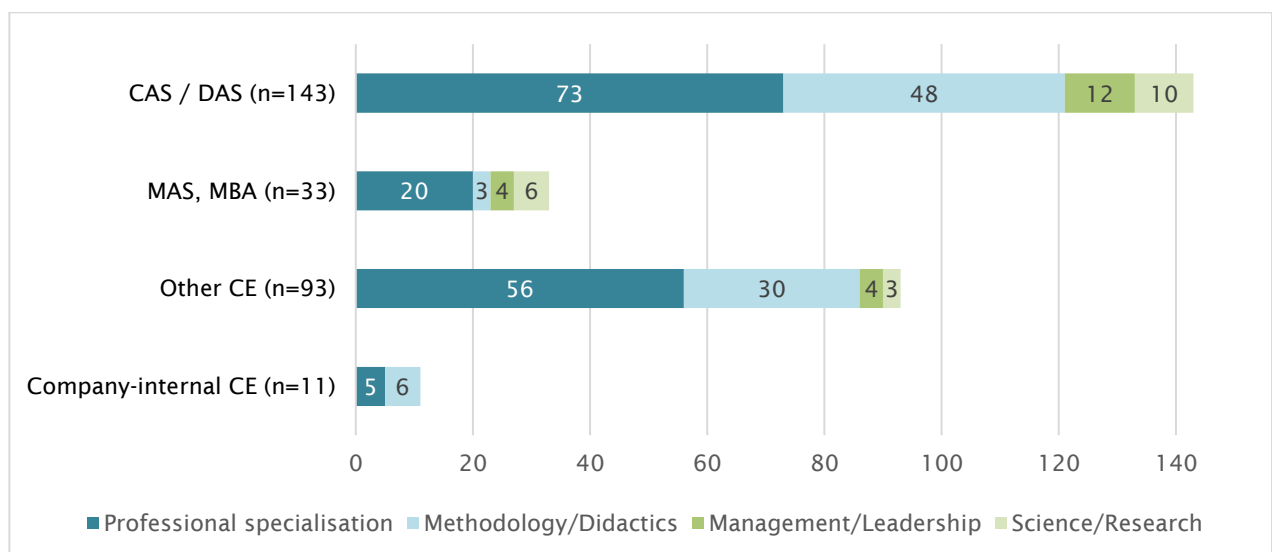


Figure 7: Type and content of professional education courses (n = 280)

## 7.7 Current occupational situation

The number of people who provided information on their current occupational situation was 756. In total, 88.8% (671 people) currently work as dietitians and 11.2% (85 people) do not work in the profession (Table 7). "Working as a dietitian" was understood to mean any job requiring skills that were obtained while training to become a dietitian. A similar definition was used in the USA for the 2015 Compensation & Benefits Survey of the Dietetics Profession. In that survey, the proportion of professionals not currently working as dietitians was 18% (Academy of Nutrition and Dietetics, 2015). Thus, the proportion of professionals not working in the profession is somewhat higher in the USA than in Switzerland.

Compared to the earlier occupational statistics surveys, the number of people no longer working in the profession (85) has risen significantly. There were 15 people in 2010, 16 in 2008 and six in 2005 (Soguel Alexander, 2010). This circumstance is probably due to the fact that the earlier surveys only covered SVDE members, whereas the 2017 occupational statistics targeted all qualified dietitians.

Table 7: Current occupational situation

	Count	Percentage
<b>Current occupational situation</b>	<b>n = 756</b>	<b>%</b>
Working as a dietitian	671	88.8
Not working as a dietitian	85	11.2
<b>Reason for not working as dietitian</b>	<b>n = 85</b>	<b>%</b>
Vocational reorientation	37	43.5
No job found	6	7.1
Care of children/relatives	19	22.4
Personal time-out	2	2.4
Long trip/language-immersion course	6	7.1
Further training/study	8	9.4
Retired	4	4.7
Other	3	3.5

Dietitians no longer working in the profession have 9.4 years' professional experience in dietetic counselling on average. However, the amount of experience ranges from 0 to 34 years.

The most common reason for no longer working as a dietitian is vocational reorientation (Table 7). The 37 survey participants who no longer work as dietitians because of vocational reorientation stated the following reasons for vocational reorientation:

- Interest in a different or broader field of work
- Insufficient income
- Job market situation
- Lack of opportunities to develop or of professional prospects

Reorientation outside the profession may also have occurred among those people who stated that they could not find a job or completed further training/study.

The reasons for not working as a dietitian are similar to those shown in the USA survey. There, the most commonly stated reason is care of children, followed by having found a better-paid job outside the profession, with vocational reorientation in third place (Rogers, 2018).

Four survey participants have retired.

## 7.8 Dietitians' Employment context

### 7.8.1 Number of jobs

Three quarters (74.4%) of participating dietitians conduct their professional activity exclusively in a single job. In total, 25.5% of dietitians hold two or more positions. This percentage is the same in the 2010 and 2008 occupational statistics (e.g. 25% in 2010). In 2005, however, it was much higher, at 60% (Soguel Alexander, 2010).

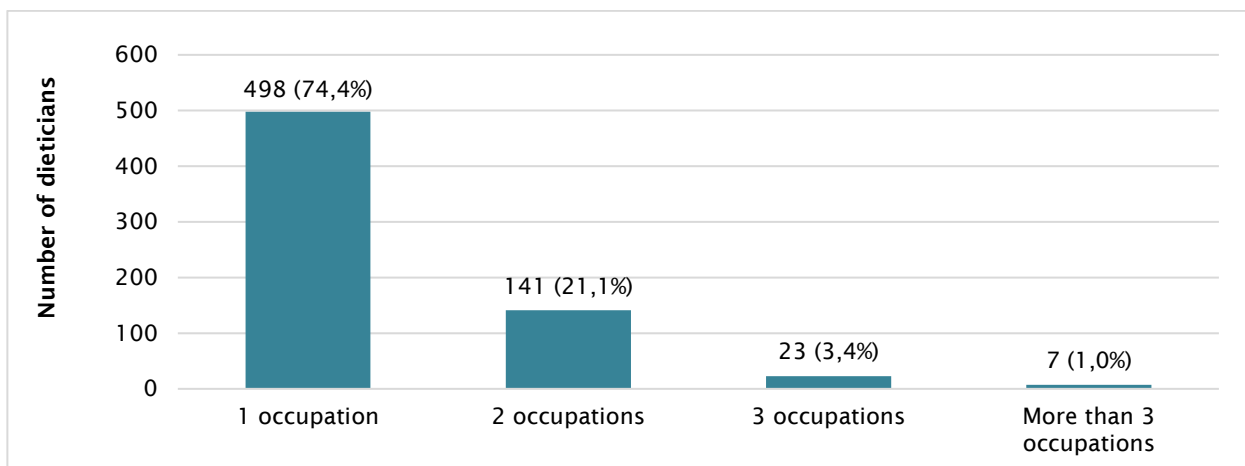


Figure 8: Participating dietitians' number of jobs (n = 669)

### 7.8.2 Type of employment (employee or self-employed basis)

Out of the 870 jobs in total, 651 (74.8%) are held by employees and 219 (25.2%) were described as self-employment.

Dietitians' working hours (as percentage of a full-time job) in the different types of employment were analysed. Working hours were specified for 630 out of 651 employee positions in the survey. On average, people working as an employee work 61.2%. In total, the 630 positions amount to 385.7 full-time jobs.

For the self-employed the working hours were specified for 207 out of 219 jobs. On average, self-employed dietitians work 37.3%. In total, the 207 positions amount to 77.3 full-time jobs. Accordingly, it can be determined that the proportion of self-employed work in dietetics is considerably less significant than that of employed work.

With regards to Switzerland's major regions, the percentage of self-employed positions is highest in Ticino, at 43.6%, and lowest in the Lake Geneva Region, at 19.2%. In the other major regions, the proportion of self-employed occupations is between 20% and 30% (Table 8).

Table 8: Ratio between self-employed and employed positions by major region

Major Swiss region as per FSO (Federal Statistical Office, 2018b)	No. of employee positions	No. of self-employed positions	Proportion of employee positions	Proportion of self-employed positions
Lake Geneva Region (VD, VS, GE)	140	33	80.9%	19.1%
Espace Mittelland (BE, FR, SO, NE, JU)	152	39	79.6%	20.4%
Northwestern Switzerland (BS, BL, AG)	60	26	69.8%	30.2%
Zurich (ZH)	97	32	75.2%	24.8%
Eastern Switzerland (GL, SH, AR, AI, SG, GR, TG)	57	21	73.1%	26.9%
Central Switzerland (LU, UR, SZ, OW, NW, ZG)	39	12	76.5%	23.5%
Ticino (TI)	22	17	56.4%	43.6%
<b>Total positions</b>	<b>567</b>	<b>180</b>	<b>75.9%</b>	<b>24.1%</b>

Among the 498 people in total who have only one occupation, 79.9% are employees (n = 398) and 19.9% are self-employed (n = 99). One person did not specify their employment status.

Of the 141 people with two occupations, 71 (50.4%) have two jobs as an employee, 59 (41.8%) have one job as an employee and one on a self-employed basis, and 11 (7.8%) have two jobs on a self-employed basis (Table 8).

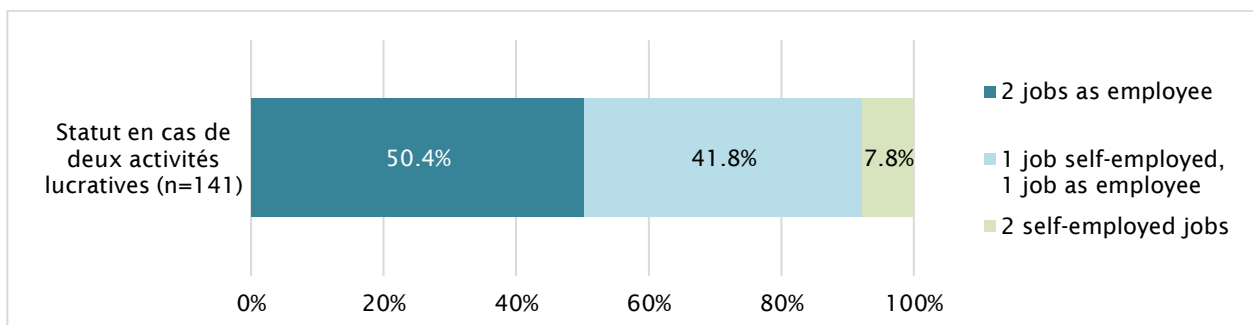


Figure 9: Combination of employment statuses among those with two positions (n = 141)

Among the 23 people with three occupations, employment status is distributed as follows:

- 7 people (30.4%): two different jobs as employee and one self-employed
- 7 people (30.4%): one job as employee and two different self-employed
- 6 people (26.1%): three different jobs as employee
- 1 person (4.3%): three different self-employed jobs
- 2 people did not specify their employment status for any positions.

### 7.8.3 Job settings

The clinical setting, with 423 positions, constitutes the largest dietetic job setting (338 × acute-care hospital, 58 × rehabilitation clinic, 23 × psychiatric clinic, 4 × retirement and nursing home). The practice setting is in second place, with 251 positions (169 × one-person dietetic counselling practice, 44 × dietetic counselling group practice, 38 × medical care centre/group practice). The average number of people working in each dietetic counselling group practice is 6.9.

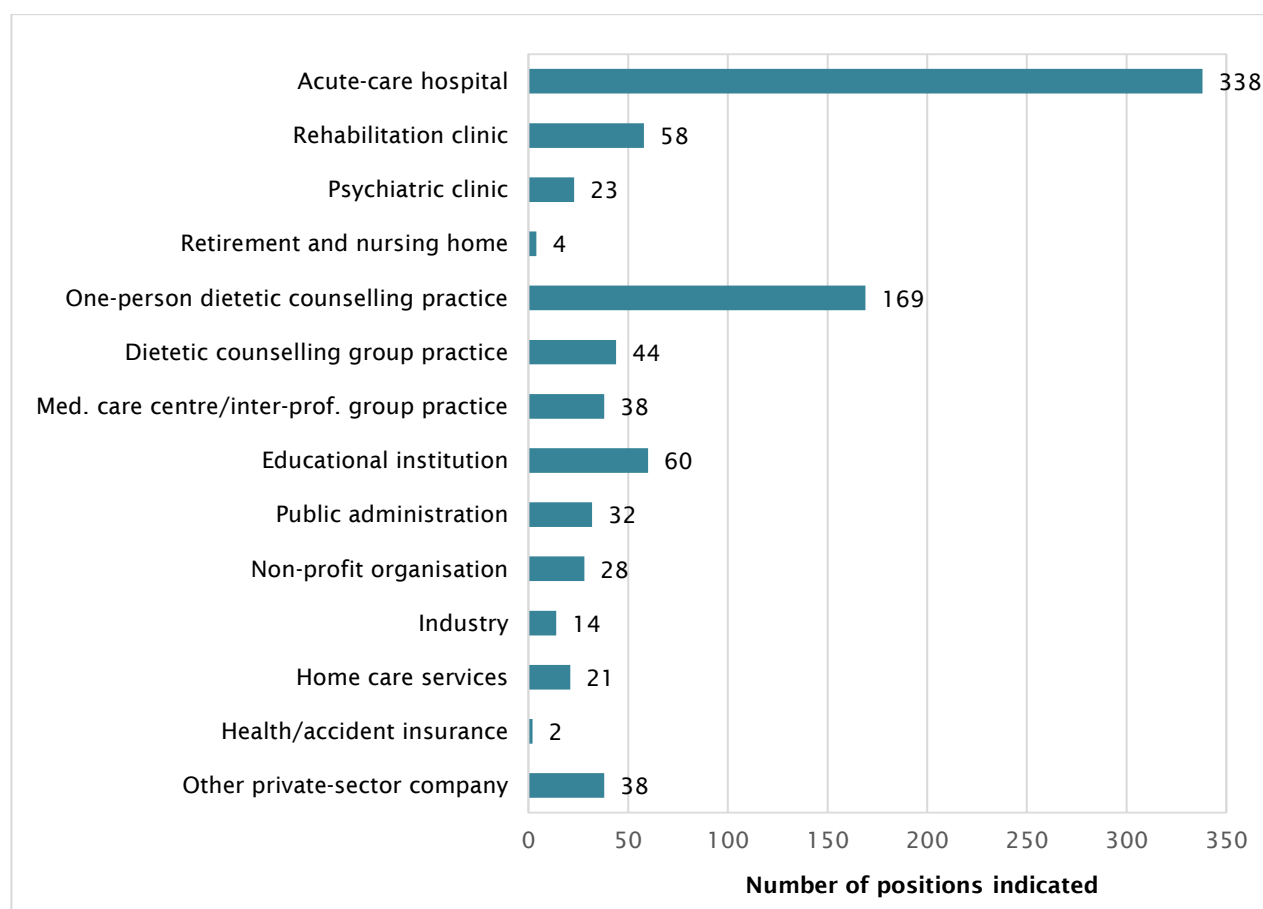


Figure 10: Number of positions by job setting (n = 869)

Within the clinical setting, where 48.7% of all indicated positions are situated, there is a noticeably low number of dietitians in retirement and nursing homes. Just four people stated that they work in this setting (Table 9). However, it must be remembered that certain dietitians take on mandates in retirement and nursing homes as part of their self-employed work in a dietetic practice, and these are not included here as positions (see Figure 20: Activities in the practice setting).

Of the professionals in the dietetic practice setting, most work in a one-person dietetic counselling practice (169 out of 251 positions). A good 30% of positions in the practice setting are in a dietetic counselling group practice, a medical care centre or an inter-professional group practice.

Most of the positions at educational institutions are at universities of applied sciences. Only a few members of the profession state that they hold a position at any other educational institution. Here, as with retirement and nursing homes, it must be noted that certain dietitians take on teaching roles or mandates at primary schools as part of their self-employed work in the practice setting, and that these are not included here as positions (see Figure 20: Activities in the practice setting).

The average age of those holding positions in the different job settings varies slightly. The average (mean) age is 38.5 years in the clinical setting, 44.0 years in the practice setting, and 34.5 years in industry. Around 65% of the positions in acute-care hospitals (221 out of 338) are held by dietitians under 40 years of age. In contrast, only around 32% of the positions in one-person dietetic counselling practices (54 out of 169) are held by members of the profession aged under 40.

More detailed information on the various job settings can be taken directly from Table 9.

Table 9: Number of positions per job setting (n = 869)

	Total positions	
	n	%
<b>Clinical setting Total</b>	<b>423</b>	<b>48.2</b>
Acute-care hospital	338	38.9
Rehabilitation clinic	58	6.7
Psychiatric clinic	23	2.6
Retirement and nursing home	4	0.5
<b>Practice setting Total</b>	<b>251</b>	<b>28.9</b>
One-person dietetic counselling practice	169	19.4
Dietetic counselling group practice	44	5.1
General manager Yes	13	29.5
General manager No	31	70.5
Medical care centre/inter-professional group practice	38	4.4
<b>Educational institution</b>	<b>60</b>	<b>6.9</b>
University	2	3.3
University of applied sciences	29	48.3
College of higher education	7	11.7
Vocational school	6	10.0
Kindergarten/primary school/secondary school	3	5.0
Other	13	21.7
<b>Public administration</b>	<b>32</b>	<b>3.7</b>
Federal	3	9.4
Cantonal	25	78.1
Municipal	3	9.4
<b>Non-profit organisation</b>	<b>28</b>	<b>3.2</b>
<b>Industry</b>	<b>14</b>	<b>1.6</b>
Pharmaceutical/medical industry	5	35.7
Food industry	8	57.1
Other	1	7.1
In-house staff	8	61.5
Out of house staff	5	38.5
In-house and out of house staff	0	0
<b>Home care services</b>	<b>21</b>	<b>2.4</b>
<b>Health/accident insurance</b>	<b>2</b>	<b>0.2</b>
<b>Other private-sector company</b>	<b>38</b>	<b>4.4</b>



Percentage-wise, job distribution across the various settings has changed slightly since 2010 (Table 10). However, it must be noted that certain assumptions had to be made in the comparison, as the job settings in the 2010 occupational statistics questionnaire were changed for the 2017 occupational statistics one. Analysis shows that the proportion of hospital positions increased slightly, by 4%, and the proportion of jobs in public health nutrition, industry and the private sector roughly doubled. The statement on jobs in public health nutrition certainly has to be viewed with caution, as the adjustment of this category can lead to misinterpretation.

In addition, a decrease in the proportion of positions in the practice setting is evident. This may be related to the fact that only SVDE members were included in the 2010 survey, whereby it can be assumed that a large proportion of self-employed dietitians are members of this professional association. Around 25% of the participants in the 2017 occupational statistics are not SVDE members. Accordingly, it can be assumed that more dietitians who do not work in a practice took part, thus reducing the percentage of these positions. However, the absolute number of jobs in practices is somewhat higher in 2017 than in 2010.

Table 10: Comparison of job settings in 2017/2010 occupational statistics (Soguel Alexander, 2010)

Job settings in 2010 occupational statistics	Job settings in 2017 occupational statistics [incl. number of responses]	Jobs indicated in 2010 survey		Jobs indicated in 2017 survey	
		n	%	n	%
Hospital	Acute-care hospital [338] Rehabilitation clinic [58] Psychiatric clinic [23] Retirement and nursing home [0]	267	44.1	423	48.7
Practice	One-person dietetic counselling practice [169] Dietetic counselling group practice [44] Med. care centre/inter-professional group practice [38]	218	36.0	251	28.9
Education	Educational institution	56	9.2	60	6.9
Public health nutrition	Public administration [32] Non-profit organisation [28]	29	4.8	60	6.9
Industry & private sector	Industry [14] Home care services [21] Health/accident insurance [2] Other private-sector company [38]	36	5.9	75	8.6
		606	100	869	100

It is difficult to make a comparison with foreign countries regarding job settings, as the surveys in other countries were conducted differently. Nevertheless, some interesting observations can be made. The study from the USA shows that only a few dietitians, namely 8%, work on a self-employed basis, 38% work for profit-oriented companies, 37% for non-profit organisations and 18% for the government (Rogers, 2018). In the United Kingdom, around two thirds of dietitians work in the national health system and about one third work in other sectors (Hickson et al., 2017). Studies in Iran show that dietetic therapy work in the clinical setting is the most common occupational context in this country as well, at 30.3%. Other major job settings include private clinics, at 20.7%, and work in healthcare centres (19.5%). At just 1.1%, work in research centres has very little relevance (Ahmadi et al., 2014).

#### 7.8.4 Managerial role

For 858 out of 869 jobs, it was specified whether the holder of the position works in a managerial role or not. In total, 200 out of 858 jobs (23.3%) include a managerial role, 658 (76.7%) do not. Of the jobs with managerial roles, 92.3% are held by women and 7.7% by men. The average age of those in managerial roles is 44.1 for women and 40.5 for men. The proportion of men in managerial roles is slightly higher than the proportion of men in the occupational group, which is 4.7%.

### 7.8.5 Working hours

The majority of dietitians in Switzerland work part-time. Among those who provided information about their working hours as a percentage of a full-time job, 79.3% (498 out of 628) have working hours amounting to 50–100%, while 20.7% (130 out of 628) work as dietitians less than 50%.

Among the 628 dietitians currently working in the profession who provided information about their working hours, 206 (32.8%) work over 80% (see Figure 11). Of the 206 people who work over 80%, 90 (44.1%) are in the 21–30 age group. In total, 91.7% of those working over 80% state that they have no children aged under 18. On average, total working hours amount to 92.5% for men (n = 25) and 70.7% for women (n = 613).

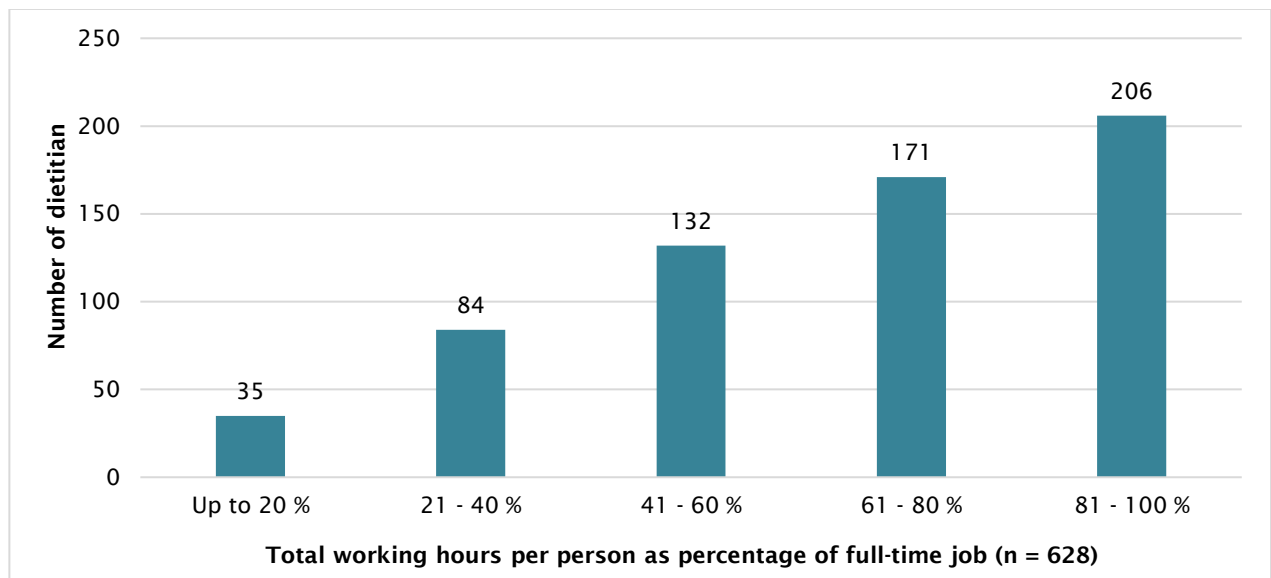


Figure 11: Dietitians' total working hours as percentage of a full-time job across all employed and self-employed positions

In total, 35 out of 628 members of the profession (5.6%) state that their working hours as a dietitian are the equivalent of up to 20%. Of these 35 people, 17 (48.6%) are in the 31–40 age group. Among people who work as a dietitian up to 20%, 97% are women and 71.4% state that they have children aged under 18. Nobody in the 21–30 age group worked up to 20%.

The 35 people whose working hours amount to at most 20% work in the following settings:

- 13 people work in a one-person dietetic counselling practice
- 4 people work in a dietetic counselling group practice
- 4 people work in a medical care centre/inter-professional group practice
- 6 people work in a clinic
- 2 people work in public administration
- 2 people work in a non-profit organisation
- 1 person works in a home care service
- 3 people work in another private-sector company

Among the 84 people who work 21–40%, 30 (35.7%) are self-employed, 43 (51.2%) work as employees, and 11 (13.1%) work both as employees and on a self-employed basis.

In the USA, 3 out of 4 dietitians work full-time, which is defined as at least 35 working hours per week for at least 48 weeks per year. In total, 25% of dietitians work part-time and/or only for part of the year (Rogers, 2016).

#### 7.8.5.1 Working hours in relation to age

The 21–30 age group, which is the career starters' age group, has the highest average working hours, at 85%. In the next-oldest age group, 31–40, the average number of working hours decreases to 64%. Another slight decrease is evident in the 41–50 age group, where dietitians' working hours amount to 60% on average. In the 51–60 age group, working hours increase again, to 70%. People aged over 60, who are nearing retirement, have the fewest working hours at 52%.

Table 11: Average (mean) working hours by age group

		21 - 30	31 - 40	41 - 50	51 - 60	> 60
	Mean working hours (% of full-time job)	85%	64%	60%	70%	52%
Up to 20%	Number of people	0	17	12	3	3
	% of age group	0.0%	8.6%	8.8%	2.6%	25.0%
21 - 40%	Number of people	5	37	28	12	1
	% of age group	3.1%	18.7%	20.6%	10.4%	8.3%
41 - 60%	Number of people	14	49	34	30	4
	% of age group	8.6%	24.7%	25.0%	26.1%	33.3%
61 - 80%	Number of people	53	40	36	39	2
	% of age group	32.7%	20.2%	26.5%	33.9%	16.7%
81 - 100%	Number of people	90	55	26	31	2
	% of age group	55.6%	27.8%	19.1%	27.0%	16.7%

### 7.8.5.2 Working hours in relation to job setting

On average, dietitians employed in industry work 88%, the highest average working hours in any occupational context.

In acute-care hospitals, rehabilitation clinics and educational institutions, members of the profession work 75% on average. The lowest average working hours are to be found in the one-person dietetic counselling practice, at 58%, and the second-lowest in that of the dietetic counselling group practice.

Analysis of average working hours in retirement and nursing homes and at health/accident insurance companies was not possible, due to the low number of cases.

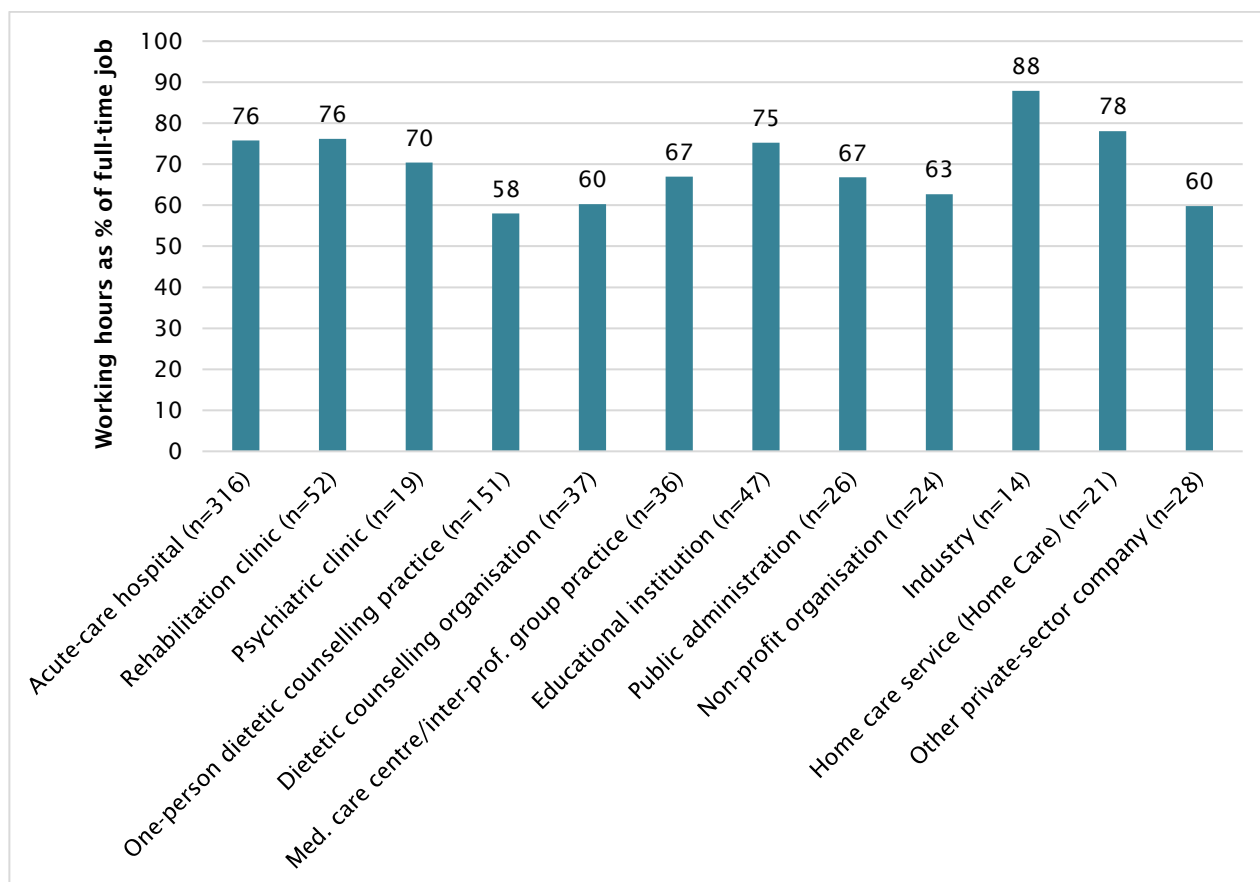


Figure 12: Average (mean) working hours as percentage of full-time job by job setting

### 7.8.6 Salary

Data on dietitians' salaries was collected comprehensively for the first time in the 2017 occupational statistics survey. For each job, participants were asked to state the gross monthly salary (excluding the 13th month's salary) and the working hours to which the stated salary applies. They were also asked whether they receive a 13th month's salary. Those employed at an hourly rate could state their salary as an hourly wage. The self-employed were asked to state their annual income.

In sections 7.8.6.1 to 7.8.6.6, salary data based on the stated gross monthly salary is presented, section 7.8.6.7 looks at data pertaining to stated hourly wages, and self-employed peoples' annual incomes are presented in section 7.8.6.8. Salary and income data always applies to a position and is not person-orientated.

The average gross annual salary<sup>3</sup> for a dietitian's position in Switzerland is CHF 82,270. In comparison, the average gross annual salary in Switzerland was CHF 84,526 in 2016 (Federal Statistical Office, 2018a). In the healthcare system specifically, the average was CHF 81,133 in 2014 (Federal Statistical Office, 2015).

Salary data is shown in relation to various variables below. Information on a total of 870 jobs was provided in the survey. Data on salary or income was provided for 729 jobs (gross annual salary for 502 positions, annual income for 149 jobs and hourly wage for 78 jobs).

#### 7.8.6.1 Salary in relation to job setting

The median gross annual salary for employees in the various job settings ranges from CHF 71,540 in medical care centres/group practices to CHF 110,500 in educational institutions. There are noticeable differences between different clinical settings. The average annual salary in psychiatric clinics is CHF 16,900 higher than the average annual salary in an acute-care hospital or rehabilitation clinic. At the same time, the average age of dietitians who work in psychiatric clinics is 6.7 years higher than among those working in acute-care hospitals. The difference of just under CHF 17,000 in the annual salary cannot be explained by this factor alone however. Regional factors may also play a role, as well as the matter of whether the clinic is public or private.

The highest average annual salary was received at educational institutions (average age: 39.5 ± 9.8), followed by public administration (average age: 41.0 ± 9.8). In the USA, jobs in the education system are also among the best paid, while jobs in consulting and in food management are well paid too. Like in Switzerland, dietetic therapy work in the clinical setting is not so well paid (Rogers, 2016).

The average annual salary in retirement and nursing homes or health/accident insurance companies cannot be assessed, as there is insufficient data.

Table 12: Average gross annual salary by job setting

Job setting	Number of positions	Median gross annual salary	Average age
Acute-care hospital	281	CHF 80,600	37.8 ± 10.1
Rehabilitation clinic	39	CHF 80,600	39.8 ± 11.8
Psychiatric clinic	15	CHF 97,500	44.5 ± 10.6
Retirement and nursing home	3	-- <sup>4</sup>	--
One-person dietetic counselling practice	12	CHF 76,570	45.2 ± 10.1
Dietetic counselling group practice	19	CHF 84,000	40.9 ± 10.8
Medical care centre/group practice	18	CHF 71,540	40.2 ± 10.8
Educational institution	27	CHF 110,500	39.5 ± 9.8
Public administration	22	CHF 101,160	41.0 ± 9.8
Non-profit organisation	21	CHF 84,500	36.3 ± 8.9
Industry	12	CHF 84,344	34.5 ± 9.6
Home care services	15	CHF 78,000	36.0 ± 10.8
Health/accident insurance	0	n/a	n/a
Other private-sector company	7	CHF 97,500	40.9 ± 10.4

<sup>3</sup> Corresponds to the gross monthly salary multiplied by 12 or 13, depending on whether the employer pays a 13th month's salary.

<sup>4</sup> No information for reasons of anonymity, due to insufficient data.

People who have completed an extensive further training course earn significantly more at an acute-care hospital than those with no professional education ( $p = 0.009$ ), whereby the average age of people with no professional education differs only slightly (2.1 years) from that of those who have completed one professional education course (see Table 6). At an acute-care hospital, each additional professional education course does not lead to a significant increase in gross annual income.

A significant difference in gross annual income between those with no professional education and those who have completed at least one substantial comprehensive professional education course was also observed in the one-person dietetic counselling practice setting ( $p = 0.020$ ), the educational institution ( $p = 0.019$ ) and public administration ( $p = 0.017$ ). In these settings, the gross annual salary is significantly higher among those who have completed at least one extensive further training course.

#### 7.8.6.2 Salary in relation to region/canton

The average gross annual dietetic salary differs between the various major regions. The regions Espace Mittelland and Central Switzerland have the lowest average gross annual salary, at CHF 78,000. With a gross annual salary of CHF 87,170, Zurich ranks highest on the list (Table 13). The order in which the major regions are ranked in the 2017 occupational statistics is similar to their order in the general ranking list for Switzerland (Federal Statistical Office, 2018a). Upon comparison of rankings in the general Swiss salary study with those in the survey of dietitians, the Canton of Ticino stands out most noticeably. Ticino is lowest on the general Swiss ranking list, but ranked third in this survey, behind Zurich and the Lake Geneva Region. It should be noted that the average age of those holding a dietetic position is highest in Ticino.

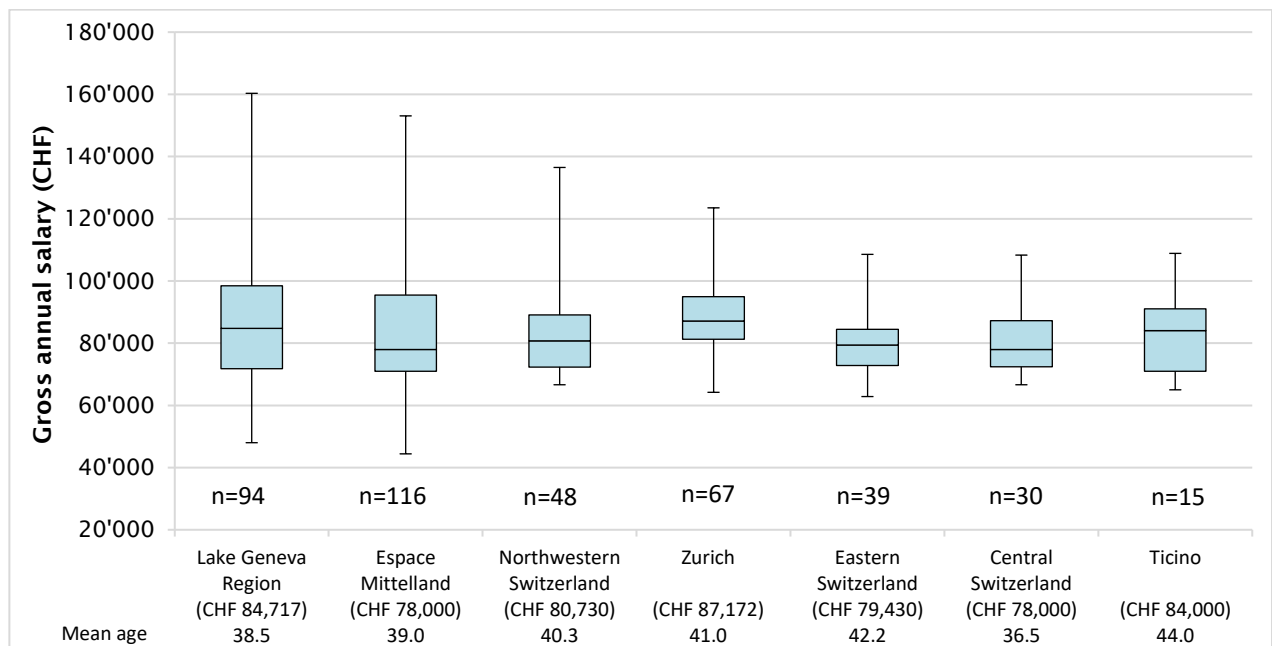


Figure 13: Gross annual salary by position and major region (n = 409)

In terms of cantons, dietitians in the Canton of Zurich receive the highest average gross annual salary (CHF 87,170), followed by the cantons of Neuchâtel and Geneva. The lowest average gross annual salaries are received in the cantons of Fribourg and Basel Landschaft. When conducting analysis on a cantonal basis, it must be taken into account that in certain cantons, salary data is only available for a few positions. The average gross annual salary can be influenced greatly by the age of the person holding the position, which thus skews the results.

Table 13: Median gross annual salary (CHF) by canton

Canton	No. of positions	Median gross annual salary
Aargau	28	CHF 79,560
Appenzell AI	0	n/a
Appenzell AR	3	-- <sup>5</sup>
Basel Landschaft	9	CHF 75,465
Basel Stadt	19	CHF 84,500
Bern	83	CHF 78,000
Fribourg	13	CHF 75,400
Geneva	39	CHF 85,800
Glarus	2	--
Graubünden	8	CHF 81,209
Jura	5	--
Lucerne	15	CHF 78,000
Neuchâtel	13	CHF 86,667

Canton	No. of positions	Median gross annual salary
Nidwalden	2	--
Obwalden	1	--
St. Gallen	14	CHF 78,406
Schaffhausen	4	--
Schwyz	4	--
Solothurn	7	CHF 80,600
Thurgau	9	CHF 78,650
Ticino	15	CHF 84,000
Uri	2	--
Vaud	51	CHF 78,000
Valais	11	CHF 76,050
Zug	9	CHF 78,000
Zurich	71	CHF 87,170

### 7.8.6.3 Salary in relation to gender

The gross annual salary received by men (average age: 38.6 ± 8.7), at CHF 87,556, is higher than that received by women (average age: 39.9 ± 10.7), at CHF 81,900 (Figure 14).

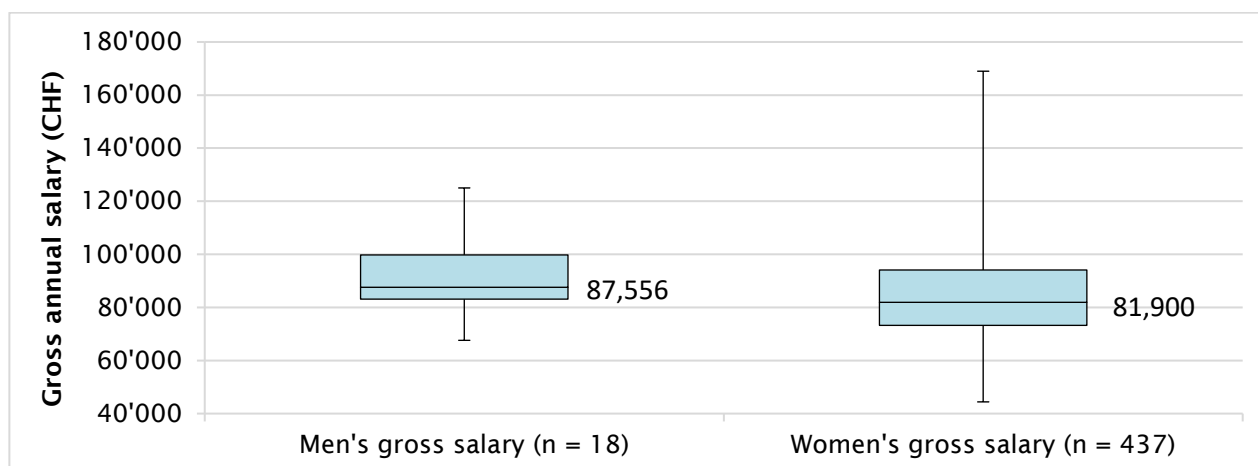


Figure 14: Gross annual salary by gender

The difference in salary between men and women in dietetic counselling is 6.5%. Calculations based on data from the 2014 Swiss salary-structure survey showed an 18.1% difference in salaries between men and women in the economy as a whole. In the private sector, the difference in salaries is 19.5%, somewhat higher than in the public sector (16.6%) (Federal Office for Gender Equality (FOGE), n.d.). The difference in salary between men and women in dietetic counselling is thus relatively low, whereby it is to be noted that the data must be viewed with caution, due to the low amount of data on men's gross salaries.

### 7.8.6.4 Salary in relation to age/professional experience

The average gross annual salary shows a steady increase with age. People aged 21–25 earn an average of CHF 68,250 per annum, while the average is CHF 7,150 higher in the 26–30 age group. Another significant salary increase, of CHF 8,938, is evident between the 31–35 and 36–40 age groups.

<sup>5</sup> For reasons of anonymity, no data is presented for cantons in which fewer than 6 people specified their salary.

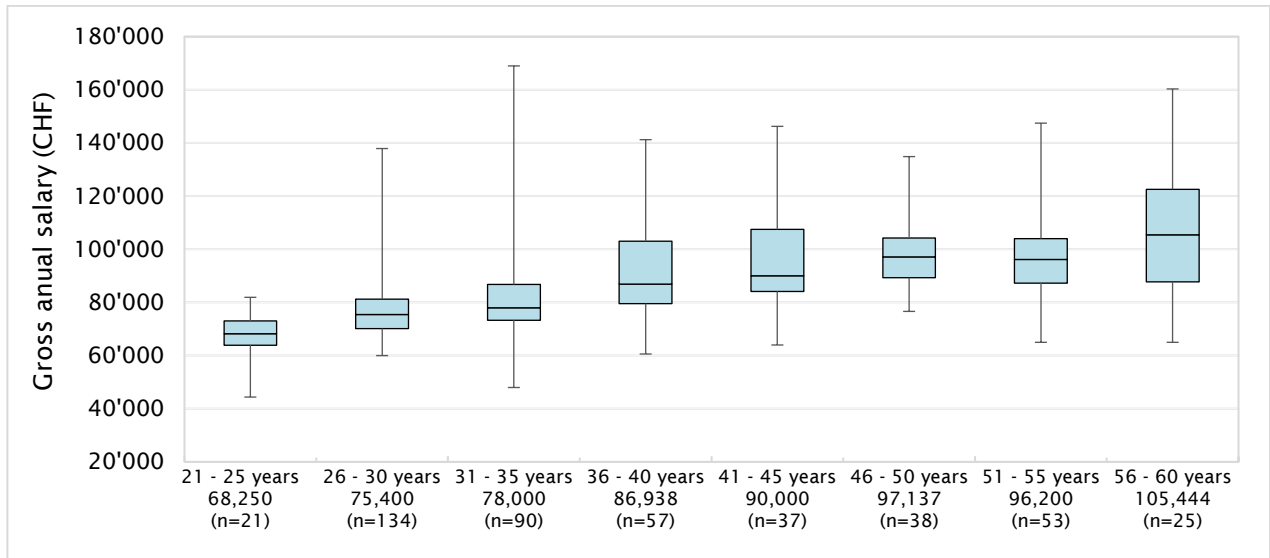


Figure 15: Gross annual salary by age group (n = 455)

A steady increase in salary is also evident in relation to the number of years' experience in the profession. The median gross annual salary of people with 0-5 years' experience in the profession is CHF 73,250. People with 6-10 years' experience receive a median salary of CHF 79,300, which is CHF 6,050 higher than that received by their younger colleagues. For the group with 11-15 years' experience in the profession, the median gross annual salary increases by another CHF 7,605. From the group with 21-25 years' experience in the profession onwards, the salary increase from group to group is markedly lower. On average, members of the profession with 21-25 years' experience in the profession earn CHF 3,250 more than colleagues with 15-20 years' experience in the profession. It is therefore evident that the salary increase during the first 20 years in the profession is higher than in subsequent years. In the USA, there is an equally strong correlation between dietitians' salary and their amount of professional experience (Rogers, 2016).

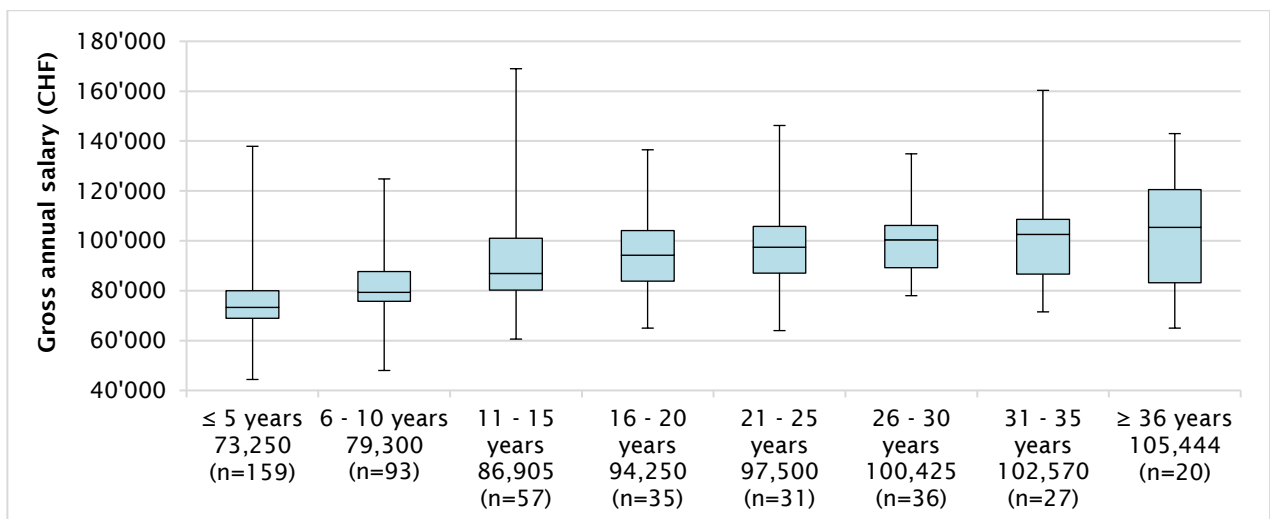


Figure 16: Gross annual salary by number of years in the profession (n = 458)

#### 7.8.6.5 Salary in relation to qualification

Dietitians with a bachelor's degree earn the least. However, this is clearly related to age and years of experience in the profession. On average, holders of a bachelor's degree earn CHF 79,300 and are 35.9 ± 9.6 years old. People with a qualification from a college of higher education earn CHF 13,200 more each year and are significantly older on average (46.5 ± 8.9).

Salaries earned by holders of a master's degree are on a similar level to those earned by people with a CHE qualification, but the average age of those with an MSc degree is significantly lower (40.1 ± 8.7).

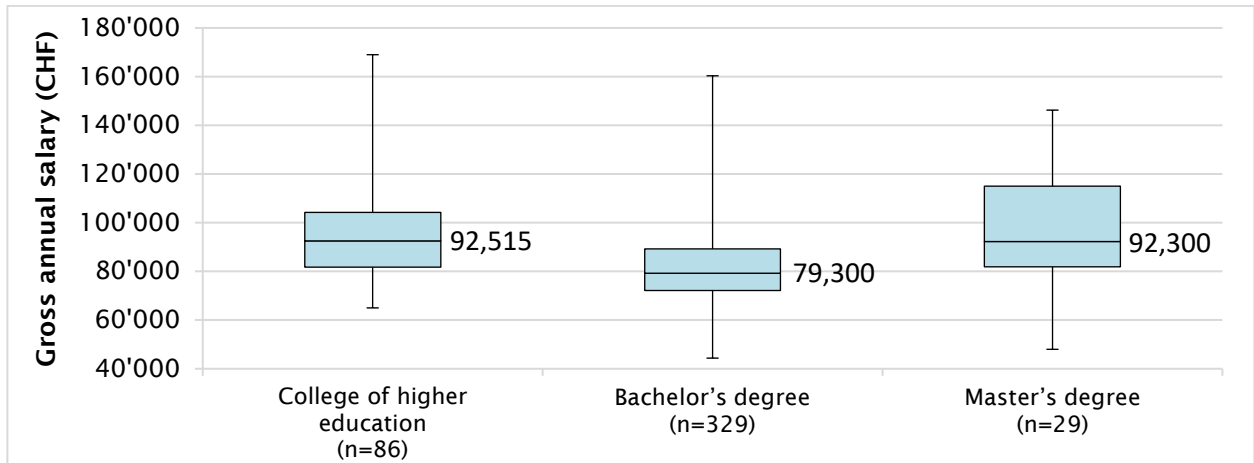


Figure 17: Gross annual salary by qualification

#### 7.8.6.6 Salary with and without a managerial role

On average, the gross annual income in positions with a managerial role is CHF 9,500 higher than in positions without a managerial role. The average age is  $43.7 \pm 10.4$  among holders of positions with a managerial role and  $38.8 \pm 10.4$  among holders of positions with no managerial role (Figure 18).

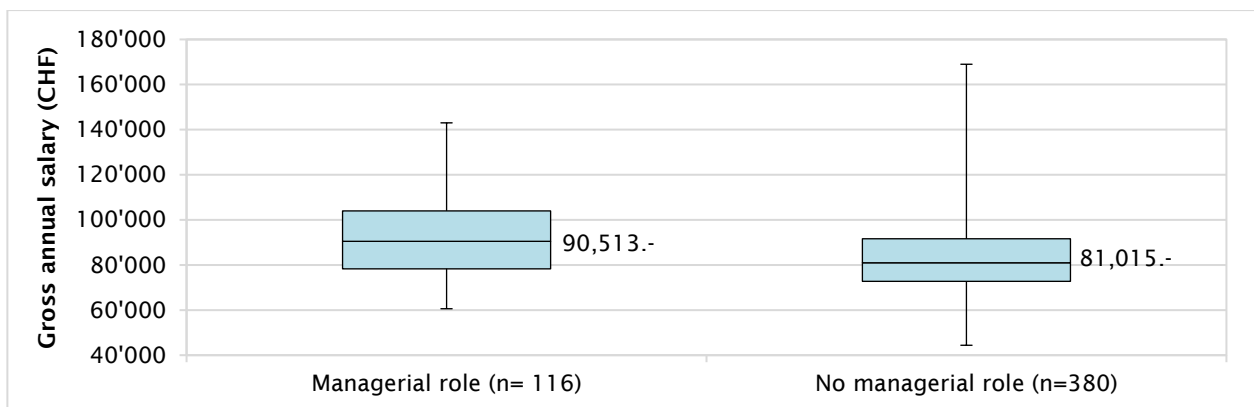


Figure 18: Gross annual salary with and without managerial role

There is a statistically significant difference between the gross annual income of women with and without a managerial role ( $p = 0.000$ ).

#### 7.8.6.7 Employee hourly wages

The holders of 78 employee positions stated that they are paid an hourly wage. The gross hourly wage was calculated to include all supplementary allowances and the share of any 13th monthly wage. The median working hours of employees who are paid hourly amounts to 30%. The median hourly wage is CHF 60, whereby the stated hourly wage ranges from CHF 20 to CHF 225.

#### 7.8.6.8 Annual income from self-employed work

Annual income figures are available for 149 self-employed positions. The most self-employed positions are to be found in the practice (102) and clinical settings (23). Dietitians also provided information on annual income in educational institutions (6), public administration (1), non-profit organisations (1), industry (1) and home care services (1). The average age of self-employed people is  $46.7 \pm 9.4$ .

In 2016, the average annual income of self-employed people was CHF 75,000. When considering solely the practice setting, income comes to just under CHF 80,000. The middle 50% of all income figures are between CHF 60,000 and CHF 100,625. The average annual income in the clinical setting is CHF 66,667 (see Table 14).



Table 14: Annual income from self-employed positions in 2016

	2016 annual income (CHF) across all self-employed positions, extrapolated for full-time work (n = 149)	2016 annual income (CHF) across all 3 practice settings, extrapolated for full-time work (n = 102)	2016 annual income (CHF) across all 4 clinical settings, extrapolated for full-time work (n = 23)
Min.	20,000	20,000	20,000
25th percentile	51,000	60,000	43,036
<b>Median</b>	<b>75,000</b>	<b>79,167</b>	<b>66,667</b>
75th percentile	100,000	100,625	80,000
Max.	293,733	293,733	114,286

In 2016, the median annual income in the practice setting was CHF 75,000 for people aged 31–40 and CHF 85,167 for people aged 41–50, which is a significant difference ( $p = 0.014$ ). In contrast, the annual income for those aged 41–50 was CHF 75,000 in the clinical setting.

### 7.8.7 Activities in daily work

In the clinical setting (acute-care hospitals, rehabilitation clinics, psychiatric clinics, and retirement and nursing homes), more than 80% state that their work often, or very often, involves inpatient dietetic therapy/counselling, administrative tasks (e.g. keeping records of work activity, photocopying) or writing documentation/reports/requests. Among the dietitians working in the clinical setting, 73% also provide outpatient dietetic therapy/counselling often or very often.

A good 80% of dietitians state that the frequency of their participation in ward rounds and clinical meetings ranges from sometimes to very often.

Research and the writing of articles or publications are among the tasks of only a few dietitians in the clinical setting. In total, 88% state that they never or rarely conduct research and 90% state that they never or rarely write articles or publications. Just under 50% never or rarely conduct scientific literature searches. This circumstance is surely linked to the fact that the academisation of training at UAS level did not take place until the years 2004 and 2007 (see section 5.1) and the fact that, in the Swiss education sector, an MSc in nutrition and dietetics, which enhances research skills, is not yet available in German-speaking Switzerland and has only been offered in Western Switzerland since 2017.

Other tasks that are generally only performed by a small proportion of people on a regular basis in the clinical setting include group counselling and teaching (Figure 19).

Among the study participants working in the practice setting (one-person dietetic counselling practices, dietetic counselling group practices, and medical care centres/inter-professional group practices), 94% provide outpatient dietetic therapy/counselling often or very often. The daily tasks of around 70–75% of participants also regularly (often to very often) includes administrative work, or the writing of documentation or reports.

Some dietitians take on projects and mandates in clinics, retirement and nursing homes, and private companies. Depending on the context, 3–10% of those working in practices take on mandates or projects often to very often. Among the members of the profession who work in practices, 56% hold presentations, workshops or speeches sometimes to very often (Figure 20).

When the clinical and practice settings are compared, it is noticeable that outpatient dietetic therapy/counselling is provided much less often in clinics than in practices. Documentation and administration are prominent in both occupational settings.

Group counselling appears to play a minor role in both the clinical and practice settings. Among members of the profession working in the clinical setting, 67% state that they rarely to never conduct group counselling, while the same is true of 76.2% of those working in practices.

Student supervision, delivery of presentations or speeches, and catering management are more frequent tasks in the clinical setting.

It is noticeable that around 80% of dietitians in the clinical setting sometimes to very often put resources into preparing documents containing technical information or consultation material.

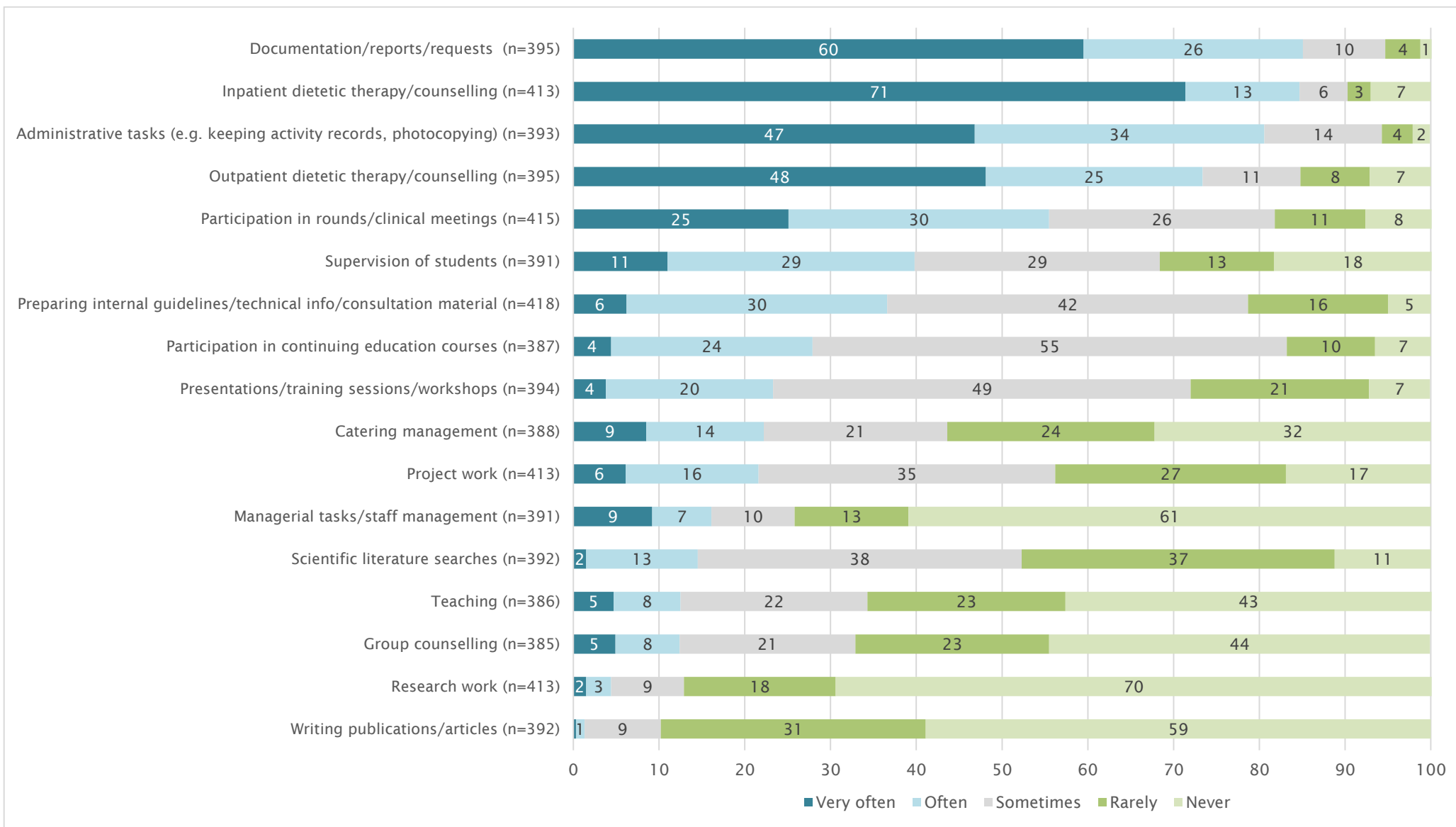


Figure 19: Activities in the clinical setting

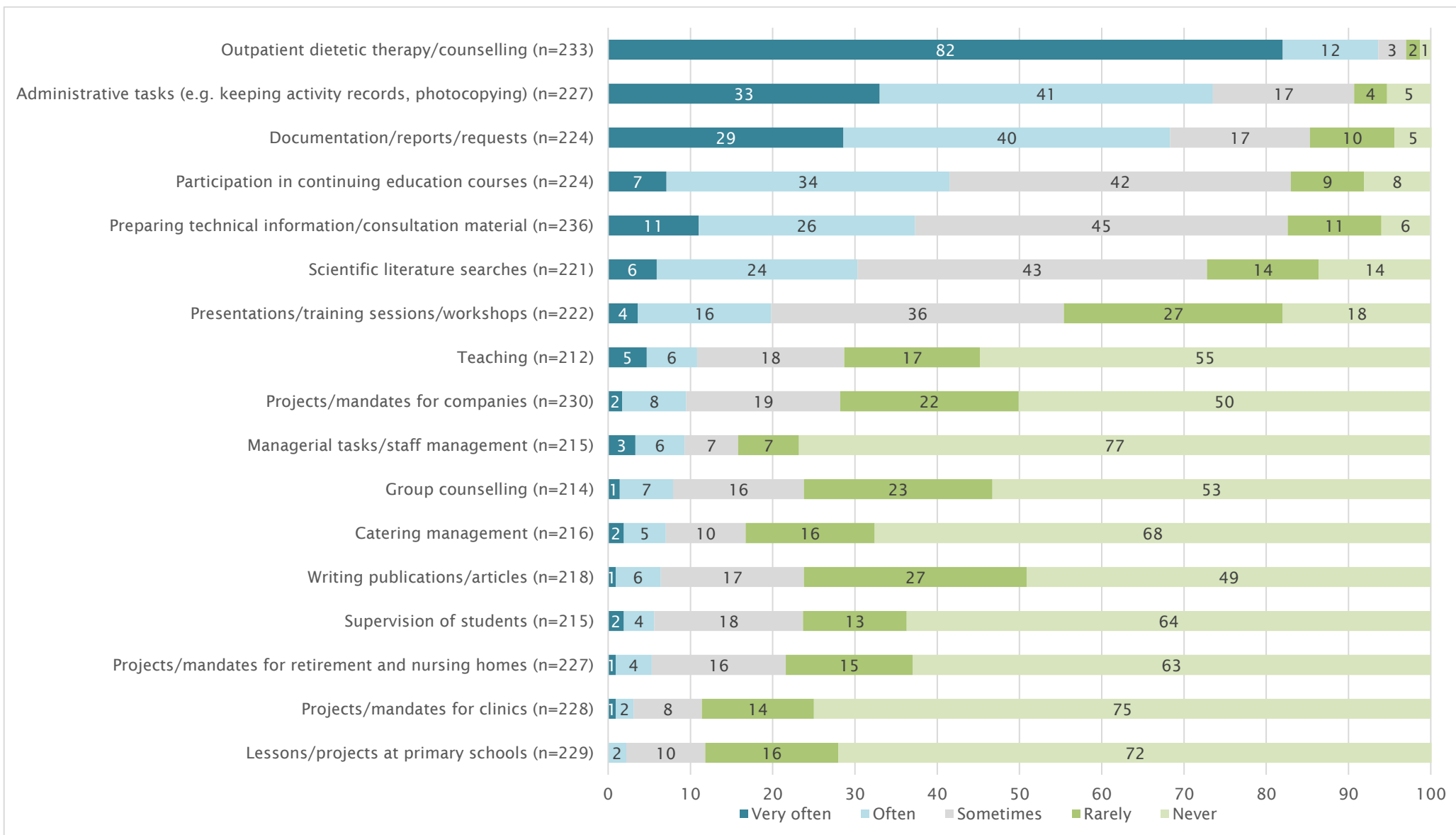


Figure 20: Activities in the practice setting

### 7.8.8 Areas of professional focus in daily work

Dietitians were asked to indicate technical areas that are focal points in their daily work. Overall, 663 dietitians defined an average (median) of seven technical areas as focal points in their daily work. A total of 10 people did not declare any technical areas as focal points. On the other hand, there are people who defined up to different technical areas in their daily work (Figure 21).

Evaluation of the number of indicated technical areas in daily work shows that certain members of the profession focus strongly on certain areas, while others cover a very wide range of nutrition-related topics.

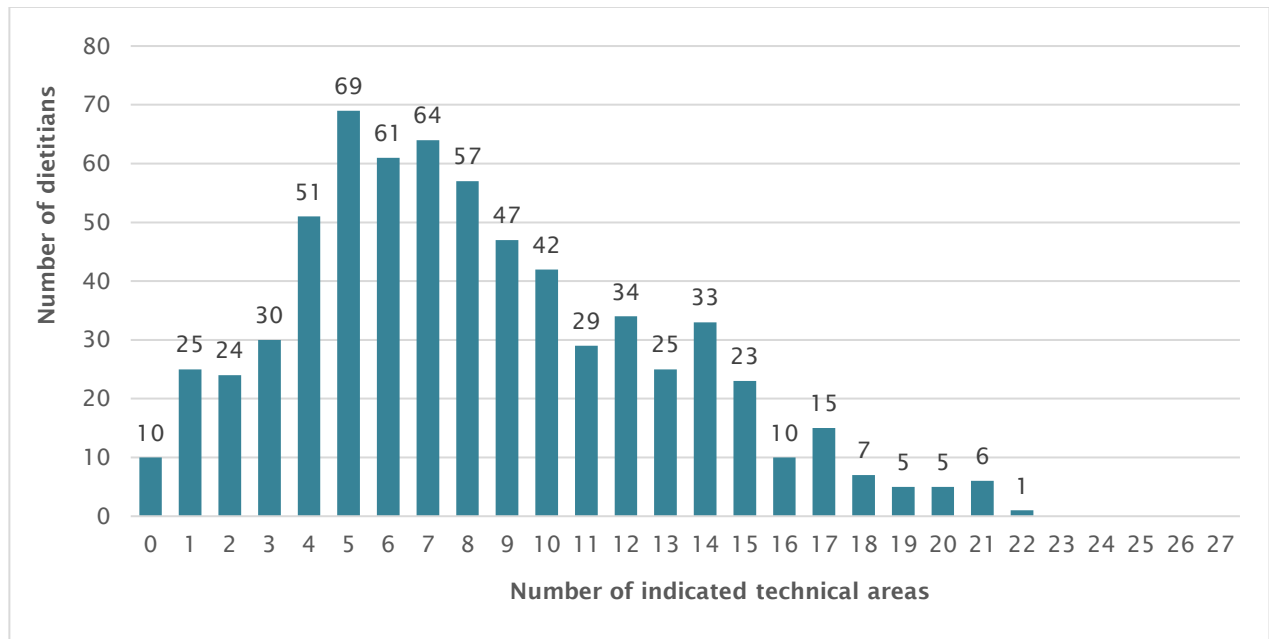


Figure 21: Number of indicated technical areas per dietitian (n = 663)

Figure 22 shows that 73.8% of respondents (489 out of 663) see undernutrition and malnutrition as a focal area in their daily work, making this the most frequently indicated technical area. Overweight/obesity/bariatrics is in second place and was considered a technical focal point in daily work by 71.8% of all members of the profession. Diabetology, food intolerances and gastroenterology/abdominal surgery also play an important role in dietitians' daily tasks.

In contrast, complementary medicine, for example, is a topic that only plays a key role in the daily work of 3.2% of dietitians. Technical areas such as rheumatology, gynaecology and neurology also represent focal points in the daily work of less than 10% of members of the profession.

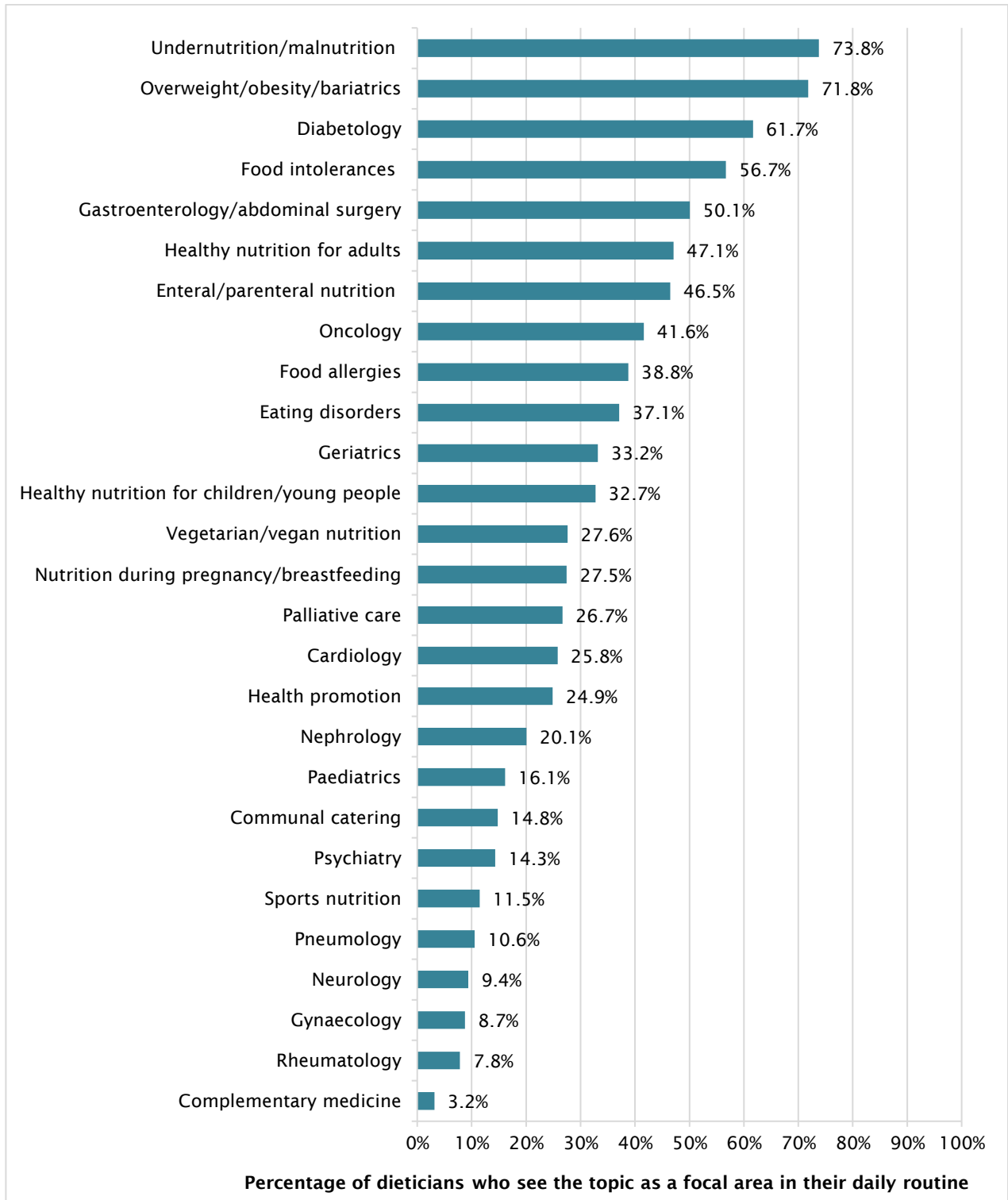


Figure 22: Technical areas in dietitians' daily work [multiple answers possible] (n = 663)

The technical areas are ranked slightly differently in the individual job settings. Dietitians in the practice setting (one-person dietetic counselling practices, dietetic counselling group practices) most frequently name overweight/obesity/bariatrics, followed by food allergies. Diabetes, undernutrition and malnutrition, healthy nutrition for adults, and eating disorders are also relevant focal points in their daily work.

The most important technical area in the clinical setting (acute-care hospitals, rehabilitation clinics, psychiatric clinics, and retirement and nursing homes) is undernutrition and malnutrition. Other relevant technical areas include overweight/obesity/bariatrics, and enteral/parenteral nutrition (Table 15).

Table 15: Most frequent technical areas by setting

Practice setting	Clinical setting
1. Overweight/obesity/bariatrics	1. Undernutrition/malnutrition
2. Food intolerances	2. Overweight/obesity/bariatrics
3. Diabetology	3. Enteral/parenteral nutrition
4. Undernutrition/malnutrition	4. Diabetology
5. Healthy nutrition for adults	5. Abdominal surgery
6. Eating disorders	6. Food intolerances

The corresponding question used for the 2010 occupational statistics was slightly adjusted, preventing a 1:1 comparison. That year's survey asked about technical areas that account for more than 25% of work activity and its list of technical areas also included activities such as research, teaching, and work for the SVDE. The 2017 occupational statistics only encompassed technical areas as focal points. Moreover, technical topics such as vegetarian/vegan nutrition, rheumatology, palliative care, food intolerances, nutrition during pregnancy/breastfeeding, healthy nutrition for children/youths and healthy nutrition for adults were added.

Despite these differences, trends can be seen when comparing the frequencies with which each technical area is indicated in relation to the number of participating dietitians. There is a clearly evident decrease in the frequency with which the topic of cardiovascular diseases/cardiology was indicated as a focal point. In the 2010 occupational statistics, 34.0% of the dietitians (170 out of 500) declared this technical area to be a focal point, while only 25.8% (171 out of 663) did so in the 2017 occupational statistics.

The frequency with which the technical areas of enteral/parenteral nutrition, gastroenterology/abdominal surgery, geriatrics, undernutrition/malnutrition, food allergies and oncology were indicated as focal points increased significantly, by 20–30%.

## 7.9 Assessment of the profession

In assessment of the profession, the diverse and variety-rich work, the compatibility of work and private life, the independent way of working and the possibility to incorporate one's own professional skills, ideas and visions into daily work were seen as positive, as shown in Figure 23.

The awareness of the profession, availability of jobs, opportunities for career progression and further development, and wage appropriateness tended to be rated as negative.

Results indicate that men, and those with 6 to 10 years' experience in the profession, are less inclined to agree that there is sufficient awareness of the profession among the general public (ordinal regression).

With regards to salary, the surveyed factors of gender, age, years of experience in the profession, qualification, and number of professional education courses show no influence on the assessment of wage appropriateness. Salary level (surveyed for the clinical and practice settings) also showed no significant differences in relation to the assessment of wage appropriateness (ordinal regression).

The factors gender, age, qualification, years of experience in the profession, professional education (yes/no), and canton of residence have no significant influence on the perceived adequacy of job availability.

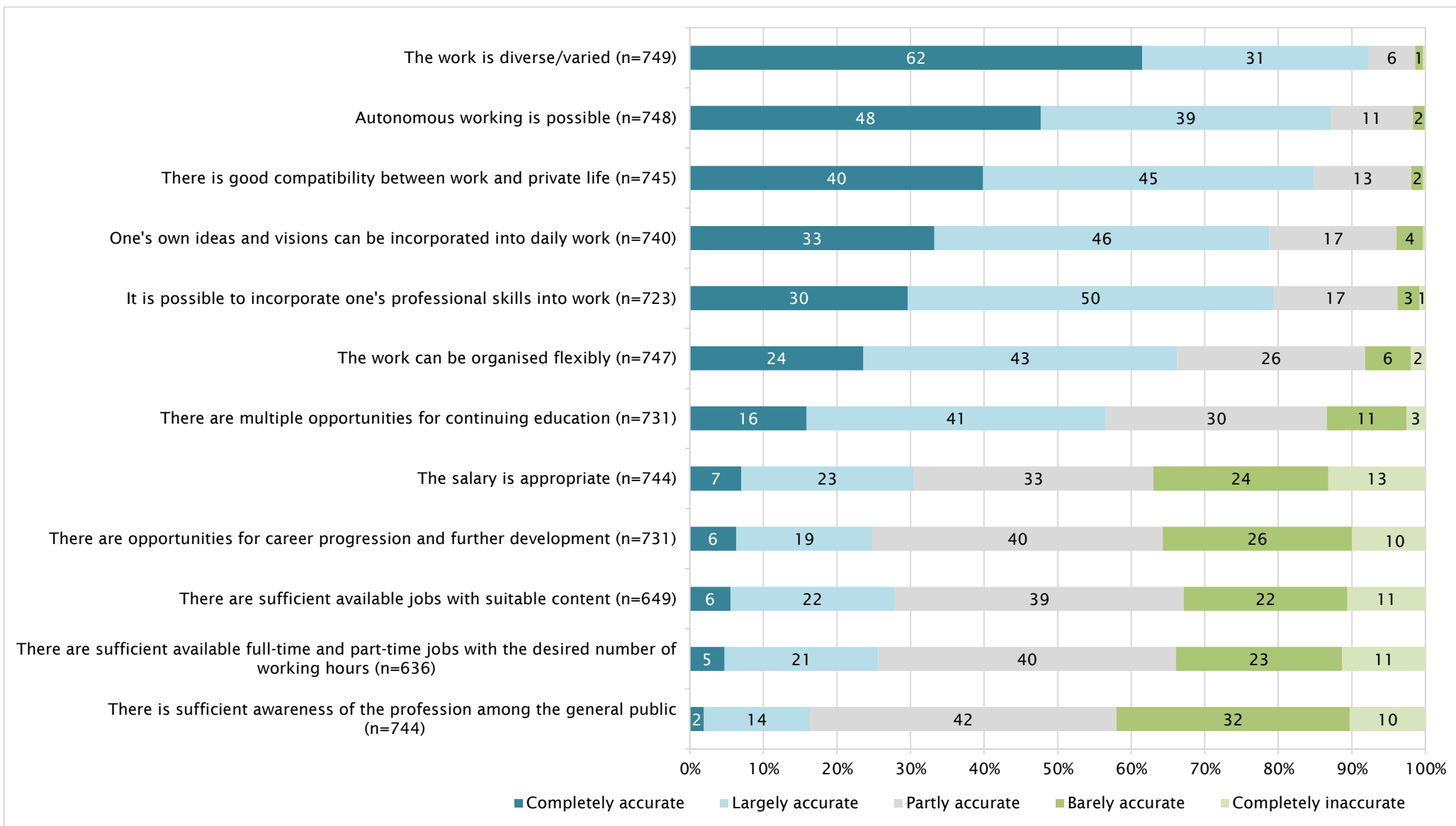


Figure 23: Assessment of the profession

## 8 Discussion of methodology

For the 2017 occupational statistics, an online survey was conducted for the first time. The experience gathered in the use of this type of survey was positive. It allowed weaknesses in the earlier occupational statistics surveys to be avoided, e.g. errors in electronic data entry, and information loss due to illegible data (Soguel Alexander, 2010). The additional extensive research into email addresses allowed those who are not SVDE members to be included in the occupational statistics for the first time. A total of 185 participants were not SVDE members, which certainly enabled a wider-ranging representation of the occupational group in these occupational statistics. The 2017 occupational statistics' response rate of 51.6% is somewhat lower than that of the 2010 occupational statistics, which was 57% (Soguel Alexander, 2010). This might be related to the fact that the survey was conducted online, which meant that it was sent to more members of the profession who are no longer in particularly close contact with the profession and did not participate for this reason. Ultimately though, despite the lower response rate, 258 more dietitians took part in this occupational statistics survey than in the one seven years earlier.

In Switzerland, the dietetic occupational group is small and heterogeneous, which is why a full-population survey was conducted. To conduct any full-population survey, the target population must be reachable. One limitation of this full-population survey is that, although time-consuming research was conducted, it was not possible to find a valid email address for all dietitians registered in the NAREG. Nevertheless, the high response rate of 51.6% shows that many people from the occupational group were reached with this method, which represents one of this survey's strengths. This high willingness to participate might be due to a high level of interest in the survey's results among members of the profession, which thus had a positive impact on participation behaviour. The two reminder emails further increased participation in the survey.

For a subsequent survey, the question of whether to use the TAN procedure again for dispatch of the online survey should be given some thought. The TAN procedure brings advantages, in that only the clearly defined target group can participate, reminder emails can be sent in a very targeted way, each person can only participate once, and the exact response rate can be determined. On the other hand, a survey via a link without restricted access would enable a snowball effect, which might also be advantageous in our well-interconnected occupational group. If the TAN procedure is used again in a subsequent survey, it would be recommended to provide more precise information about this system in the email and to advise members of the profession who have not received an access link for participation in the survey to contact the authors.

One goal of this project was to reach the entire occupational group of dietitians in Switzerland. The full-population survey enabled the heterogeneity of this occupational group to be captured, as reflected in the make-up of the participants' characteristics. Firstly, this is evident in the gender distribution of 95% women and 5% men, the participants' distribution across all age groups, the different amounts of experience in the profession, and the completion of training or study at various educational institutions at CHE or UAS level in Switzerland and abroad. Secondly, both members and non-members of the SVDE participated in the survey, as well as people no longer active in the field of dietetic counselling. Although the data collected from the full-population survey did enable description of the occupational group, it would be advisable to widen the data pool for a future survey. For instance, this would make it possible to reach more members of groups such as the retired, or the members of the profession no longer active in the profession. Perhaps more use could be made of personal contacts among individual members of the profession who completed their training long ago, for example, so as to obtain additional email addresses.

The data was collected by means of an online survey with a fully standardised questionnaire. In terms of economy of research, the online survey is a quick and cost-efficient data collection method for a full-population survey. However, one limitation of the online survey is that people who only use the Internet sporadically are difficult to reach. In the context of this survey, it might be the case that, for some people, the dispatch with the survey link went to an email address that is now only rarely used, or was not being maintained at the time of the survey due to a holiday or maternity leave, resulting in some members of the profession becoming aware of the survey too late or not at all.

The fact that this online survey's questionnaire was available in the three languages German, French and Italian, thereby reaching dietitians from all parts of the country, was certainly a major advantage. On the other hand, this resulted in a complex questionnaire design. Although this new comprehensive



questionnaire was evaluated in a pretest, indications emerging after data collection suggest that improvements could be made in a subsequent survey, both in terms of the clarity of questions and the structure of the questionnaire. In order to achieve higher data quality next time, the question block about other training/study before and after training to become a dietitian should be revised, as well as the surveying of annual income for the self-employed and gross hourly wages for employees.

## 9 Conclusion

The data in these current occupational statistics shows that dietitians are widely represented in different job settings, but that the clinical and practice settings still make up the main area of activity. In occupational contexts that are not so well staffed, positive developments are evident and may also be driven forwards in future, for example if the number of graduates from universities of applied sciences continues to increase, or if the new regulations on recognition of foreign qualifications continue to result in more qualifications being recognised. Pressing ahead with the academisation of the profession will also help dietetic counselling to establish itself more in various job settings. In particular, there appears to be an urgent need for dietitians to establish themselves more in retirement and nursing homes. But there is still a lot of potential to use our competencies in a target-oriented way in other professional areas as well.

Evaluation of the data pertaining to the highest held qualification shows that the occupational group is not yet sufficiently informed about the new Bologna education system. Some members of the profession cannot tell the difference between a Master of Science or Master of Arts (university degrees) and a Master of Advanced Studies (professional education qualification). It is essential to make this issue clearer for the occupational group, so that members of the profession can make purposeful decisions about further development of their careers.

At the same time, it is evident that the proportion of dietitians in Switzerland with a qualification at MSc/MA level or a doctorate is still very low. This is certainly related to the fact that the profession has only been trained at university-of-applied-sciences level for 11 years and the fact that the range of Master of Science degree courses is still under development. The first MSc course offered in Switzerland appeared in autumn 2015 at the Bern University of Applied Sciences, namely the MSc in food, nutrition and health, followed by the MSc in health sciences focusing on nutrition and dietetics at the Haute école de santé Geneva from autumn 2017. As of autumn 2019, an MSc in nutrition and dietetics focusing on dietetic therapy is also offered at the Bern University of Applied Sciences. In future, it will thus be possible for members of the profession to obtain an education at master's level in both of these parts of Switzerland. For development of the profession, it is essential to have more available dietitians with a master's degree or doctorate, so that they can take on challenging high-responsibility tasks in the occupational context. Such further development can also bring members of the profession new opportunities for their own career progression, an aspect of the profession that dietitians do not consider particularly appealing at present.

To further develop the profession, it is important to have current data on dietitians' salaries, so that we can have a stronger presence in salary negotiations on the job market. This is important because only around 30% of dietitians consider the salary appropriate. For the first time, comprehensive statements on the occupational group's salaries can be made with the available data. Some of the salary differences between various job settings, but also between various regions, are considerable. However, the rather low gender-based salary differences compared to the data from the Swiss salary-structure survey are pleasing. In turn, from a regional point of view, the salary level in Ticino is positive in comparison with the Swiss salary-structure survey. With regards to occupations on a self-employed basis, the available income figures are not meaningful enough to enable any assured conclusions to be drawn.

Another important area for further development of the profession is the professional specialisation or technical focus of individual dietitians. This survey shows that quite a few dietitians still attend to a great many different technical areas in their daily work. Only with a certain amount of focusing can we regularly process the constantly emerging new findings in a very wide range of topics pertaining to nutrition and dietetics, and give these adequate consideration in our everyday work. Evidence-based work requires scientific literature searches to become part of the daily work routine for every dietitian in the future.

Finally, it can be noted that optimisation measures must be initiated in the following areas, so as to increase satisfaction among members of the profession:

- Salary
- Opportunities for career progression and further development
- Awareness of the profession among the general public
- Job availability

What has to be considered now, is how these areas can be improved in the long term and who must take on which tasks, because for us to be strong and to develop further as an occupational group, measures need to be taken on various levels. In this regard, every individual dietitian, as well as specialist groups, interest groups, the universities of applied sciences and the SVDE, must take responsibility. In addition, there appear to be very different and enriching resources available in the occupational group. In particular, for instance, consideration of the education and training completed by dietitians before or after they trained to be dietitians reveals resources that we perhaps do not yet make enough use of in our daily routine or for further development of the profession.

## 10 List of figures

Figure 1: Expectations of future professional work among BFH students at end of BSc degree in nutrition and dietetics (n = 123) .....	10
Figure 2: Study participants' year of graduation (n = 743).....	16
Figure 3: Educational institutions where study participants completed their training (n = 755) .....	17
Figure 4: Percentage frequency of highest educational qualification (n = 750) .....	18
Figure 5: Additional training or study before or after dietetic training.....	19
Figure 6: Number of completed professional education courses amounting to $\geq 300$ h or 10 ECTS credits (n = 663).....	19
Figure 7: Type and content of professional education courses (n = 280).....	20
Figure 8: Participating dietitians' number of jobs (n = 669) .....	22
Figure 9: Combination of employment statuses among those with two positions (n = 141) .....	23
Figure 10: Number of positions by job setting (n = 869).....	23
Figure 11: Dietitians' total working hours as percentage of a full-time job across all employed and self-employed positions .....	26
Figure 12: Average (mean) working hours as percentage of full-time job by job setting .....	27
Figure 13: Gross annual salary by position and major region (n = 409).....	29
Figure 14: Gross annual salary by gender .....	30
Figure 15: Gross annual salary by age group (n = 455) .....	31
Figure 16: Gross annual salary by number of years in the profession (n = 458).....	31
Figure 17: Gross annual salary by qualification .....	32
Figure 18: Gross annual salary with and without managerial role.....	32
Figure 19: Activities in the clinical setting .....	34
Figure 20: Activities in the practice setting .....	35
Figure 21: Number of indicated technical areas per dietitian (n = 663).....	36
Figure 22: Technical areas in dietitians' daily work [multiple answers possible] (n = 663) .....	37
Figure 23: Assessment of the profession .....	39

## 11 List of tables

Table 1: Number of degrees in dietetic counselling registered by the SRC since 1984 .....	8
Table 2: Number of retroactively attained university of applied sciences titles per year .....	8
Table 3: Switzerland-based study participants' region of residence (n = 719) .....	14
Table 4: Description of study participants .....	15
Table 5: Foreign qualifications (n = 80).....	17
Table 6: Age and experience in the profession in relation to number of professional education courses .....	20
Table 7: Current occupational situation .....	21
Table 8: Ratio between self-employed and employed positions by major region .....	22
Table 9: Number of positions per job setting (n = 869).....	24
Table 10: Comparison of job settings in 2017/2010 occupational statistics (Soguel Alexander, 2010) .....	25
Table 11: Average (mean) working hours by age group .....	27
Table 12: Average gross annual salary by job setting .....	28
Table 13: Median gross annual salary (CHF) by canton.....	30
Table 14: Annual income from self-employed positions in 2016 .....	33
Table 15: Most frequent technical areas by setting.....	38

## 12 List of abbreviations

BFH	Bern University of Applied Sciences
FSO	Federal Statistical Office
BSc	Bachelor of Science
CAS	Certificate of Advanced Studies
CHF	Swiss franc
DAS	Diploma of Advanced Studies
ECTS	European Credit Transfer and Accumulation System
EFAD	European Federation of the Associations of Dietitians
UAS	University of applied sciences
HEdS	Haute école de santé Geneva
HES-SO	University of Applied Sciences and Arts Western Switzerland
CHE	College of higher education
ICDA	International Confederation of Dietetic Associations
MA	Master of Arts
MAS	Master of Advanced Studies
MSc	Master of Science
n/a	not available/not applicable
n.d.	no date
NAREG	National Register of Healthcare Professions
NTE	Retroactive attainment of the university-of-applied-sciences title
SERI	State Secretariat for Education, Research and Innovation
SD	Standard deviation
SRC	Swiss Red Cross
SVDE	Swiss Association of Registered Dietitians
TAN	Transaction authentication number
ZSR	Payment office registry number

## 13 Bibliography

- Academy of Nutrition and Dietetics. (2015). *Compensation & Benefits Survey of the Dietetics Profession*. United States of America: Academy of Nutrition and Dietetics.
- Ahmadi, A., Ranjbar Zahedani, M., Moazen, M., Hassan Eftekhari, M., & Sareh, K. (2014). Job Satisfaction of Dietetic Practitioners in Fars Province, Southern Iran. *J Health Sci Surveillance Sys*, 2 (4), 145-150.
- Arvanitakis, M., Coppens, P., Doughan, L., & Van Gossum, A. (2009). Nutrition in care homes and home care. *Clinical Nutrition*, 28 (2009), 492-496. doi:10.1016/j.clnu.2009.07.011.
- Birrer, S. (2013). *Die Ernährungsberatung im Pflegeheim–Zukunft oder Wunschenken? Eine qualitative Bedürfnisabklärung* (Dietetic Counselling in the Nursing Home – The Future or Wishful Thinking? A Qualitative Needs Assessment, unpublished bachelor's thesis), Bern University of Applied Sciences, Department of Health Professions, Bern.
- Bucher, T. (2017). *Befragung der Bachelor-Absolventinnen und -Absolventen am Ende des Studiums* (Survey of Bachelor's Graduates at End of Degree Course). Retrieved from <https://www.zhaw.ch/storage/gesundheit/forschung/Themendossier/fachkr%C3%A4ftemangel/nat-abna/befragung-gesundheitsberufe-ergebnisse-2016-de-zhaw-gesundheit.pdf>.
- Federal Statistical Office. (2015). *Medienmitteilung Schweizerische Lohnstrukturerhebung 2014* (Press release on 2014 Swiss salary-structure survey). Retrieved from <https://www.bfs.admin.ch/bfsstatic/dam/assets/39777/masterhttps://www.bfs.admin.ch/bfsstatic/dam/assets/39777/master>.
- Federal Statistical Office. (2017). *Durchschnittsalter der Frauen bei Geburt* (Average Age of Women Giving Birth). Retrieved from <https://www.bfs.admin.ch/bfs/de/home/statistiken/bevoelkerung/geburtentodesfaelle/fruchtbarkeit.assetdetail.3522367.html>.
- Federal Statistical Office. (2018a). *Löhne 2016, Schweizer Lohnstrukturerhebung* (Salaries 2016, Swiss Salary-Structure Survey). Retrieved from <https://www.bfs.admin.ch/bfs/de/home/aktuell/neue-veroeffentlichungen.assetdetail.5246028.html>.
- Federal Statistical Office. (2018b). *Ständige und nichtständige Wohnbevölkerung nach Staatsangehörigkeitskategorie, Geschlecht und Kanton, 1. Quartal 2018* (Permanent and Non-Permanent Resident Population by Citizenship Category, Gender and Canton, 1st Quarter 2018). Retrieved from <https://www.bfs.admin.ch/bfsstatic/dam/assets/5306824/master>.
- Dolder, P., & Grünig, A. (2016). *Nationaler Versorgungsbericht für die Gesundheitsberufe 2016. Nachwuchsbedarf und Massnahmen zur Personalsicherung auf nationaler Ebene* (2016 Nationwide Healthcare Report for Health Professions: Demand for New Professionals and Staff-Retention Measures at National Level). Retrieved from [http://www.gdk-cds.ch/fileadmin/docs/public/gdk/themen/gesundheitsberufe/nichtun\\_gesundheitsberufe/versorgungsbericht/versorgungsbericht\\_2016-de-v2.2-web.pdf](http://www.gdk-cds.ch/fileadmin/docs/public/gdk/themen/gesundheitsberufe/nichtun_gesundheitsberufe/versorgungsbericht/versorgungsbericht_2016-de-v2.2-web.pdf).
- Federal Office for Gender Equality (FOGE). (n.d.). *Lohnungleichheit* (Salary Equality). Retrieved on the 2nd of August 2018 from <https://www.ebg.admin.ch/ebg/de/home/themen/arbeitslohnungleichheit/grundlagen.html>.
- Fontana, G. (2017). Wort der Präsidentin (A Word from the President). *SVDE Info*, 3/2017, 6-7.
- Hickson, M., Child, J., & Collinson, A. (2017). Future Dietitian 2025: informing the development of a workforce strategy for dietetics. *J Hum Nutr Diet*. doi:10.1111/jhn.12509.
- International Confederation of Dietetic Associations. (2016). *Dietitians-nutritionists around the World. Their Education and their Work*. Retrieved from <https://www.internationaldietetics.org/Downloads/2016-ICDA-Education--Work-report.aspx>.
- Jacob, S. (2009). Rückblick auf die Schule für Ernährungsberatung Zürich (Looking Back at Schule für Ernährungsberatung in Zurich). *Ernährungs-Info*, 6/2009, 23-25.
- Lobsiger, M., Morlok, M., Frey, M., & Oswald, A. (2014). *Fachkräftemangel in der Schweiz – Ein Indikatorensystem zur Beurteilung der Fachkräftenachfrage in verschiedenen Berufsfeldern* (Shortage of Professionals in Switzerland – A System of Indicators for Assessment of Demand for Professionals in Various Professional Fields). Retrieved from <https://www.fachkraefte-schweiz.ch/perch/resources/dokumente/fachkrftemangel-in-der-schweiz-ein-indikatorensystem-zur-beurteilung-der-fachkrftenachfrage-in-verschiedenen-berufsfeldern.pdf>.
- Mackenzie, A. (2008). *Job Satisfaction of South African Registered Dietitians*. (Master's thesis), Stellenbosch University. Retrieved from <http://scholar.sun.ac.za/handle/10019.1/1932>.

- Mahlstein, A. (2018). *Nationalen Absolventenbefragung der Fachhochschulen Gesundheit - Resultate des BSc Ernährung und Diätetik an der Berner Fachhochschule (unveröffentlichte Resultate der Studie)* (Nationwide Survey of Healthcare Graduates from Applied sciences universities – Results from the BSc in Nutrition and Dietetics at the Bern University of Applied Sciences (unpublished study results)). Bern University of Applied Sciences, Department of Health Professions.
- Mahlstein, A., & Bleuer, J. (2017). *Abschluss des BSc in Ernährung und Diätetik - Befragung von Absolvierenden des Bachelorstudienganges Ernährung und Diätetik an der Berner Fachhochschule* (BSc Degree in Nutrition and Dietetics – Survey of Graduates from the Bachelor's Degree Programme in Nutrition and Dietetics at the Bern University of Applied Sciences). Retrieved from [https://www.gesundheit.bfh.ch/fileadmin/wgs\\_upload/gesundheit/2\\_bachelor/ernaehrung\\_und\\_di\\_aetetik/2017-10\\_Artikel\\_Anstellungssituation\\_ERB.pdf](https://www.gesundheit.bfh.ch/fileadmin/wgs_upload/gesundheit/2_bachelor/ernaehrung_und_di_aetetik/2017-10_Artikel_Anstellungssituation_ERB.pdf).
- Rogers, D. (2016). Compensation and Benefits Survey 2015. *J Acad Nutr Diet*, 116 (3), 370-388. doi:10.1016/j.jand.2016.01.002.
- Rogers, D. (2018). Compensation and Benefits Survey 2017. *Journal of the Academy of Nutrition and Dietetics*, 118 (3), 499-511. doi:10.1016/j.jand.2017.11.016.
- Swiss Association of Registered Dietitians. (2015). *Strategie des SVDE 2015-2018* (Strategy of the SVDE 2015-2018). Paper presented at NutriDays, Biel/Bienne. [http://www.svde-asdd.ch/wp-content/uploads/2015/02/Strategie-des-SVDE\\_D.pdf](http://www.svde-asdd.ch/wp-content/uploads/2015/02/Strategie-des-SVDE_D.pdf).
- Swiss Association of Registered Dietitians. (2018). *Jahresbericht SVDE 2017* (SVDE Annual Report 2017). Retrieved from [http://www.svde-asdd.ch/wp-content/uploads/2018/03/Jahresbericht-2017\\_D.pdf](http://www.svde-asdd.ch/wp-content/uploads/2018/03/Jahresbericht-2017_D.pdf).
- Swiss Association of Qualified Dietitians. (1992). *SVERB ASDD 1942 - 1992*. Retrieved from [http://www.svde-asdd.ch/wp-content/uploads/2016/11/SVERB\\_50-Jahre\\_D\\_ganz.pdf](http://www.svde-asdd.ch/wp-content/uploads/2016/11/SVERB_50-Jahre_D_ganz.pdf).
- Swiss Red Cross. (1983). *Bestimmungen und Richtlinien für die vom Schweizerischen Roten Kreuz anerkannten Ausbildungsstätten mit einem Ausbildungsprogramm für Ernährungsberaterinnen* (Regulations and Guidelines for the Educational Institutions Recognised by the Swiss Red Cross with a Training Programme for Dietitians). Retrieved from <https://www.redcross.ch/de/file/15684/download>.
- Swiss Red Cross. (2017). *Registrierte schweizerische Diplome und Fähigkeitsausweise* (Registered Swiss Degrees and Certificates of Competence). Retrieved from <https://www.redcross.ch/de/srk-dienstleistungen/anerkennung-auslaendischer-ausbildungsabschluesse/zahlen-und-fakten-aus-dem>.
- Soguel Alexander, L. (2010). *Berufsstatistik über die Mitglieder des Schweizerischen Verbands diplomierter Ernährungsberater/innen HF/FH* (Occupational Statistics on Members of the Swiss Association of Registered Dietitians). Retrieved from [http://www.svde-asdd.ch/wp-content/uploads/2016/01/Berufsstatistik\\_2010\\_D.pdf](http://www.svde-asdd.ch/wp-content/uploads/2016/01/Berufsstatistik_2010_D.pdf).
- State Secretariat for Education, Research and Innovation. (2017). *Merkblatt altrechtliche Fachhochschultitel* (Information Sheet on Titles from Applied sciences universities under Old Regulations). Retrieved from [https://www.sbfi.admin.ch/dam/sbfi/de/dokumente/2014/06/merkblatt\\_fachhochschultitel.pdf.download.pdf/merkblatt\\_fachhochschultitel.pdf](https://www.sbfi.admin.ch/dam/sbfi/de/dokumente/2014/06/merkblatt_fachhochschultitel.pdf.download.pdf/merkblatt_fachhochschultitel.pdf).



## 14 Authors' contact details

Andrea Mahlstein  
Head of Nutrition and Dietetics Division  
Bern University of Applied Sciences  
Department of Health Professions  
Murtenstrasse 10, 3008 Bern  
[andrea.mahlstein@bfh.ch](mailto:andrea.mahlstein@bfh.ch)  
Tel. +41 31 848 35 34

Esther Weishaupt  
Research Associate  
Nutrition and dietetics bachelor's degree  
programme  
Bern University of Applied Sciences  
Department of Health Professions  
Murtenstrasse 10, 3008 Bern  
[esther.weishaupt@bfh.ch](mailto:esther.weishaupt@bfh.ch)  
Tel. +41 31 848 35 94