

# Bachelor of Science in Dietetics at the University of Applied Sciences Neubrandenburg (Germany)

## Concept, background and demand from the perspective of dietitians

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### Summary

The shortened bachelor's program in dietetics, which builds on professional training in dietetics, began in the summer semester 2014 at the University of Applied Sciences Neubrandenburg. The study program in Neubrandenburg was devised following a comprehensive feasibility study, which also included a survey of the professional group of dietitians. The results of the survey influenced the development of the program and indicated the need (based on the desires of German professional groups) to implement a program to provide academic qualifications to dietitians in Germany.

**Keywords:** dietetics, academic qualifications, university, dietitian

### Introduction

The shortened bachelor's program in dietetics, which builds on professional training in dietetics, began in the summer semester 2014 at the University of Applied Sciences Neubrandenburg. Together with the University of Fulda<sup>1</sup> there are currently two occupation-specific bachelor's programs for dietitians in Germany. Both programs award a Bachelor of

Science in Dietetics and pursue the same objective: working towards academic qualifications for German dietitians. However, they are based on different conceptual principles. Fulda's concept is a co-ordinated study program, which links professional training in dietetics with the university course and the Neubrandenburg program builds on completed professional training in dietetics. Based on the recommendations of the Standing Conference of the Ministers of Education and Cultural Affairs [1, 2] and European recommendations [3], 90 ECTS<sup>2</sup> credits are recognised by Neubrandenburg for the completed professional training in dietetics, from a total of 210 ECTS credits required for a bachelor's degree in dietetics; as a result the duration can be shortened to two years.

However, the regulatory framework was not the only consideration while designing an occupation-specific bachelor's program in dietetics.

The demand for the program was also considered from the perspective of the professional group, particularly in the case of study programs that build on the professional training in dietetics.

The study program in Neubrandenburg was devised following a comprehensive feasibility study, which was financed by the state of Mecklenburg-West Pomerania (MV). This article summarizes some of the findings of the "Nutrition Science Feasibility Study" (MEW) and a separate survey of (prospective) dietitians.

### Background: Nutrition Science Feasibility Study

In Mecklenburg-West Pomerania, health and nutrition science is a significant branch of the economy. Nutrition plays an important role in therapy, prevention and health promotion, yet no nutrition science courses exist in Mecklenburg-Vorpommern; a feasibility study on the demand for an academic program in the field of nutrition science (MEW) was thus commissioned by the Ministry for Education, Science and Culture in Mecklenburg-West

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<sup>1</sup> See also *Ernährungs Umschau* Heft 12/2013, S. M666

<sup>2</sup> ECTS: European Credit Transfer and Accumulation System = credits which are acquired in professional training (or university education) through performance and are recognised by European universities.

Pomerania in 2011. The University of Applied Sciences Neubrandenburg then carried out the feasibility study in 2012 and 2013.

To estimate the demand for an academic program in nutrition science, the project group at the University of Applied Sciences Neubrandenburg examined the following criteria:

- Demand for academics in the field of nutrition in Germany and Mecklenburg-West Pomerania,
- differentiation from other – incl. non-academic – occupations in this sector, with particular consideration of existing study programs at the University of Applied Sciences Neubrandenburg,
- official regulatory conditions particularly relevant to the field of diet therapy and nutrition counselling,
- international compatibility,
- sustainability with regard to the state resources required for such a study program and with regard to the moral obligation towards students, for whom such a course must enable access to a job market and open up career opportunities.

On the basis of the data gathered and evaluated in the context of the MEW, it was determined that there was no further demand for an additional study location for programs in the field of nutrition science or ecotrophology<sup>3</sup> (♦ Table 1). In conjunction with the data collected in this way, this conclusion was substantiated by the following data:

- The recommendations of the Science Council, which urgently recommended in its 2006 report that universities examine the capacity plans of their nutrition science programs in relation to their relevance to the job market and introduce a stricter numerus clausus system to substantially limit student numbers if applicable [4].
- The BMBF<sup>4</sup>-supported study on "Innovation Sector Food and Nutrition" in 2011, in which it was concluded that jobs for food technicians, but not for nutrition

scientists, were increasing [5].

- Current data on the job market, according to which the number of advertised positions for dietitians has been higher than the number of job seekers since 2007 in Germany and Mecklenburg-Vorpommern. This does not apply to nutrition scientists and ecotrophologists [6, 7].

Although these data do not substantiate the provision of a basic program based on nutrition science, they do illustrate opportunities for an occupation-specific bachelor's degree in dietetics for dietitians. This result is broadly supported by:

- Recommendations of the Science Council from 2012, which regarded the potential of providing health professions with academic training (academic quota of 20 %) [8].
- National, European and international position papers and standards on occupational policy, in which academic training of dietitians is recommended [3, 9, 10].
- Professional regulations, on the basis of which professional accreditation in other European countries in the field of dietetics and nutrition therapy for dietitians is possible in principle, but due to a lack of academic training is often associated with high costs [11].
- Results of monitoring of the health sector in Rhineland-Palatinate from 2012, according to which occupation-specific, academic further education options for dietitians contribute to the attractiveness of the profession [12].

## Survey of Dietitians

It was uncertain whether there was a demand for such a study program from the perspective of the professional group. However, this was considered a priority by the MEW project group, as an occupation-specific bachelor's degree in dietetics would only be promising for the university, if there were enough ap-

plicants. Therefore, in 2012, members of the professional group and students at state licensed schools for dietitians were surveyed by means of a questionnaire. The survey focused on the demand for a study program within the professional group, but also focused on other conceptual aspects relevant to the establishment of a study program, such as the proportion of dietitians with university entrance qualifications, the origin and age of potential students, the type of professional training, the course structure and possible emphases of a bachelor's program in dietetics

## Methodology

### Study participants

The survey was carried out with two different groups of respondents. One group was the attendees of the 54th Federal Congress of the Association of Dietitians (VDD) in 2012. This approach was selected partly for pragmatic research reasons and partly because Germany has no register for health professionals. It would thus be next impossible to reach all 14,000 dietitians employed in Germany [13]. Even though the questionnaire primarily addressed dietitians, visitors to the congress, who had not completed professional training in dietetics, could also take part in the survey. The questionnaire, to be filled out by hand needed to be submitted by 21.04.2012 at 15.00 (end of the congress) at the VDD information stand in the container provided. The other group surveyed was prospective dietitians at state licensed schools. According to data from the Federal Statistical Office of Germany, 2,094 people were undertaking pro-

<sup>3</sup> Ecotrophologists (germ. Öcotrophologe or Ökotrophologe) study home economics, nutrition and food science. They can specialize in dietetics or in nutrition but there is no "state registered program" or other quality criteria for the university education in this field.

<sup>4</sup> Federal Ministry of Education and Research

Research design	Methodology	Total	Sample	Selection criteria	Response	Core findings
<b>Survey of clinics in Mecklenburg-West Pomerania</b> Survey period: February 2012 to April 2012						
quantitative	mailed, self-developed, standardised questionnaire	35*	11 (31 %)	Size & focus	9 (81%)	<ul style="list-style-type: none"> <li>• 8 clinics (88 %) employ dietitians Average: 2.2 Range: 1–9</li> <li>• 4 clinics (44 %) plan to hire a total of 5 new dietitians</li> <li>• 5 clinics (55 %) work in collaboration with external “nutrition consultants”</li> </ul>
qualitative						<ul style="list-style-type: none"> <li>• 8 clinics (88 %) expect a higher demand for nutrition experts</li> </ul>
<b>Survey of rehabilitation facilities in Mecklenburg-West Pomerania</b> Survey period: February 2012 to April 2012						
quantitative	mailed, self-developed, standardised questionnaire	61**	11 (18%)	Focus on endocrinology, metabolism and nutrition	6 (54%)	<ul style="list-style-type: none"> <li>• 6 rehab facilities (100 %) employ dietitians Average: 2.0 Range: 2</li> </ul>
qualitative						<ul style="list-style-type: none"> <li>• 5 rehab facilities (83 %) expect a higher demand for nutrition experts</li> <li>• 2 rehab clinics (33 %) plan to hire a total of 2 new “nutrition consultants”</li> </ul>
<b>Survey of companies in nutrition science in Mecklenburg-West Pomerania</b> Survey period: April 2012 to June 2012						
quantitative	emailed, self-developed, standardised questionnaire	133***	133 (100%)		30 (23%)	<ul style="list-style-type: none"> <li>• 6 companies (20 %) employ an ecotrophologist or nutrition scientist</li> <li>• 6 companies (20 %) plan to employ a nutrition scientist</li> <li>• Demand for nutrition scientists or ecotrophologists in view of companies: 15 (50 %) no demand, 12 (40 %) possible demand, 3 (10 %) demand</li> </ul>
<b>Survey of state licensed schools for dietitians in Mecklenburg-West Pomerania</b> Survey period: June 2012						
qualitative	telephone interviews based on guidelines	3****	3 (100 %)		100 %	All regard the provision of a basic academic framework for dietitians, as well as academic opportunities for career progression, as very important, as these increase the attractiveness of the profession and can contribute to the evidence base of dietetics.
<p>* according to the Fourth Hospital Plan for Mecklenburg-West Pomerania dated 14 December 2004  ** according to the rehabilitation directory: <a href="http://www.reha-verzeichnis.de">www.reha-verzeichnis.de</a> (accessed 13.12.2012)  *** all companies are members of the association “Agrarmarketing Mecklenburg-West Pomerania (AMV)”  ****all recognized state licensed schools for dietitians in Mecklenburg-West Pomerania</p>						

Tab. 1: Summary and core findings of surveys carried out as part of the Nutrition Science Feasibility Study (MEW)

professional training in dietetics in 2010 [14]. However, this figure must be considered in the context of the absence of a duty of disclosure for "healthcare schools". The actual number of students could therefore be higher [14]. Due to the slightly divergent information on the number of schools in federal territory (the VDD assumes approx. 45 schools [15], the Federal Employment Agency (Bundesagentur für Arbeit) listed 66 training programs for dietitians on KursNet in 2011 [16]), only those 31 schools administered via the VDD's "Working Group of Head Teachers" were included in the survey. A questionnaire was sent by email to the heads of the state licensed schools, with a request to print it out, distribute it to students and to send it back to the University of Applied Sciences Neubrandenburg by 22 April 2012. According to the data available from the 31 schools, a total of 1,045 students could be reached using this method.

#### Survey instrument

The survey instrument was a standardized questionnaire developed by the project team, which included 14 questions. Questions 1–14 were directed at qualified dietitians, questions 1 and 2 at non-dietitians and questions 1–10 at student dietitians. The questionnaire was to be completed in writing. The questions were closed questions, which could also be partially supplemented in writing. The questions focused primarily on the interest in a study program in dietetics for dietitians and the structural and contextual aspects of such a course.

#### Response

According to statements from the German Dietitian Association, 1,331 people attended the 2012 federal congress (approx. 150 speakers, employees and exhibitors were not taken into account). In addition to the 1,045 students, a calculated total figure of 2,376 people had the oppor-

tunity to fill in the questionnaire. In total, 957 people answered the questionnaire; the response rate was therefore 40.3 %. All questionnaires were included in the evaluation.

#### Data analysis

The free responses provided by the respondents were categorised in the style of the synoptic, qualitative content analysis according to MAYRING [17]. The data was evaluated descriptively using the statistical software SPSS 20 [18].

#### Ethics and data protection

The data was evaluated in accordance with the Mecklenburg-West Pomerania data protection law. Notification of the study to the ethics committee was not required.

### Results

#### Professional status of respondents

As expected and as a result of the survey approach, 689 people (72.0 %), and hence the majority of respondents, were training to become dietitians. 259 respondents (27.1 %) were trained dietitians, 9 (0.9 %) study participants had basic qualifications as nutrition scientists or ecotrophologists or worked in another health profession (♦ Diagram 1).

#### Bachelor's degree in dietetics for dietitians

89.8 % of respondents (859 people) considered a shortened, occupation-

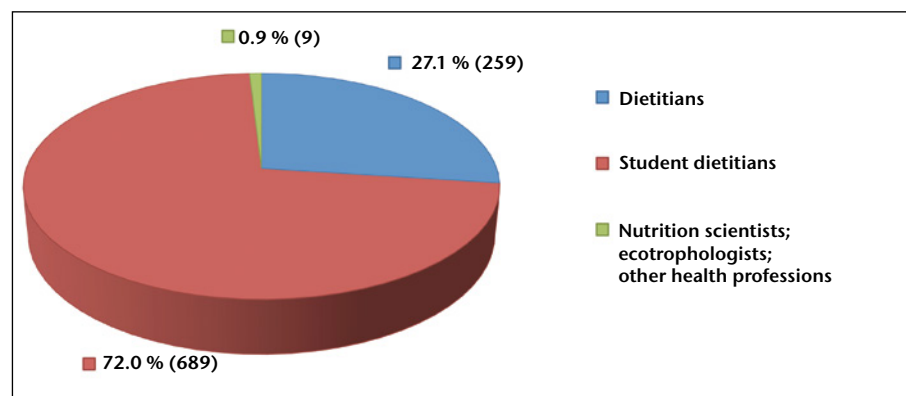
specific bachelor's program for certified dietitians to be important. Of these, 85.3 % (733 people) could imagine attending a shortened bachelor's program in dietetics which build upon the previously obtained professional training in dietetics.

#### Characteristics of people interested in a shortened bachelor's degree in dietetics

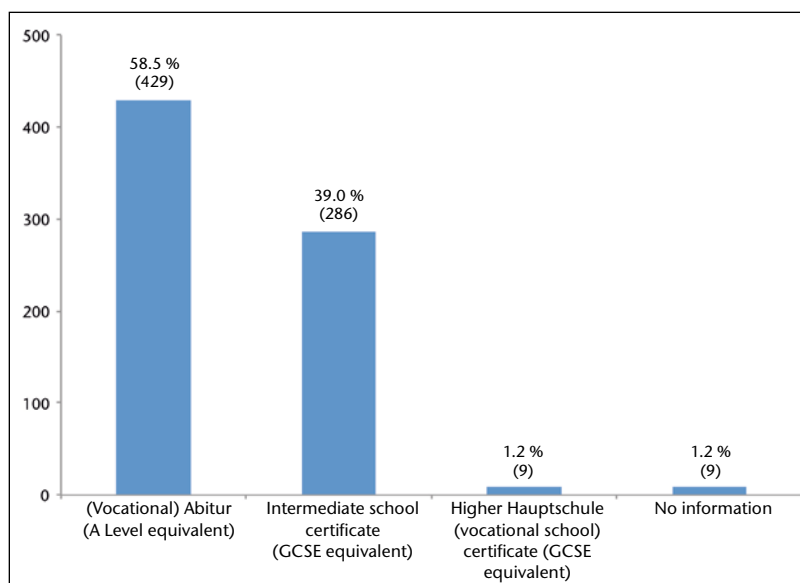
62.4 % (429 people) of people interested in a shortened bachelor's program in dietetics possessed a university entrance qualification (♦ Diagram 2). The majority of interested people came from the most populous states of Bavaria and North Rhine-Westphalia (♦ Diagram 3). Due to the high proportion of students among the respondents, there was a comparably high proportion of people interested in a bachelor's program in dietetics in the age group of 21 to 25 (402 = 54.8 %).

#### Type of professional training

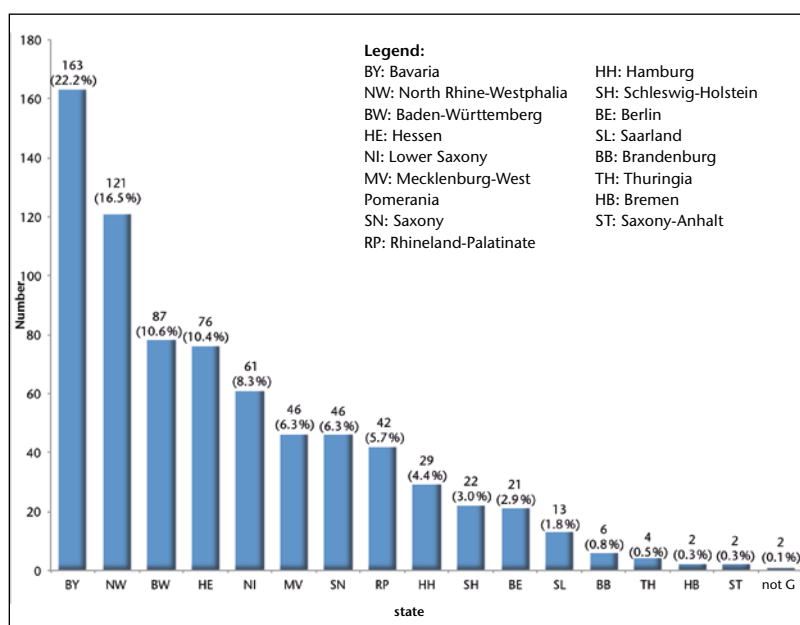
The professional training in dietetics currently offered in Germany has existed since 1994 [19]. Between 1973 and 1994 professional training in the former West Germany lasted for two years [20]. In the former East Germany, dietitians have been trained for three years since the 1950s [21]. As a result, dietitians currently in employment have three different types of professional training. Almost half of respondents



Diag. 1: Professional status of respondents (n= 957)



Diag. 2: Highest school-leaving qualification of people interested in a bachelor's program in dietetics (n=733)



Diag. 3: Origin by state of people interested in a bachelor's program in dietetics (n=733)

who had completed professional training in dietetics (187 people), who were interested in a program in dietetics (53.9 %, n = 96), acquired professional training according to current legislation, followed by the group of those who completed professional training in the former West Germany before 1994 (43.3 %, n = 77). Only 2.8 % (5 people) of

respondents completed professional training in accordance with the legislation of the former East Germany.

**Desired fields of study**

770.5 % (517 people) of respondents, who could imagine attending a bachelor's program in dietetics and wanted to acquire a bachelor's degree with specialization in a particular field. Of

these, the majority wanted to specialize in the fields of obesity (60 %), eating disorders (57.8 %) and diabetes mellitus (57.4 %), i.e. those fields currently receiving a lot of attention from science, politics and the public. These fields were followed by specializations in gastroenterology (42.2 %), allergology (40.0 %) and methodology and didactics (29.7 %). Comparatively few mentions were made in the fields of oncology (20.7 %), paediatrics (20.7 %) and nephrology (19 %) (♦ Diagram 4).

**Program structure**

68.1 % (500 people), and hence the majority of respondents, wanted the program to run in parallel to their occupations, followed by the option to attend the course full time or part time (♦ Diagram 5).

**Limitations**

The results presented here describe the different aspects of a bachelor's program in dietetics, which builds on professional training in dietetics, at the University of Applied Sciences Neubrandenburg. The questionnaire response rate was approx. 40 % and therefore higher than the response rate of other surveys within the professional group [22]. The response rate was considerably higher (72 %) among student dietitians than among qualified dietitians (27.1 %).

The data gathered from qualified dietitians cannot be regarded as representative, as, on the one hand, only a small proportion of dietitians could be reached at the congress and, on the other hand, the dietitians who handed in a completed questionnaire only represent 1.9 % of the 14,000 dietitians working in Germany (according to GBE<sup>5</sup> figures) [13]. 32.9 % of the 2,094 student dietitians (according to Destatis) were taken into account in this survey [14]. Nonetheless, as is also the case with the survey of congress attendees, a selection bias must be assumed, as only those

<sup>5</sup> Federal Health Monitoring System (GBE)

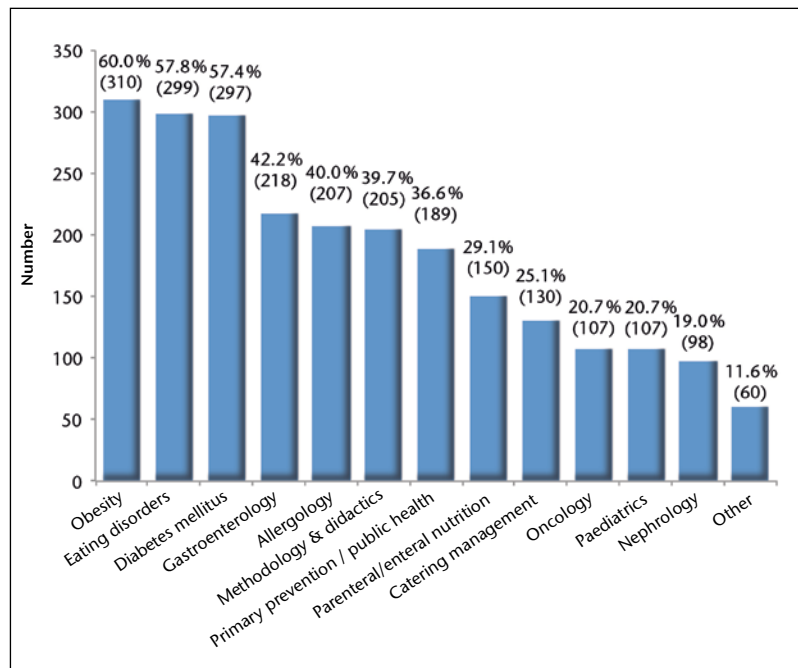
state licensed schools involved in the Working Group of Head Teachers (see above) were included.

## Conclusions and implications for an academic program in dietetics

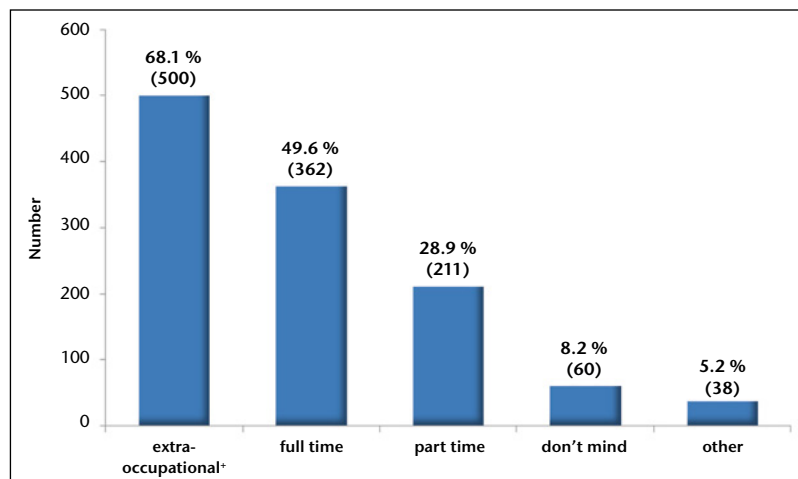
The data from the survey can only be considered as trends based on the limitations mentioned; however, the data still deliver interesting results. A majority of respondents – 89.9 % (859 people) – believed that a program building on the professional training in dietetics would be useful. Of this group, 85.3 % (733 people) could imagine attending such a program. The data also confirms the relatively high number of people with the Abitur (German A Level equivalent) within the professional group [22], and, in particular, within the group of student dietitians. Thus it is shown that a sufficient proportion of those potentially interested in the program also possess a university entrance qualification.

In spite of the limited representation within the professional group, the data presented here was a critical part of the University of Applied Sciences Neubrandenburg's decision to offer a shortened additive bachelor's program in dietetics for dietitians. The data also helped answer essential questions on the design of the academic program while also representing an important basis for offering further occupation-specific academic programs.

In spite of clear answers to many questions, all of the respondents' wishes and expectations in relation to the introduction of the new program could not be taken into consideration for structural, legal, or didactic reasons. For example, the desire for specialization within the bachelor's program was not met. This decision was made primarily in view of the general professional training of dietitians provided in Germany and in most European countries. A bachelor's program with specializations would



Diag. 4: Desired specializations of a bachelor course in dietetics of people interested in a bachelor course in dietetics (a total of 2,337 mentions by n = 517 people, maximum five mentions possible)



Diag. 5: Desired format of a bachelor course in dietetics of people interested in a bachelor course in dietetics (total of 1,171 mentions by n = 733 people, several mentions possible)

lead to an increase in knowledge in one field of activity, but at the same time would lead to problems arising from all fields of activity not being given the same attention. This would also have led to recognition problems in foreign (European) countries. Vis-

à-vis the recommendations of DIETS (Thematic Network for Dietetics) and EFAD (European Federation of the Associations of Dietitians) regarding the skills of dietitians at bachelor's, master's and doctorate level, raise a further question: [23] How can oc-

cupation-specific academic further education at master's level be constructed if specialization had already occurred in the bachelor's program? Nevertheless, the statements from respondents in regard to the program offers important advice for program development, however not at bachelor's level, but for master's in dietetics, which should allow for specialization according to the expectations of EFAD.

The respondents' desire for programs running in parallel to their occupations or distance-learning programs was not followed. This decision was based on academic and professional recommendations, which regard training to become "reflective practitioners" as an essential part of academic training in health professions [8, 24, 25]. Based on experiences from other academic programs within the health profession, such as physiotherapy, this is only possible with intensive support [25, 26]. These models were thus abandoned for the time being. The evaluation of the academic program in Neubrandenburg and other occupation-specific programs for dietitians will in future provide data, which can be used to develop more suitable program models.

In the course of providing an across the board higher academic level among all dietitians in Germany, close collaboration between those involved in educational institutions (academic and vocational) and professional interest groups is essential. The objective of the emergent academic programs in dietetics should have several dimensions: On the one hand, academic dietitians should be in a position to reflect critically on their professional activity and to work on their professional fields academically. This will support to further develop within the professional group, but above all improve care for patients and customers. Lastly it should finally allow bridges to be built between Germany, Europe and the world, as academic requirements are part of the norm for dietitians worldwide.

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#### Conflict of Interest

The authors declare no conflict of interest according to the guidelines of the International Committee of Medical Journal Editors.

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