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Thematic Network DIETS mapping dietetic education in Europe 2006-2009: comparisons to the European Academic and Practitioner Standards for Dietetics

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ABSTRACT

Background: In 2002 a study by the European Federation of Associations for Dietitians revealed that the education of dietitians prior to entry into the profession was quite diverse across Europe. An EU supported Thematic Network 'Dietitians Improving Education and Training Standards' (DIETS) had, as one of its objectives to study and then support change in dietetic education through its partners in 30 countries in Europe over the period 2006-09. This study compared educational practices in Higher Education Institutes that teach dietetics between 2007 and 2009.

Methods: The study was longitudinal repeated measure in design. An online questionnaire was developed to record the current academic curricular and structure of the practice placements as well as programme recognition in the country concerned. The study also asked about ECTS calibration and use of certain reference materials in the design of the curriculum for example the European Academic and Practitioner Standards for Dietetics. The questionnaire was sent to all Higher Education Institutes that were partners of the DIETS Network in 2007 and 2009.

Results: Responses yielded an analysable sample of 35 in 2007 and 41 questionnaires in 2009 representing a response rate of about 60% of HEIs in partnership with DIETS. Changes in calibration status was observed in 37 (90%) of HEIs compared to 21 (60%) over the two years. Four countries acquired national standards for the recognition of dietitians and their education. Dietetic placement length still falls short of the recommendation in seven countries but the diversity of placements offered to students is to be valued. Two subjects, public health/promotion and reflective learning (research) are now being taught in more HEIs over the two year period but immunology, genetics, management and leadership and marketing are taught in less than 60% of HEIs in both 2007 and 2009.

Conclusions: There have been positive changes demonstrated in dietetic education in Europe between 2007 and 2009. The work of the Thematic Network can be seen in promoting the importance of ECTS calibration, educational standards, placement preparation and teaching and the breadth of the curriculum. National authorities, higher education and professional associations will continue to improve the preparation of dietitians so they can contribute fully to improve the future nutritional health of Europe.

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La Red Temática de DIETS está cartografiando la educación dietética en Europa 2006-2009: comparaciones con los Criterios Académicos y Profesionales Europeos para la Dietética

RESUMEN

Palabras clave:

Proceso de Bolonia
Dietistas
Educación
Competencias
Formación práctica

Antecedentes: En 2002, un estudio hecho por la Federación Europea de Asociaciones de Dietistas puso de manifiesto que la educación de los dietistas antes de acceder a la profesión era bastante diversa en Europa. Una Red Temática apoyada por la Unión Europea, "Dietitians Improving Education and Training Standards" (DIETS: Dietistas que Mejoran los Estándares de Educación y Formación), tenía como uno de sus objetivos estudiar y luego apoyar el cambio en la educación dietética a través de sus socios en 30 países de Europa en el periodo 2006-2009. Ese estudio comparó prácticas educacionales en los institutos de enseñanza superior que impartían la dietética entre los años 2007 y 2009.

Métodos: El estudio fue de medida repetida longitudinal. Se desarrolló un cuestionario en línea para registrar el plan académico curricular actual y la estructura de las colocaciones de las prácticas, así como el reconocimiento del programa en el país en cuestión. El estudio también preguntaba sobre la calibración del ECTS (Sistema Europeo de Transferencia de Créditos) y el uso de determinados materiales de referencia como, por ejemplo, los Criterios Académicos y Profesionales Europeos para la Dietética, en el diseño del currículo. El cuestionario se envió a todos los institutos de enseñanza superior que eran socios de la Red de DIETS en 2007 y 2009.

Resultados: Las respuestas dieron una muestra analizable de 35 en 2007 y de 41 en 2009, lo que supone una tasa de respuesta de alrededor del 60% de los institutos de enseñanza superior socios de DIETS. Se observaron cambios en el estado de la calibración en 37 (90%) de los institutos de enseñanza superior, frente a 21 (60%) durante los 2 años. Cuatro países obtuvieron estándares nacionales por el reconocimiento de dietistas y de su educación. Las colocaciones de dietistas aún no alcanzan las recomendaciones en siete países, pero la diversidad que se ofrece a los estudiantes debe ser valorada. Dos materias, la salud pública/promoción y el aprendizaje reflexivo (la investigación) se están enseñando ahora en más institutos de enseñanza superior en el periodo de 2 años, pero la inmunología, la genética, la gestión y el liderazgo y *marketing* se enseñan en menos del 60% de los institutos de enseñanza superior tanto en 2007 como en 2009.

Conclusiones: Ha habido cambios positivos demostrados en la educación dietética en Europa entre los años 2007 y 2009. El trabajo de la Red Temática puede apreciarse en la promoción de la importancia de la calibración del ECTS en estándares educacionales, la preparación de prácticas y su enseñanza y la amplitud del currículo. Las autoridades nacionales y las asociaciones de enseñanza superior y profesionales seguirán mejorando la preparación de los dietistas para que puedan contribuir plenamente a mejorar la salud nutricional futura de Europa.

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Introduction

Dietitians working across Europe are at the forefront of the nutritional health of the European population. The Dietitian applies the science of nutrition to the feeding and education of groups of people and individuals in both health and disease. The European Federation of Associations of Dietitians (www.EFAD.eu) and the International Confederation of Dietetic Associations (ICDA) define a dietitian as a person with a qualification in Nutrition and Dietetics recognised by a national authority¹. Dietitians are therefore uniquely educated to play a role in key strategic areas which will influence nutritional health; in clinical and tertiary care, in food service and industry and in primary care and health promotion^{2,3}. The quality of the European dietetic workforce and especially its 'fitness to practice' is a critical component of the Edinburgh (2005) and Portugal (2007) Agreements and the relevant Competent Authorities. In Europe dietitians can be found in almost every member state and must be the major human capital asset for the realisation of the European Union 'White Paper on Nutrition, Overweight and obesity – related health issues'^{4,5}. They work, as professionals primarily with a dietetic and nutrition background although other qualifications are found to be acceptable in Member Countries⁶.

In June 1999, Bologna Declaration⁷ called for a coherent, compatible and competitive European Higher Education Area by 2010, the key objectives are:

– The adoption of a system of easily readable and comparable degrees, in order to promote European citizens' employability and

the international competitiveness of the European higher education system.

- Convergence of higher education to a system of two cycles, undergraduate and graduate. The first cycle of studies, lasting a minimum of three years. The second cycle should lead to the master and/or doctorate degree as in many European countries.
- Establishment of a system of credits –such as the European Credits Transfer System ECTS– to allow transferability and access across Europe.

In 2000 the TUNING project⁸ was initiated to facilitate a more transparent approach across Europe for Higher Education. The Tuning process, as it is now known, requires all Higher Education to calibrate its programmes in terms of European Academic Credits and be more overt in the competences achieved as a result of the educational programme. The Education report, undertaken by EFAD, in 2002 demonstrated that educational standards for dietitians across Europe were very different⁹. Members of the European Federation of the Associations of Dietitians (EFAD), made a commitment in the Roskilde Resolution¹⁰ to define priorities for the harmonisation of education and practice for dietitians across Europe. As part of this commitment it was agreed to establish European Academic and Practitioner Standards for Dietetics which were accepted by all members of EFAD in 2005². These Standards or the 'European Dietetic Benchmark Statement' (EDBS) define the minimum standards of education that all dietitians working in Europe should achieve at the point of initial qualification. It recognised three different roles for dietitians working in Europe. Education standards were proposed for

each role as well as for a general dietitian. The roles recognised are: Clinical Dietitian, focused on clinical nutrition and dietetics with responsibility for dietary prevention and treatment of groups and individuals in an institution or a community; Administrative Dietitian, focused on food service management with responsibility for feeding of groups of people in health and disease in an institution or a community; and Public Health or Community Dietitian, directly involved in health promotion and policy formulation that leads to the promotion food choice amongst individuals and groups to improve or maintain their nutritional health and minimizes risk from nutritionally derived illness.

A Thematic Network, to explore and improve the education of dietitians across Europe or 'Dietitians Improving Education Training Standards' (DIETS) was approved in August 2006. Initially the TN DIETS comprised of 118 partner institutions (Dietetic Associations within EFAD, other Dietetic Associations, Higher Education Institutions and Non-governmental Agencies) from 30 European countries. A key objective was to describe all areas of dietetic practice, education and training throughout Europe and develop the utilisation of ECTS (European Credit Transfer System).

In that context, the main aim of this study is to map education and practice placement training in dietetics in Europe in 2007 and again in 2009 to compare the results and judge whether progress has been made to meet the European Academic and Practitioner Standards for Dietetics².

Methods

The Education and Practice Group of DIETS developed an online education mapping questionnaire to primarily explore adherence to the EDDBS. Questions were asked about the programmes, their academic content and information about practice placements. The questionnaire contained both quantitative and qualitative questions (appendix 1). A pilot was undertaken among members of DIETS work groups and modifications made. All Higher Education Institutions (HEIs) that were partners in the DIETS Thematic Network in that period (n=70) were encouraged to complete the on-line questionnaire in March 2007 at the DIETS website in the area accessible to registered users only. In April 2009 the HEI partners of the Thematic Network were asked again to complete the interactive questionnaire to find any changes that may have occurred. The questionnaire was slightly modified by rephrasing some of the subjects taught in dietetic programmes.

Results from closed questions were analysed quantitatively using Excel. Results of the open questions were analysed qualitatively and will be reported elsewhere especially at DIETS Report 5¹¹. In some cases where there were two or more responses from an institution were obtained the data was checked to establish if two programmes eg administrative and clinical dietetics, were being represented in which case the data remained in the analysis. Where two programmes were not being represented only one data set was retained for each institution through a harmonisation of the data.

Results from the questionnaire were then compared to the dietetic education analysis by Middleton et al⁹, as this survey was undertaken prior to the introduction of the European Dietetic Academic and Practitioner Benchmark Statement² and Cuervo et al⁶. Incomplete records and records with no answer were excluded from the analysis.

The questionnaire was only circulated to DIETS Partners, who had previously agreed to cooperate in Network activities. By answering the questionnaire and submitting the response on-line an acceptance of participation in the study and data acquisition was agreed. No formal ethical approval was sought for this study.

Results

In 2007 42 questionnaires were submitted on-line. This represents a response rate 60% from the 70 HEIs that were partners. Of the

questionnaires returned 5 did not put their name and country and were excluded from the analysis. The remaining 37 questionnaires, representing the DIETS07 data set, were analysed as stated in the method section. In 2009 all 41 (59% response rate) questionnaires returned were eligible for analysis, representing the DIETS09 data set. The questionnaires submitted with data missing were analysed but the quantitative analysis means have been adjusted appropriately. The databases are available on the DIETS website (www.thematicnetworkdietetics.eu). The final quantitative analysis was therefore completed on 37 questionnaires in 2007 and 41 for 2009.

Table 1 shows the origin of the responses. The DIETS07 and DIETS09 responses show that the number of HEIs responding from each country was different and it should be noted that the some of the actual HEIs responding could be different. This was especially the case where there was more than one or two HEIs teaching dietetics in a country such as Austria, Belgium, Germany, and Spain. The data therefore is not necessarily directly comparable between the years but is indicative of the nature of the education in that particular country. It does however represent the education in the particular HEI who has responded to the survey. HEIs offer unique and characteristic programmes which may have a similar structure but vary even within a country. Therefore each HEI response is treated as a data point. There has been no attempt to present a country by country profile of dietetic education although some indicators and inferences may be drawn.

As table 1 shows HEIs have study programmes leading to qualification as a general dietitian or a clinical dietitian, administrative dietitian or public health dietitian. In some HEIs the study programmes lead to more than one qualification. The diversity of the programmes did not change from 2007 to 2009. Although in comparison to the Middleton et al⁹ survey the diversity of dietetics of programmes leading to different areas of employment in Europe for qualified dietitians has increased. In many countries the general dietetic category allows the dietitians to specialise on qualification or to assume a more holistic approach and adapt to the needs of the service. Diversity is therefore an indicator of the responsiveness of the profession to meet the challenging and different needs of the society and culture in which they find themselves.

Almost all students are trained to give nutritional advice to both groups and individuals (100% and 94%, respectively) and counsel individuals with dietary related illnesses therapeutically in the community (84%) and hospitals (86%). They are also trained to take responsibility for feeding groups of people (83%). 71% of students are trained to manage food services.

Table 2 shows that the mean duration of study programmes and other characteristics of the programmes, have not altered between the two survey periods, for example the average programme length remains at about 3.5 years, with a range from 2 years in France to 5 years in Finland. However, it is also important to know the number of weeks a year that the study programme includes, that ranges from 12 weeks a year in Czech Republic to 44 in Lithuania. The most reasonable way to measure the academic load of a study programme may be by using the European Credit Transfer System (ECTS). Information about ECTS points were provided by 25 (71%) and 34 (83%) of HEIs in 2007 and 2009 respectively (fig. 1). The values provided indicate enhanced use of the ECTS system but also indicate, despite the increase, that some HEIs still do not calibrate their courses. Students have to gain between 120-300 ECTS for completion of study programmes, although in 2009 more programmes were reported requiring higher ECTS points for completion. According to the EDDBS all study programmes for dietitians should at least lead to a first cycle degree, which carries a minimum of 210 ECTS. In DIETS 2007 15 (60%) of HEIs reported below 210 ECTS but in 2009 only 17 (41%) HEIs had a study programme of less than 210 ECTS.

Table 3 provided more detailed information about the programmes in each country where at least one HEI has responded. Where several

Table 1
Characteristics of the sample

Country	Number responding		Course outcome dietetic speciality and Qualification: Clinical/ Administrative/Public Health/General	EFAD Education Survey, 2002*
	DIETS07	DIETS09		
Austria	2	1	Clinical + Administrative	General
Belgium	4	8	Clinical + Administrative + General	General
Czech Republic	1	-	Clinical + Administrative + General	NR
Denmark	1	2	Clinical + Administrative	Administrative + Clinical
Finland	1	1	Clinical + Administrative + Public Health + General	Clinical
France	1	2	Clinical + Public Health	NR
Germany	1	1	Public Health + General	NR
Greece	2	2	Clinical + Administrative	Clinical + General
Hungary	2	1	Clinical + Administrative	Administrative+ Clinical + General
Ireland	1	1	Clinical + Public Health	NR
Lithuania	2	1	Clinical + Public Health	NR
Netherlands	2	3	Clinical + Administrative + Public Health + General	NR
Norway	1	-	Administrative	NR
Poland	-	1	General	NR
Portugal	1	3	Clinical + Administrative + Public Health + General	NR
Slovenia	1	1	Public Health	NR
Slovak Republic	1	1	Clinical + Public Health	NR
Spain	4	6	Clinical + Administrative + Public Health + General	NR
Sweden	4	4	Clinical + Administrative + Public Health + General	Administrative
Switzerland	1	-	Clinical + Administrative + Public Health + General	NR
Turkey	3	1	Clinical + Administrative + Public Health + General	NR
United Kingdom	-	1	Clinical	Clinical
Total	37	41		

NR: no response.

*Middelton et al⁹, 2003.

Table 2
Characteristics of the academic study programmes

Characteristic of Study programme	Mean values		Range	
	DIETS07	DIETS09	DIETS07	DIETS09
Years	3.46	3.5	2-5	2-5
Weeks/year	34.8	36.5	12-44	24-50
Hours of formal tuition/week	29.8	32.1	4-52	11-53
Hours of private study expected/week	21.9	20.6	2-47.5	6.3-38
ECTS points	DIETS07	DIETS09		
120	1	1		
180	13	15		
198	1	1		
210	1	2		
240	7	12		
260	1	1		
300	1	2		
Numbers responding (percent)	25 (71%)	34 (83%)		

HEIs have responded an average length of programme has been calculated. As the same HEI has not necessarily responded to the questionnaire in both survey periods there is some variability from one survey year to another which is attributable to the HEI and not necessarily attributable to a change of education within that country.

When designing programmes it is important to use the available guidance and ensure that programmes adhere to the best possible standards to ensure the transparency of education a recommendation of both Bologna⁷ and Tuning⁸. Table 4 shows that over the two year period HEIs reported increased awareness and use of ECTS, Dublin descriptors and the European Benchmark Standards for Dietetics. Also National Guidelines for dietetic programmes are increasingly available and used for programme design.

The placement period is of particular importance to professional education in dietetics and the EDBS stipulates that the equivalent of 30 ECTS credits or a minimum of 50 % of an academic year should take place in practice. If the average length of a dietetic programme in Europe is about 35 weeks this would equate to a minimum of 17

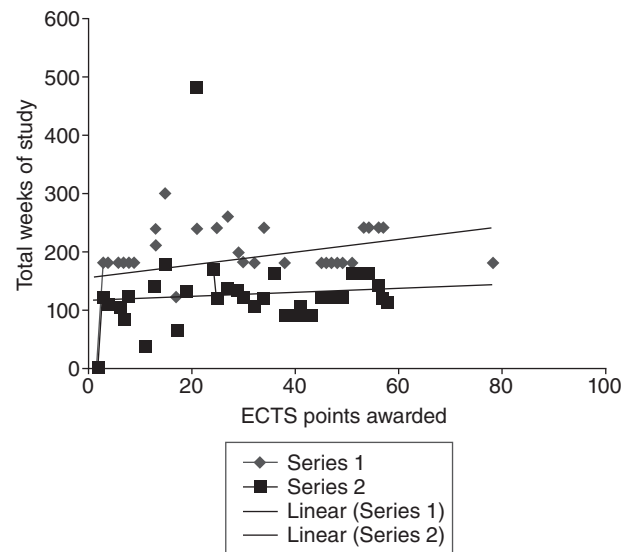


Figure 1. There is a poor agreement between the ECTS points awarded and the length of time of study in some cases.

weeks of placement in a typical programme (table 2). The mean of the placements 22.5 and 21.4 weeks in 2007 and 2009 respectively appear to be well over this requirement. But table 3 shows that in seven countries (Czech Republic, Norway, Poland, Slovenia, Spain, Sweden and Turkey) students appear, from the HEIs responding to the surveys, to undertake less than 17 weeks of placement. In Finland the students arrive on the programme with practical experience that is acceptable for their programme of studies and therefore do not need to undertake further practical experience. Table 5 shows the detailed results from the DIETS09 survey which is very similar to DIETS07 data. It can be seen that placement learning could be achieved in five different placements which all represent fields of employment for dietitians working in Europe. Typically table 5 shows that the most usual placement is in the clinical environment. Most

Table 3

Present study and comparison with previous surveys of dietetic programmes in Europe

Country	Average Length of Programme (including placement) in weeks			ECTS for programme		Weeks of Placement (percent of the total programme)		
	2002 ^a	DIETS07	DIETS09	DIETS07	DIETS09	%age whole ^a	DIETS07	DIETS09
Austria	132	140	120	180	180	51	24 (21)	30 (25)
Belgium	83	120	120	180	180	22	23 (21)	22 (18)
Czech Republic		36	–		–		6 (16)	–
Denmark	140	210 ^b	140	140	210	12	28 (20)	20 (14)
Finland	184	165	165	300	300	13	24 (14)	16 (15)
France ^c	70	64	102	120	120	29	17 (26)	18 (18)
Germany ^c	146	130	132		240	27	35 (27)	36 (27)
Greece	146	104	110	240	240	24	26 (25)	25 (23)
Hungary	130	140	120	240	240	19	16-30 (9-25)	20 (18)
Ireland	154	135	140	260	260	22	31 (23)	30 (22)
Italy	125	–	–			40	–	–
Lithuania		120	135	190	190		37 (32)	–
Netherlands	160	160	155	240	240	19	20 (13)	35 (23)
Norway ^d	80-200	114	–	180	–	1.5	0 ^d	–
Poland		–	135	–	300	–	–	0
Portugal		120	120	240	240		30 (25)	20 (16)
Slovenia		90	105	90	180		15 (16)	15 (14)
Slovak Republic		160	150				21 (13)	24 (16)
Spain ^d	70-90	100	105		180-240	13-14	12 (9)	8-28
Sweden	120-160	120	130	180	180	8	6 (5)	10 (8)
Switzerland ^e	138	160	–	180	–	50	40 (25)	–
Turkey	118	116	110	240	240	29	32 (27)	14 (13)
United Kingdom	172	–	90 ^e	–	–	13	–	28 (31)
Mean length	132	123	125			22.6	22.5	21.4
Range (omitting Diplomas)	80-200	100-210	90-155	90-300	140-300	1.5-51	0-40 (5-32)	0-35 (8-31)

^aEFAD⁹, 2002.^bThree and four year programmes.^cNon-degree only.^dComes to the programme with practical experience.^ePostgraduate programme.**Table 4**

Characteristics of study programmes

Characteristic	Response	DIETS07	DIETS09
Is the study programme calibrated for ECTS?	yes	21 (60%)	37 (90%)
	no	5 (14%)	4 (10%)
	No answer	9 (26%)	–
Did you use Dublin descriptors when designing your programme?	yes	12 (34%)	20 (49%)
	no	17 (49%)	14 (34%)
	No answer	6 (17%)	7 (17%)
Do you know about the European Academic and Practitioner Benchmark Standards for Dietetics?	yes	22 (63%)	34 (83%)
	no	5 (14%)	3 (7%)
	No answer	8 (23%)	4 (10%)
Are there national guidelines for designing dietetic programmes?	yes	22 (63%)	31 (76%)
	no	12 (34%)	6 (14%)
	No answer	1 (3%)	4 (10%)

HEIs offer a placement in either health promotion or primary health care and in the catering area. Some also offer a placement in the food industry. Some HEIs offer the opportunity for students to choose their own placement environment. Where more than one HEI reported from a country it can also be seen that different HEIs have variety in the length a placement and that some HEIs offer a number of alternative placements. For example in Portugal only one HEI offers placements in the food industry of the three that responded. In Sweden a placement in the food industry or catering management is allowed in only one HEI. Offering different placements may allow the student to develop their learning and skills in a particular environment. This may be more fitting to the type of employment they will potentially seek. Overall students will undertake a period of practice placement which is unique to that study programme in that country.

The graduating student can expect to have studied a programme that is of a particular standard and recognised for future employment as a dietitian. Table 6 indicates the national authority which has set the standard. It was not always clear from the data whether the standards are set by the Government through a Ministry or by a national quality assurance system for education or by the National Dietetic Association. All may be referred to as conferring 'registration' as they all will require that a particular standard is met. In this paper the categories of 'registration' have been labelled by the authority stated in the surveys that confer the 'registration' ie a government ministry or a national education quality assurance system or a professional dietetic association.

Different paths to 'registration' and recognition of dietetic qualifications may lead to different surveys producing different results and this is evident in table 6.

Over the study period 2007-2009 table 6 shows that four countries now report that a national standard has been set. In Norway, Poland and Turkey it is reported, by the HEIs responding, that a government ministry has now set a national standard whilst in Slovenia the standard set is from the National Dietetic Association. At least five countries, in this survey period, do not yet appear to have any national standard. Each HEI imposes its own informed standard of education for dietitians in that country albeit guided by national dietetic associations.

The European Academic and Practitioner Standards for Dietetics² state the subjects that are expected to be included within a dietetic programme in Europe. The benchmark includes subject knowledge, understanding and associated skills that are essential to underpin informed safe and effective practice of dietetics. Table 7 summarises the percent of HEIs who reported that these subjects are included and taught in their programmes leading to a qualification in dietetics. Of these subjects, biochemistry, catering and food service, clinical medicine, dietetics, food skills and hygiene, microbiology, food science, education and communication, nutrition and physiology are taught in HEIs.

Table 5
Placement type and weeks spent in the placement from DIETS09 Survey

Country	Weeks spent in the placement and type of placement					Comment
	Clinical	Health promotion	Primary health care	Catering management	Food industry	
Austria	24	4		1		
Belgium	5-14	4-15	Up to 15 ^a	2-6		Variable lengths; depends on mix
Denmark	14-16	6 ^a		6 ^a		
Finland	6		6	4		
France ^b	10	4 ^a		6 ^a		
Germany ^b	14			18		Plus nutrition placement
Greece	6-24	6 ^a	6 ^a	2-6		
Hungary	8	2		4		
Ireland	26	4		6		
Lithuania	All					No report of weeks
Netherlands	20	20 ^a	20 ^a	2-4		
Poland						No placements are offered
Portugal	5-24	3-12	3-5	5-10	15 ^a	
Slovak Republic	24					
Slovenia	3	1	1	1	4	Other placement 5 wks
Spain	4-8	1-8	1-4	2-8	1-8 ^a	Very variable
Sweden	0-10		0-10		10 ^a	
Turkey	14					
United Kingdom	28					

^aOnly one HEI reported this type of placement.

Table 6
The status of programme approval recognition of a European dietitian or 'Registration' status

Country	Registration (Government Ministry = √; National Dietetic Association = D; Higher Education = E)			
	2002 ^a	2007 ^b	DIETS07 ^c	DIETS09 ^c
Austria			√	√
Belgium			√	√
Czech Republic				na
Denmark	√	√	√	√
Finland	√	√		
France	√	√	E	E
Germany	√		E	E
Greece				
Hungary	√			
Iceland	√			
Ireland		√		
Italy	√	√	na	na
Lithuania			√	√
Luxembourg	√		na	na
Netherlands	√	√	E	E
Norway	√			√
Poland				√
Portugal			D	D
Slovenia				D
Slovak Republic			√	√
Spain			√	√
Sweden		√	E	E
Switzerland	√	√	√	na
Turkey	√			√
United Kingdom	√	√	√	√

na: did not respond.

^aEFAD, 2002.

^bCuervo et al (2007).

^cDIETS07 and DIETS09 Education Mapping Questionnaire –DIETS.

Subjects such as administration, ethics, sociology and professionalism of dietetics are taught in 80% of HEIs. While subjects such as enquiry, pharmacology are reported in 70% and genetics, immunology, management and leadership and marketing in less than 60% of reporting HEIs. Only two subject areas were reported as being taught in more HEIs between 2007 and 2008 and these are public health/promotion and reflective learning (research) both moving from less than 70% to between 70-80% of HEIs. In the EFAD study^b some subjects were not reported on such as ethics, public health/promotion, reflective learning (research), and professionalism in dietetics, pharmacology and immunology. It is therefore not possible to draw any conclusions as to whether between 2003 and

Table 7
Comparison of the frequency of subjects reported being taught in Higher Education Institutes against the subjects listed in the European Dietetic Academic and Practice Standards for Dietetics in 2002, 2007 and 2009

Subjects Listed in Academic Benchmark	2002 [*]	Percent of HEIs reporting teaching the subject	
		DIETS07 Over 80%	DIETS09
Biochemistry	√	√	√
Catering and Food Service	√	√	√
Clinical Medicine	√	√	√
Dietetics	√	√	√
Education and communicating	√	√	√
Food Science	√	√	√
Food Skills, Hygiene	√	√	√
Microbiology	√	√	√
Nutrition	√	√	√
Physiology	√	√	√
Psychology	√	√	√
		Between 70% and 80%	
Administration	√	√	√
Ethics	na	√	√
Public health/promotion	na		√
Reflective learning (research)	na		√
Sociology	√	√	√
Professionalism in dietetics	na	√	√
		Between 70% and 60%	
Enquiry	√	√	na
Pharmacology	na	√	√
Public health/promotion	√	√	
Reflective learning (research)	na	√	
		Between 60% and 50%	
Genetics	√	√	√
Immunology	na	√	√
Management and Leadership	√	√	√
Marketing	√	√	√

na: where the question was not asked in the survey.

^{*}EFAD, 2002 indicated the subject was taught but did not indicate the percent of HEIs that teach the subject.

2009 these subjects were introduced or are now being increasingly taught. Additionally, HEIs teach subjects that are not specifically mentioned in the benchmark statement, like entrepreneurship, quality assurance, biostatistics, toxicology, mathematics, general economics and reflective learning (research).

Some HEIs reported that there are some subjects mentioned in the benchmark that are less important than others. The less important items are: management and leadership, economics and legislation, catering and food service management. While some HEIs report that

some items are still under-represented, such as diet therapy, entrepreneurship, hygiene, logistics, epidemiology, statistics and research, quality care and the role of dietician in industry. Clearly there is no complete consensus across Europe on all subjects that should be in a dietetic curricular despite the EDBS.

Discussion

The total number of dietitians in EFAD membership is about 29,000. The Action Plan for Nutrition in Europe¹² sets out a new European agenda for health with particular emphasis on improving the nutritional status of the people of Europe. Given the comparatively limited dietetic workforce in Europe the challenges that face the Profession could be said to be four-fold:

- The professional obligation to teach others how to promote effective nutritional and dietary change and best practice.
- Raising the professional leadership profile primarily through lifelong learning.
- Providing and promoting the tools and expertise necessary to develop the evidence base required for its key role in improving nutritional health.
- A shared and transparent, quality-assured self-regulation role within professional associations to augment that of regulators.

Higher Education in Europe must therefore rise to the challenge and provide dietetic programmes which are fit for purpose and fit for practice. The Thematic Network DIETS was funded to inform that process. The DIETS project has succeeded in bring together HEIs and the National Dietetic Associations and their members to work together to promote change. Through the mapping questionnaires in 2007 and 2009 and the reports DIETS Report 2¹³, DIETS Report 3¹⁴ and DIETS Report 5¹¹, a picture emerged of the productive working achieved over 2006-09. But the DIETS07 and DIETS09 demonstrate that there is still diversity in the education for the new professional dietician in Europe. It is right that each country should set its own requirements for its dietetic workforce but as reported there are still HEIs in eleven countries which report that the national government is not involved directly in setting dietetic standards.

It is encouraging to see that the majority of countries provide a diversity of dietetic qualifications as dietitians can influence the nutritional supply of food, its promotion, food service/catering and modification for health in a wide range of employment opportunities. Only one country, the UK, offers a narrow range of qualifications. However if the newly qualified dietician is to take full advantage of jobs that will influence nutrition then programmes must not only incorporate practical placements but also suitable and appropriate subject knowledge. The DIETS09 survey showed that clinical and catering management are placements encountered by nearly all students. But areas such as placements in the food industry are offered by only a few HEIs. While students can be offered the choice of placements maintaining the quality of the learning experience of each placement may be problematic especially as they increase in number and variety^{11,13,14}. Further it is not clear if all students experience a learning opportunity in health promotion or primary health care as some HEIs report that these placements are optional. If the WHO Action Plan¹² and the strategy to tackle obesity⁴ are to be effective then public health/health promotion must be central to any dietetic education programme. Encouragingly more HEIs now teach this subject in 2009 than previously but up to a third of HEIs report that they are still not doing so.

The difference in length of study programmes and placements which is demonstrated in table 3 is probably a reflection of the HEIs responding to the different surveys. Overall the mean length in weeks of programmes and placements are very similar between DIETS07 and DIETS09. The data shows that since 2002⁹ the diversity

of the length of programmes has narrowed (indicated by the ranges of weeks spent on each programme) except for France, Slovenia and Spain where HEIs report that the weeks have increased. This could be a direct effect of the introduction of the EDBS in 2005². The placements also show some changes between 2007 and 2009 and in particular the Netherland HEIs report that 23% of their programmes are now spent on placement compared to 13% in 2007. While Denmark, France and Turkey showed a decrease in the percent of their programmes spent on placement. The HEIs in Spain continued to show the most variation in the length and percent of their programmes spent in placement despite having government oversight/recognition of their programmes and hence national standards.

All countries reported ECTS calibration of their programmes except for the Czech Republic, Germany, Slovak Republic, Spain and the UK although by DIETS09 all but the UK and Slovak Republic had declared ECTS calibration. Hungary and Slovenia had increased their calibration count and Germany and Spain all calibrated at over 180. Overall 18 countries now had programmes (DIETS09) at or above the credits recommended by the EDBS compared to 11 in DIETS07. There may be many factors which influenced this ECTS recognition however it is known that the EDBS has been an important reference document when considering changes to dietetic programmes. Interestingly the weeks of taught programmes do not easily reflect the calibration to ECTS points. Both Farkas et al¹⁵ and Plasschaert et al¹⁶ report that this is not an unexpected finding particularly as it relates to practice placements. The intensity of the study can vary between years of programmes and also the subject matter and for this reason there is often little relationship. However this is an area where further study is warranted especially for placements where practitioners teaching students need to be confident that the learning environment is providing the intellectual challenge required or necessary.

The EDBS should also be influential in the subject curricular which HEIs develop as well as other documents. The data from DIETS07 and DIETS09 demonstrate that not only was the EDBS more frequently referred to between the two survey periods but also the Dublin descriptors and national dietetic guidelines. The DIETS Network has been influential in bringing these very important benchmark standards to the attention of HEIs.

Subjects such as pharmacology and immunology are increasingly relevant to healthcare practitioners and the European Academy of Allergy and Clinical Immunology (EAACI), an association of clinicians, researchers and allied health professionals is dedicated to improving the health of people affected by allergic diseases¹⁷. In a recent 2010 conference presentation, Zuberbier (Secretary General of the Global Allergy and Asthma European Network) said that some 90% of sufferers do not get the right treatment and some countries in Europe are more effective in treatment than others¹⁸. Nutrition and dietary manipulation is an important cornerstone of treatment in allergic conditions and all dietitians should have an understanding of immunology. It is therefore very disappointing that less than 60% of HEIs in both DIETS07 and DIETS09 report this as a subject in their curricular. Genetics, Management and leadership and Marketing are also subjects, stated in the Benchmark statement, that appear only in 50% of curricular. If dietitians do want to take on a leadership role, as suggested previously, than teaching these subjects at pre-qualification level must be a priority. Subjects such as reflective learning (research) and public health/health promotion do appear to be taught in more HEIs responding to DIETS09 than DIETS07. This is encouraging and critical for developing a profession able to promote the tools and expertise necessary to develop not only a professional evidence base but also evidence of effective intervention for better nutrition.

However it is still disappointing that such important topics as sociology, professionalism and pharmacology do not appear to be taught in at least 20% of HEIs responding to the surveys. The promotion of a curriculum which is contemporary and anticipatory

of the roles that dietitians will play in the future is the responsibility of both the National Dietetic Associations and the HEIs working together and the Thematic Network DIETS has begun this committed dialogue and partnership working.

As with any survey that is longitudinal in nature and involves repeated questioning the responders may differ between time points. Indeed this was the case in this survey and it is particularly noticeable that where more than one HEI is present in a country the data sets between years may be difficult to interpret. For example in the DIETS07 survey only 4 HEIs responded from Belgium whereas in DIETS09 8 responded. Similarly some of the HEIs responding ran 3 year programmes which were not yet at degree level or 5 year programmes which might be said to be at postgraduate level. It was therefore difficult to handle the data as a coherent and robust set. Additionally where there was no unifying set of standards in a country the diversity of the response was apparent. Therefore the data must, in many circumstances, be taken as indicative and inferential. That is not to diminish or discourage discussions especially on the nature of the subjects being taught in HEIs and the appropriateness of the type of placements, their length, contribution to the overall programme and their quality assurance.

Conclusions

Most HEIs meet the Benchmark criteria of having a first or second cycle degree and using ECTS for calibration. Although the EDDBS indicated that the study programmes for dietitians should have a minimum of 210 ECTS currently only 50% of HEIs meet this requirement but this indicates an improvement over the two year timeframe. All but two countries in Europe that teach dietetics have a practical component in their study programme despite this being a recommendation for all programmes. The relative time spent on practice placement learning is on average in agreement with the EDDBS. While there is seen to be some increase of subjects taught in European dietetic programmes many HEIs are continuing not to include the full breadth of subjects accepted by EFAD. This means that there is a potential to jeopardise the ability of the newly qualified dietitian to meet the challenges faced in the workplace. More active engagement of national governments and their ministries in regulation through setting dietetic standards may help support this change. The involvement of the Thematic Network DIETS in promoting change is evident from the above where considerable differences between 2007 and 2009 have been found. But further changes in academic curricula will require a considerable longer period of time than 3 years especially if national standards are to be amended.

If the dietetic workforce in the future is going to be flexible and move across borders more support at national level must be sought^{19,20} by the national professional associations and EFAD. The European Academic and Practitioner Benchmark Standard for Dietetics² and now the European Dietetic Competences and their Performance Indicators²¹, prepared by the DIETS Network, will continue to set standards across Europe and provide the platform for this engagement. This should lead to a shared and transparent, quality-assured self-regulation role within professional associations which can and should augment that of national regulators. Further research and surveys in the future will contribute to the knowledge base on the education and practical experiences of dietitians about to enter the profession in Europe. Using this information to positively influence the preparation of European dietitians will contribute to a profession which is fit for purpose and ready to improve the nutritional health of the peoples of Europe.

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Conflict of interests

The authors declare no conflicts of interest.

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Appendix 1

5 Sections:

Education Programmes for Dietitians (2007 and 2009)

DIETS code number

Name of Partner Institution

Country of Partner Institution

Name of person completing questionnaire

Title

first name

family name

Contact details (email address)

Education Programme

Please complete a questionnaire for each study programme in dietetics that your Institute teaches

Basic education

1. Please state the title of the study programme

2. Does the study programme lead to a first cycle degree (a bachelors)? y/n

A second cycle degree (a masters)?

Another qualification? Please state?

3. Is the study programme calibrated for ECTS?

4. If yes, how many ECTS points are gained?

5. Did you use Dublin Descriptors when developing your study programme? y/n

6. Does the study programme lead to qualification as

Administrative Dietitian

Clinical Dietitian

General Dietitian

Public Health Dietitian

(for definitions see glossary)

7. On qualification are your students trained to:

Give general nutritional advice to groups? y/n

Give general nutritional advice to individuals? y/n

Counsel individuals with dietary related illnesses therapeutically in the community? y/n

Counsel individuals with dietary related illnesses therapeutically in hospitals? y/n

Manage food service? y/n

Take responsibility for feeding groups of people? y/n

8. Are there national guidelines for this study programme of education for dietitians? y/n

9. If yes, who is responsible for the guidelines? state

10. Has a National Dietetic Association any influence on the education guidelines? y/n

11. Length of Education

a) State the total number of years in full-time education from primary school to qualifying as a dietitian years

b) How long is the study programme? years

c) Is the study programme full time y/n

d) How many weeks a year is the study programme? weeks

e) How many hours a week is a student expected to study (including lectures, seminars, practicals, examinations? ... hours

f) How many hours a week is a student expected to study privately hours

12. For admission to the study programme are students required to have studied:

a) Natural sciences y/n

b) Mathematics y/n

c) Own language y/n

d) English language y/n

e) Any other foreign language y/n

if yes, please state

f) Obtained practical experience y/n

If yes, please explain

type of Institution

type of experience

length of experience weeks

13. How much of each subject is taught in study programme as a percent of the whole?

Natural sciences (eg Chemistry, Biology)

Food & nutrition sciences

Food service administration

Dietetics & nutrition education

Research/enquiry

Counselling skills

Biochemistry

Clinical medicine

Dietetics

Catering & Food Service

Food skills

Food hygiene

Education & Communication

Enquiry

Public Health

Health promotion

Pharmacology

Immunology

Genetics

Sociology & Social policy

Professionalism of dietetics

Administration

Food science

Management & leadership

Marketing

Appendix 1 (continuation)

Nutrition

Microbiology

Physiology

Psychology

14. Is a project/study report which involves the use of research methods obligatory for the study programme? y/n

15. Are you aware of the European Academic and Practitioner Standards for Dietetics (also known as the European Dietetic Benchmark Statement or EDBS)? y/n

16. The European Dietetic Benchmark Statement (EDBS) states what a newly qualified European dietitian should be able to do.

a) Are all items necessary? y/n

If no, please state which not necessary

b) Are any areas less important? y/n

If yes, please state which are less important

c) Are any areas missing or under-represented? y/n

If yes, please state

Further Education

Please list title & duration of all the Continuous Professional Development study programmes which you offer to post-graduate dietitians

(Please Note: you can promote these study programmes through the Education section of the DIETS web site or upload information into your Institute's personal area)

Practice Placement learning

17. Does your study programme include practice placement learning? Yes/no

If yes

18. How many weeks of practical placement learning do students undertake in total before qualification?

Number of weeks 370

ECTS? If known 308

% of total study programme 390

How many weeks are spent in:

a) Clinical dietetics, weeks 400

b) Health promotion, weeks

c) Primary health care, weeks

d) Catering management, weeks

e) Food industry, weeks

f) Other (state), weeks

19. Who supervises the student during practical placement learning

Placement supervisor

HEI staff member

Peers

others –specify

20. Do you require a practical placement to have a minimum number of dietitians to supervise a student y/n

If yes how many per student? Number

21. Does the HEI provide training for the practical placement supervisor(s)? y/n

22. Does the HEI have a checklist of requirements to be fulfilled by a practical placement centre? y/n

23. Does the HEI visit all practical placement centres to ensure these requirements can be met? y/n

24. How often is each practical placement centre visited by an HEI member of staff?

statement

25. Do you assess that a practical placement centre can adequately train your students? y/n

If yes:

26. Do you have written guidelines for assessing & approving practice placement? y/n

27. Is the student assessed on any of the practical placement training? y/n

28. If yes, what proportion of total practical placement training is assessed? %

29. Who assesses the student during placement training?

Placement supervisor

HEI staff member

Peers

others –specify

30. How is assessment undertaken?

31. Is there a formal pass/fail of placement? y/n

32. If yes, who decides if a student passes or fails?

Placement supervisor

HEI staff member

Peers

others –specify

33. If a student fails the practical placement training can they:

Attempt to pass after further training? y/n

Still pass the campus based study programme? y/n

Qualify as a dietitian? y/n

34. Are your students made aware of/introduced to an ethical code of practice? y/n

35. If yes, when?

Year 1

Year 2

Year 3

Year 4

Professional Issues

Please specify the Professional title after qualification (not academic degree)

In national language.....

In English.....

Is this title protected by the law? y/n

Is there a system of registration of dietitians in your country? y/n

If yes

Who is responsible for authorising the registration? (name)

Is the registration recognised nationally by the state y/n

Is there a requirement to remain registered? y/n

Is there a requirement for proof of continuing professional development?

Appendix 1 (continuation)

If yes, number of hours a year hours
Who is responsible for monitoring CPD learning hours?

Ranking of Generic Competences

Listed below are the 30 competences that have been considered as most important for the professional development of higher education graduates, both by graduates and by the companies that employ them.

Please rank these 30 competences in order of importance according to your opinion (1 being the most and 30 the least important).
It is vital that you rank ALL 30 and that you do not give any competences equal ranking.

Generic competence

If yes Describe in 50 words & upload any relevant documentation

Describe in 50 words & upload any relevant documentation

If yes Describe in 50 words & upload any relevant documentation

If yes Describe in 50 words & upload any relevant documentation

Describe in 50 words & upload any relevant documentation