IRIS AperTO

UNIVERSITÀ DEGLI STUDI DI TORINO

AperTO - Archivio Istituzionale Open Access dell'Università di Torino

European accreditation and the future public health workforce

This is a pre print version of the following article:

Original Citation:

Availability:

This version is available http://hdl.handle.net/2318/1509028 since 2016-05-30T12:36:19Z

Published version:

DOI:10.1093/eurpub/ckv054

Terms of use:

Open Access

Anyone can freely access the full text of works made available as "Open Access". Works made available under a Creative Commons license can be used according to the terms and conditions of said license. Use of all other works requires consent of the right holder (author or publisher) if not exempted from copyright protection by the applicable law.

(Article begins on next page)

12 October 2024

This is the author's final version of the contribution published as:

J. D. Goodman;R. Muckelbauer;J. Muller-Nordhorn;F. Cavallo;R. Kalediene;T. Kuiper;R. Otok. European accreditation and the future public health workforce. EUROPEAN JOURNAL OF PUBLIC HEALTH. None pp: 1-5.
DOI: 10.1093/eurpub/ckv054

The publisher's version is available at:
http://eurpub.oxfordjournals.org/lookup/doi/10.1093/eurpub/ckv054

When citing, please refer to the published version.

Link to this full text:
http://hdl.handle.net/2318/1509028

This full text was downloaded from iris - AperTO: https://iris.unito.it/

iris - AperTO

University of Turin's Institutional Research Information System and Open Access Institutional Repository

European accreditation and the future public health workforce.

GOODMAN, Julien, D.
Director,
Agency for Public Health Education Accreditation (APHEA).
Avenue de l'Armée / Legerlaan 10
1040 Brussels, Belgium.
email: julien.goodman@aphea.net
Tel: +3227350890

MUCKELBAUER, Rebecca.
Berlin School of Public Health,
Charité – Universitätsmedizin Berlin
MÜLLER-NORDHORN , Jacqueline
Head
Berlin School of Public Health,
Charité – Universitätsmedizin Berlin

CAVALLO, Franco
Professor, Department of Public Health and Paediatrics,
School of Medicine, University of Torino, Italy.

KALEDIENE, Ramune
Dean
Faculty of Public Health,
Lithuanian University of Health Sciences, Kaunas, Lithuania.

KUIPER, Tom
Chair of Board of Accreditation,
Agency for Public Health Education Accreditation (APHEA). Brussels, Belgium.

OTOK Robert,
Director
Association of Schools of Public Health in the European Region. Brussels, Belgium.

KEYPOINTS:

1. The European public health education accreditation system implemented since 2011.
2. Compliance to accreditation criteria by second cycle public health education programmes across the European Higher Education Area (EHEA) exposed differences.
3. There is a regional significance to compliance with Northern Europe having the highest compliance and Southern Europe the lowest.
4. The two lowest complied themes across the whole of the EHEA were exchange of students and faculty and quality management systems.
5. These two themes can help schools and programmes learn from international benchmarks within local contexts.

Conflicts of interest: None declared
Research co-funded by European Commission. Grant No: 2012-3219 / 001-001

Abstract

Background: In 2011 the Agency for Public Health Education Accreditation (APHEA) was launched initially focussing on Master level (second cycle) education. . **Methods:** Between 2012 and 2013 the Association of Schools of Public Health in the European Region ASPHER, APHEA and partner schools conducted a study on the compliance of programmes to the accreditation criteria. A web-based survey of second cycle programmes of public health across 29 countries was conducted using the APHEA criteria. The 29 countries were categorized into 4 regions: Northern, Southern, Central and Eastern, and Western. We applied a Chi square test to identify regional differences with regard to the compliance of the programmes to the criteria **Results:** Data from 51 schools out of 71 schools contacted was analysed. The compliance to the two major themes of student and faculty exchange and quality management were lowest for programmes of public health throughout the EHEA. There were significant differences in the compliance between the regions with higher compliance in the Northern European region. **Conclusions:** Student and faculty exchange and quality management are essential for schools and programmes of public health to improve the quality of their education through expanding international knowledge and the pertinence of skills taught within European and national contexts. The results show that there are intrinsic issues with exchange and quality management as well as the role of national accreditation agencies in defining education which is non-specific to Public health.

Introduction

In 2011 the Agency for Public Health Education Accreditation (APHEA) was established with the initial purpose to accredit master level public health programmes(1). The importance of this form of accreditation is seen to bring added value benefitting students and academics and to improve the quality of the Public Health workforce in Europe and its competitiveness globally(2).

The advent of European accreditation represents nearly a quarter of a century of development in the field (3) and as such is reflective of the time taken to develop the American system of accreditation

(1921 to 1946)(4, 5). In 1988 the Association of Schools of Public Health in the European Region (ASPHER), attempted to introduce an unified European masters programme entitled the European Master of Public Health (EMPH) based on the World Health Organization's (WHO's) Health for All principals(6) which followed from a momentum in European public health created by the elaboration of these principals into practice which was given the title of "new public health" (7). It quickly became apparent that national public health training programmes were very different which hindered mobility(8). To address these differences, ASPHER attempted to organise "a process of mutual recognition of courses, modules, programmes and even institutions"(9) which later became known as the PEER (Public health Education European Review)(10) system. Between 2001and 2006 this review was additionally used as a framework for public health capacity development through aiding both the establishment and development of Schools of Public Health within the Central and Eastern European region (11, 12) which highlighted the heterogeneous level of development across the EHEA and which provided the grounding for the present study. In this study we assessed the compliance of programmes of Public Health, within the context of European accreditation, to train the future public health workforce focusing on criteria with the least compliance.

Methods

A web-based survey, based on accreditation criteria, was chosen as the most appropriate given the geographical spread of potential participants.

The European accreditation criteria consisted of seven broad or 'overarching' criteria (1) : i, Governance and Organisation of the Programme; ii, Aims and Objectives of the Public Health Programme; iii, The Curriculum; iv, Students and Graduates; v, Human Resources and Staffing; vi, Supportive Services; Budgeting and Facilities; vii, Internal Quality Management. Each of these overarching criteria contains between 5 and 14 "sub-criteria". Our first task was to extract the sub-criteria to elicit single responses required from a web based questionnaire format. This resulted in a total of 61 sub-criteria. In a second stage review reduced the number of these 61 sub-criteria by comparing them to criteria from other accreditation agencies and organisations. Programme accreditation criteria from six different agencies were used in our comparison including, The European Association for Public Administration Accreditation (EAPAA)(13), Council on Education for Public Health (CEPH)(14), World Federation of Medical Education (WFME)(15), The Swiss Center of Accreditation and Quality Assurance in Higher Education (OAQ)(16), The European Programme Accreditation System (EPAS)(17), and the European Association for Quality Assurance in Higher Education (ENQA)(18). The latter criteria were focused at an institutional level but the individual criteria corresponded well to the programme focus contained within the APHEA criteria. Other criteria and standards were reviewed during this process but we did not use them for the following reasons. Criteria from Western Association of Schools and Colleges (WASC)(19) and EQUIS(20) were institutionally based. The UK Quality Assurance Agency for Higher Education or QAA(21) were reviewed but not used as they were either institutionally based or used systems not seen as compatible with European accreditation.

We tabulated the resultant criteria against the APHEA criteria. There were 23 sub-criteria found mentioned three or more times within different combinations of the reviewed agencies' criteria. Any APHEA sub-criteria which was mentioned three or more times by other agencies would be

included in the survey. The questionnaire asked for the compliance of each sub-criteria with three possible answer categories: i, We comply, ii, We don't yet comply but we are in the process of trying to reach this level and, iii. We don't comply. The survey began by asking identifying questions such as age and location of the programme as well as the existence and role of national accreditation agencies by the question: "In your country, is there a formal body responsible for issuing accreditation of new and existing programmes?" (response = yes/no). Deans and Directors from schools in the ASPHER network were contacted by email (n=71) and sent a link to a web based survey. This number was 12 schools less than the membership list of ASPHER at that point in time, as in some cases the schools were known not to have master level public health education and in several other cases the contact points in the schools were in transition and no new details were available. The web based survey was developed by the ASPHER web administrators using php scripting which stored all the responses within a Comma Separated Values (CSV) file which was then exported into SPSS. Once completed by the respondent an email was also sent to the survey coordinator where the data was presented in a html tabulated form in which missing or erroneous data could be easily identified.

The whole process of distribution and collection took two months to complete with a total of four rounds of contact to the schools. The first response came on 15th February 2013 and the last response was received on the 12th April 2013. Once the data had been received, the country identifiers were used to assign the country to four principal sub-regions of the EHEA: Northern Europe (NE), Western Europe (WE), Southern Europe (SE) and Central Eastern Europe (CEE). The United Nations regional definitions (22) of North/East/South/West were used as a basis but refined to recognise the similarities in countries most typically associated with the Central and Eastern European region, namely those countries typically seen as post socialist or transitional countries see Table 1.

We aggregated the responses of the 23 individual sub-criteria by converting the three responses, (i) we comply, (ii) we don't yet comply but we are in the process of trying to reach this level and, (iii) we

don't comply, into a binary yes / no response. The response (i) we comply formed a 1 integer (yes) whereas the last two responses formed a 0 integer (no). For the second step, if any of the seven overarching criteria contained at least one sub-criteria value of 0 (no) the overarching criteria was equally assigned a 0 (no). This process produced the data found in Table 1. For the three individual sub-criteria found in Table 2 only the first step of this process was taken. We applied Fischer's chi square exact test to test for differences in compliance to the sub-criteria (yes / no) between the four regions. We used SPSS version 17.0 for statistical analysis and excel to create the tables.

Results

A total of 61 out of 71 (86%) programme representatives responded. From this number we excluded 6 programmes for not having a Master of Public Health (MPH) type award, 2 programmes not wanting to participate and 2 programmes returning substantially incomplete questionnaires, they had only completed the first eight "identifying" questions. As a result we analysed data deriving from 51 programmes. The regional breakdown of the 51 programmes was as follows: Northern Europe (NE) = 12 schools, Western Europe (WE) = 10 schools, Southern Europe (SE) = 8 schools and Central and Eastern Europe (CEE) = 21 schools.

Within the questions regarding national accreditation bodies 84% (n=43) of programmes indicated that they were licensed and / or accredited by their national authorities. Only one out of the 51 programmes left one sub-criterion blank in the first criterion and we deemed this sufficiently small (6 of the 7 sub-criteria had been answered) to ignore when aggregating the data for the over-arching criterion.

Table 1 shows the levels of compliance for the seven overarching accreditation criteria according to European region. The regional location of the schools was significantly associated with compliance rates in five of the seven overarching accreditation criteria.

Out of the 23 sub-criteria, 3 areas demonstrated the least amount of compliance (identified in Table 2). The first question was "International exchange of staff and students is facilitated?" and non-compliance pervaded all regions with the Southern and Central Eastern regions displaying the least compliance (see Table 2).

. The average responses from all 51 programmes were "we comply" = 67%, "we don't yet comply but we are in the process of trying to reach this level" = 23% and "we don't comply" = 10%.

The second area covered the two sub-criteria under the 7th accreditation criterion "quality management systems (QMS)." The first sub-criteria enquired if the programme had, "an operational

internal quality management system is in place, broadly inclusive of staff, students and stakeholders." The average results were, "we comply" = 67%, "we don't yet comply but we are in the process of trying to reach this level" = 27 and "we don't comply" = 6%. The second part of the question asked if, "there is continuous data collection and analysis that assures necessary modifications in the learning objectives, the content of modules, staffing, and pedagogical approaches. Results of analysis are relayed accordingly to senior management, staff and students." Once again the average responses were "we comply" = 67%, "we don't yet comply but we are in the process of trying to reach this level" = 27 and "we don't comply"= 6%.

Table 2 shows the sub-criteria with the lowest compliance stratified by European region in which the programmes were located. Unlike exchange issues, the compliance to QMS significantly differs between the regions with Southern and Western European regions exhibiting the lowest compliance.

.

Discussion

The research clearly demonstrates that issues concerning student and faculty exchange and quality management in programmes of Public Health throughout the EHEA are a cause for concern with around a third of schools falling within the "non-compliance" category. In many ways both exchange and quality management demonstrate two desired and complementary forces upon public health education: global knowledge and experiences adapted to local contexts determined by national stakeholders(24) which has been a constant in the development of schools and programmes for many years (11). The questions then arise, if these are so important, why are we in this position and what solutions can be sought?

The research clearly demonstrates that issues concerning student and faculty exchange throughout the EHEA are a cause for concern with non-compliance ranging between 25% and 38% across the European region (see Table 3). Exchange is included in accreditation to monitor the programmes alignment / adherence with the Bologna processes (1) and as student and faculty exchange is a central tenet of the Bologna declaration (25) which all countries of the EHEA have by default signed, why does it remain one of the weakest areas of compliance? With 84% of programmes licensed or accredited by national agencies how are these agencies ensuring the integration of their governments' international treaty obligations?

Exchange of students and faculty is a core aspect of mobility and a hallmark of internationalisation (26). Exchange can be seen within a context benefiting individuals from increasing competences, knowledge and skills (27) through to organisational change models in setting academic standards and institution building (28). The use of the aforementioned PEER review as a framework for developing schools and programmes across the Central and Eastern Region provides a good example. Faculty exchange was seen as a key element and focused upon both increasing and improving academic capacity but also on giving schools first-hand experience and insight into the

operational intricacies of differing European models of education from module design, through to pedagogical approaches and assessment (11). The returning faculty were expected to adapt their knowledge to their local situations.

However, exchange generally requires funding. There are funds available through European instruments but these require that schools have an Erasmus University Charter which not all schools possess. Language barriers will continue to stifle both student and faculty mobility (29). In some countries mobility of students is deterred by compulsory testing on the return home (30). For both students and facultys, mobility requires an element of "up-rooting" which does not always fit in personal life which is especially difficult if programmes focus on part time teaching of professional staff. A limitation of this line of enquiry is that the question does not specify the constituent parts of "exchange". European Union funding documents (23) state that mobility covers faculty for teaching, providing training, participation in structured courses or training events (excluding conferences) or job shadowing/observation and for students, a study period which may include a traineeship. All of these activities have to occur in a foreign country and therefore is open to differences in interpretation where schools may have included wider notions of exchange, such as, conferencing or joint research projects.

Adapting to local situations mentioned earlier is a central feature also for quality management systems. This activity is aimed at improvement through listening to and integrating the needs of the (most notably national) stakeholders (31). In theory this is commendable but the low compliance may be a result of its impracticability. The EHEA consists of 53 countries with large diversities, inequalities and understandings of public health (32). On the 'Western' side there are the older European Union states who, over the last 30 to 40 years, have been embracing new public health which, "includes all possible activities known to be useful and effective in promoting health and in the prevention, treatment and rehabilitation of diseases for the individual, the community, and the population as a whole" (33). Ironically the term "new public health" was first coined over a century

ago in 1913 in which public health was viewed as a composition of hygiene and sanitation for the control of infectious disease at an individual level (34) which is historically not too dissimilar to the understanding of public health developed and lingering in the 'Eastern' side of the EHEA (35, 36). On this latter side, many countries and their stakeholders continue to perceive public health through an historical san-epid paradigm (37) which places a narrower focus on medicalised surveillance of infectious diseases and sanitary issues (35). Such understandings have created a situation of high premature mortality, up to four times higher in some former Soviet states than in Western Europe(35). In such circumstances it will be very difficult for programmes to approach potential stakeholders as they will not consider themselves to be "public Health" stakeholders (11). To integrate "out-moded" stakeholder opinions in such a climate may also be counter-productive by reflecting and reinforcing historical understandings.

Even in more westernised systems stakeholder input has limitations as many (sometimes the majority of) stakeholders do not have an education in public health (38) (39). This may raise issues in understanding where or whether stakeholders fit in a "public health" system and what the expectations of public health education are if systems and workforce survive and thrive on untrained individuals.

The low compliance rates in the Western and Southern regions may well be also indicative of a continued "ivory tower" approach to education (40) where programmes are disconnected and non-responsive to the environments they are meant to serve. Finally, the low compliance in the first sub-category may also be due to a longstanding confusion between what constitutes and differentiates quality management from quality assurance (41). Quality Management is used here to refer to the philosophy of continuous improvement, customer focus and integrated management systems (42) whereas Quality Assurance is seen as a process for establishing that the provision (input, processes and outcomes) fulfils expectations or measures up to minimum requirements (43) generally through the use of standards or criteria.

Conclusion

The results of this research focus on the least compliant themes of public health educational programmes to the new European Accreditation: exchange and quality management. Both of the sub-criteria stress the importance of programmes and schools of public health to learn from within and outside of their national systems with the aim of improving the quality, vision and employability of their respective public health workforces but also their accountability to societies they serve (39).

However, problems persist. Exchange of students and faculty (mobility), although enshrined in legislation is, in many countries poorly implemented and enforced. Quality management systems which inherently rely upon feedback from stakeholders are limited by a lack of understanding and dialogue from both schools and stakeholders.

National and European governments will need to support (and enforce) faculty and student exchange. Schools should also understand this activity as a long-term investment for internal quality improvement. For quality management systems there is a need for schools to be trained in some basic concepts and instruments to remain in tune with the needs of the field, outside of their ivory towers. This activity should be seen as improving internal quality rather than ticking bureaucratic boxes.

As to identifying the stakeholders within the public health workforce it will be interesting to see how the WHO's new essential public health operations (EPHOs) will assist in this manner by identifying and categorising responsibilities within the public health workforce. The EPHOs, for example, could be used by schools for both identifying stakeholders and also informing these stakeholders of how they are seen within an international perspective. This would give good ground toward understanding the competencies needed in each arm of the workforce and this work has already begun (45). This will be an interesting avenue as previously the WHO's Health For All targets helped initiate the latest version of "new public health" and the new EPHOs, hold the possibility to define

public health in terms of function related competences which can help schools determine both the content and delivery of their programmes (46). Again this is an area that perhaps networks or research consortia should concentrate upon. In all cases public health programmes should be keeping in contact and listening to their alumni which does not seem to be a common exercise at present.

Many of these issues may be become calcified because national accreditation systems act as gate-keepers to the existence of schools and programmes and these are intrinsically tied up with the financing and politics of their education systems (47). Disregarding the potential for conflicts of interest these systems tend to be non-sector specific to public health but rather limited to generalised academic measurements. As a result, programmes and schools of public health are legally, financially and politically guided in their development through generic education standards set at a national level which are not necessarily focussed upon the delivery of a competent public health workforce at either a national, European or global level. The role of European accreditation should therefore be to add value to these national systems through sector specific and internationally accepted standards and benchmarks. These should be focused on the relevance of education for real-world public health and not only on the formal academic measurements of the national agencies which are, at present, applied equally to a programme or school of public health, engineering, law or aesthetics.

BIBLIOGRAPHY

1. Otok R, Levin I, Sitko S, Flahault A. European Accreditation of Public Health Education. . Public Health Reviews. 2011;33(1):30-8.
2. Agency For Public Health Education Accreditation. . Homepage Brussels: APHEA; 2013 [08.08.2013]. Available from: www.aphea.net.
3. Goodman. J, Müller-Nordhorn. J, Cavallo. F, Kalediene. R, Kuiper. T. Toward Equity in the Quality of European Public Health Education. 1st ed. Brussels, Belgium: The Association of Schools of Public Health in the European Region; 2013.
4. Abbott AC, Boyd M, Bristol LD, Brown WH, Geiger JC, Greeley SA, et al. Standardization of Public Health Training: Report of the Committee of Sixteen. Am J Public Health (N Y). 1921;11(4):371-5.
5. Shepard W, Atwater RM, Anderson GW, Bauer W, Defries RD, Godfrey Jr ES, et al. Institutions Accredited by the American Public Health Association to Give the Degree of Master of Public Health (Diploma of Public Health in Canada) for the Academic Year 1946-1947. American Journal of Public Health and the Nations Health. 1946;36(3):244-7.
6. Bury J, Köhler L, de Leeuw E, Vaughan P. The future of ASPHER collaboration in European public health training. Zeitschrift für Gesundheitswissenschaften= Journal of public health. 1994;2(2):119-30.
7. Ashton J, Seymour H. The new public health : the Liverpool experience: Open University Press; 1988.
8. Cavallo F, Rimpela A, Normand C, Bury J. Public health training in Europe. Development of European masters degrees in public health. European journal of public health. 2001;11(2):171-3.
9. Bury J, Gliber M. Quality Improvement and Accreditation of training programmes in Public Health. Lyon: Fondation Mérieux.; 2001.
10. Köhler L, Bury J, de Leeuw E, Vaughan P. Proposals for collaboration in European public health training. The European Journal of Public Health. 1996;6(1):70-2.
11. Goodman J, Overall J, Tulchinsky TH. Public Health Workforce Capacity Building: Lessons Learned from "Quality Development of Public Health Teaching Programmes in Central and Eastern Europe." Brussels, Belgium: Association of Schools of Public Health in the European Region (ASPHER); 2008.
12. Goodman J, Simmons N. ASPHER PEER review: a discussion of its role in the joint Open Society Institute (OSI)--Association of Schools of Public Health in the European Region (ASPHER) program. Public Health Rev. 2002;30(1-4):51-67.
13. The European Association for Public Administration Accreditation. . Accreditation [27.07.2013]. Available from: http://www.eapaa.org/index.php/accreditation/criteria.
14. Council on Education for Public Health. Accreditation Criteria Public Health Programs 2014 [18.03.2014]. Available from: http://ceph.org/assets/PHP-Criteria-2011.pdf.
15. World Federation for Medical Education. . Accreditation 2014 [27.07.2013]. Available from: http://www.wfme.org/accreditation.
16. Center of Accreditation and Quality Assurance of the Swiss Universities. . Guidelines of the Swiss University Conference for Academic Accreditation in Switzerland (Accreditation Guidelines) 2007 [27.07.2013]. Available from: http://www.oaq.ch/pub/en/documents/Akkr-07-RL-eng_VO.pdf.
17. European Foundation for Management Development (EFMD). . EFMD Programme Accreditation System (EPAS) STANDARDS & CRITERIA Brussels2012 [27.07.2013]. Available from: http://www.efmd.org/index.php/accreditation-main/epas/epas-guides.
18. European Association for Quality Assurance in Higher Education. . Standards and Guidelines for Quality Assurance in the European Higher Education Area. 3rd Edition.

Helsinki2009 [27.07.2013]. Available from: http://www.enqa.eu/wp-content/uploads/2013/06/ESG_3edition-2.pdf.
19. Western Association of Schools and Colleges (WASC). . WASC Standards for Accreditation. [27.07.2014]. Available from: http://www.wasc.ucla.edu/Standards-and-Criteria.pdf.
20. EUROPEAN QUALITY IMPROVEMENT SYSTEM. . EQUIS STANDARDS & CRITERIA. 2012 [27.07.2013]. Available from: https://www.efmd.org/accreditation-main/equis/equis-guides.
21. The Quality Assurance Agency for Higher Education. . Guidelines for preparing programme specifications Mansfield, UK.2006 [27.07.2013]. Available from: http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/guidelines06.pdf.
22. United Nations. Population Division. Dept of Economic and Social Affairs. . Classification of countries by major area and region of the world. 2009 [27.07.2013]. Available from: http://esa.un.org/unpd/wup/CD-ROM_2009/WPP2009_DEFINITION_OF_MAJOR_AREAS_AND_REGIONS.pdf.
23. European_Commission. Erasmus Plus Programme Guide. Version 2 (2015): 23/10/2014 Brussels, Belgium2014 [last accessed 6th November 2014]. Available from: http://ec.europa.eu/programmes/erasmus-plus/documents/erasmus-plus-programme-guide_en.pdf.
24. Frenk J, Chen L, Bhutta ZA, Cohen J, Crisp N, Evans T, et al. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. Lancet. 2010;376(9756):1923-58.
25. Declaration Prague. Toward the European Higher Education Area, communiqué of the meeting of European ministers in charge of higher education in Prague on 19 May 2001. The public responsibility for higher education and research.
26. Knight J. The changing landscape of higher education internationalisation – for better or worse? Perspectives: Policy and Practice in Higher Education. 2013;17(3):84-90.
27. Bucharest_Communiqué, editor Making the most of our potential: Consolidating the European Higher Education Area. EHEA Ministerial Conference Retrieved May; 2012.
28. Knight J. Internationalisationof higher education; a conceptual framework. Internationalisation of Higher Education in Asia Pacific Countries, Amsterdam: EAIE/IDP. 1997.
29. Crosier D, Purser L, Smidt H. Trends V: Universities shaping the European higher education area: European University Association Brussels; 2007.
30. O'Donnell A. Promoting Student Mobility and Exchange in Hungary: Central European University; 2009.
31. Reavill LR. Quality assessment, total quality management and the stakeholders in the UK higher education system. Managing Service Quality. 1998;8(1):55-63.
32. McKee M, Jacobson B. Public health in Europe. Lancet. 2000;356(9230):665-70.
33. Tulchinsky TH, Elena A. Varavikova e. The new public health. elsevier/Academic Press; 2009.
34. Hill HW. The new public health: Press of the Journal-Lancet; 1913.
35. Adany R, Villerusa A, Bislimovska J, Kulzhanov M. Public health education in Central and Eastern Europe, and Central Asia. . Public Health Reviews. 2011;33:105-33.
36. Semashko NA. Health Protection in the USSR: Victor Gollancz London; 1934.
37. Marks L, Hunter, D. J., Alderslade, R. Strengthening Public Health Capacity and Services in Europe: A Concept Paper: World Health Organization Regional Office for Europe; 2011. Available from: http://www.euro.who.int/__data/assets/pdf_file/0007/152683/e95877.pdf.

38. The Future of the Public's Health in the 21st Century: The National Academies Press; 2003.
39. Paccaud F, Weihofen A, Frank M. Public Health Workforce in Switzerland: are public health workers lacking? Int J Public Health. 2013.
40. Barnard K, Köhler L. Creating a good learning environment—a review of issues facing schools of public health. Training in Public Health Strategies to Achieve Competences Training and Research in Public Health Dialogue. 1994.
41. Crozier F, Curvale B, Dearlove R, Helle E, Hénard F. Terminology of Quality Assurance: Towards Shared European Values? ENQA Occasional Papers 12: ERIC; 2006.
42. Hoecht A. Quality Assurance in UK Higher Education: Issues of Trust, Control, Professional Autonomy and Accountability. High Educ. 2006;51(4):541-63.
43. Martin M, Stella A. External Quality Assurance in Higher Education: Making Choices. Fundamentals of Educational Planning 85: ERIC; 2007.
44. Akkreditierungsagentur im Bereich Gesundheit und Soziales. Freiburg, Germany. [18.03.2014]. Available from: . http://ahpgs.de/.
45. Bjegovic-Mikanovic V, Vukovic D, Otok R, Czabanowska K, Laaser U. Education and training of public health professionals in the European Region: variation and convergence. Int J Public Health. 2012.
46. Lichtveld MY, Cioffi JP. Public health workforce development: progress, challenges, and opportunities. Journal of Public Health Management and Practice. 2003;9(6):443-50.
47. Skolnik ML. Quality assurance in higher education as a political process. Higher Education Management and Policy. 2010;22(1):67-86.

Table 1: Regional classification of countries supplying data

Central & Eastern Europe (CEE)	*Northern Europe (NE)*	*Southern Europe (SE)*	*Western Europe (WE)*
Albania	Denmark	Israel	Austria
Armenia	Finland	Italy	France
Bulgaria	Ireland	Spain	Germany
Estonia	Norway		Netherlands
Hungary	Sweden		
Kazakhstan	United Kingdom		
Latvia			
Lithuania			
Poland			
Republic of Macedonia			
Republic of Moldova			
Romania			
Russian Federation			
Serbia			
Slovak Republic			
Ukraine			

Table 2: Average compliance with the overarching criteria in the four European regions

	Aggregated EHEA Regional compliance				
Overarching-Criteria	**NE**	**WE**	**SE**	**CEE**	**Chi ***
Criterion 1: Governance and Organisation of the Programme	100%	80%	50%	62%	0.026
Criterion 2: Aims and Objectives of the Public Health Programme	100%	80%	50%	81%	0.046
Criterion 3: The Curriculum	75%	60%	25%	52%	0.182
Criterion 4: Students and Graduates	100%	90%	63%	76%	0.112
Criterion 5: Human Resources and Staffing	100%	70%	50%	81%	0.039
Criterion 6: Supportive Services, Budgeting and Facilities	100%	50%	63%	38%	0.002
Criterion 7: Internal Quality Management	100%	40%	25%	57%	0.001

* Chi Square exact test p values.
NE=Northern Europe, WE=Western Europe, SE=Southern Europe, CEE=Central and Eastern Europe

Table 3: The three least complied sub-criteria in the four European regions

	Aggregated EHEA Regional compliance				
Sub-Criteria	**NE**	**WE**	**SE**	**CEE**	**Chi ***
Criterion 3.6: International exchange of staff and students is facilitated	75%	70%	63%	62%	0.886
Criterion 7.1: Quality Management Systems in place including faculty / students / stakeholders	100%	50%	38%	67%	0.008
Criterion 7.2: Continuous data collection	100%	50%	25%	71%	0.002

* Chi Square exact test p values.

* Chi Square exact test p values.

NE=Northern Europe, WE=Western Europe, SE=Southern Europe, CEE=Central and Eastern Europe