

Board certified physicians in health informatics¹

A European precedent for professional recognition

Francis H. Roger France^a, Claire Beguin^a, Christian Mélot^b, Pierre G. Gillet^c

^a Université Catholique de Louvain, Belgium

^b Université Libre de Bruxelles, Belgium

^c Université de Liège, Belgium

Summary

Objective: To document the official recognition of a new specialty in health informatics in one European country, because a similar legal process may lead to professional equivalence for physicians in all member countries of the European Union and elsewhere.

Method: In Belgium, a Ministerial Decree in 2001 established criteria for the certification of Physician Specialist in Health Data Management. Such recognition of a new competence is a natural complement to a University Master's degree and can have a major influence on salary scale and on professional recognition and development in the public and private sectors.

Results: Teaching and training programmes in Belgium were adapted to the terms of the Decree. Ninety-seven physicians were certified in the French community and 72 in the Flemish community between 2002 and 2009, with this title as a prerequisite for engagement in several official and private positions, and a salary increase.

Discussion: In other countries, recognition of a specific competence in health informatics remains, at best, a voluntary registration process and university programmes vary widely. The implications of this Decree, with recognition of Physician Specialist in Health Data Management as a special competence rather than a medical speciality, are discussed. The extension of such recognition to health professions other than physicians is not yet contemplated.

Conclusion: Although the title "Physician Specialist in Health Data Management" may appear rather old-fashioned, recognition of this competence in a European Union country is a first step towards its extension to other countries.

Introduction

New professions need to follow several steps to secure recognition by society. An important first step for a new discipline such as health informatics is to be recognised by universities and offered as a training programme. Having a degree however, is not sufficient. Employment is the next step, most often based on the academic titles obtained, and associated with a salary scale. Such professional recognition requires the discipline in question to be endorsed by the state by publication in the official government journal publishing laws and describing professional qualifications and functions.

Computer scientists can have various levels of training – university or non-university degrees, particular interests and skills. They may be employed as analysts, programmers or team managers, for systems development, network management, data analysis, artificial intelligence, computerised assisted learning, modelling, etc. In most countries, state recognition of new professions with details of qualifications, functions and salary scale appears to be a prerequisite for society's acceptance.

Universities in many countries offer educational programmes in health informatics, such as that promoted by the IMIA (International Medical Informatics Association) [1], leading to degrees for physicians. However, there is no globally recognised qualification and a great variety of different courses and jobs exist. Without official recognition of this new professional category, physicians involved in health informatics may be faced with employment vulnerability, professional variability and random requirements in education and training.

Publication of a ministerial decree [2] in 2001 in Belgium, a member state of the European Union (EU), establishing criteria for the recognition of "Physician Specialist in Health Data Management" represents a step forward to board certification, and was based on the classical procedure of recognition applied to all specialities within medicine. This legal precedent in Belgium serves as an example of how the existence of a new special competence is to be acknowledged in the EU. It opens the way for professional equivalence in any other EU member state, following Directive 2005/36/CE [3], and may encourage other countries to follow suit.

Method: a ministerial decree on certification criteria

Legal procedure

On October 15, 2001, the Belgian Parliament adopted a ministerial decree tabled by Mrs M. Alvoet, Minister of Public Health, laying down criteria for certification of Physician Specialist in Health Data Management. The decree was published in the official journal (*Le Moniteur*

Correspondence:
Francis Roger France
Avenue Brunard 11
B-1180 Brussels
Belgium
frf@skynet.be

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Belge – Belgisch Staatsblad) on December 13, 2001 [2]. It has been integrated into board certification procedures for recognition of physicians (either specialists or general practitioners), in agreement with the law defining professional titles for health care professionals.

Health data warehousing and management

The decree defines three categories of health data:

- Personal patient data: medical history, clinical data, results of tests and procedures (medico-technical data), diagnoses, treatments, and socioeconomic items.
- Epidemiologic data in relation to the physical or mental status of healthy or sick populations, linked or not to a disease or pathogen, environmental or socioeconomic context.
- Data related to health care systems: costs and efficiency of health care interventions and global programmes of health intervention.

Health data warehousing and management includes data collection (input), storage, transfer through secured networks, coding, data analysis and use of results, as well as the development of appropriate tools.

Education and training criteria

The following certification criteria are required to certify a *Physician Specialist in Health Data Management*:

The candidate should:

- hold a legal diploma of medical doctor (following conditions described in Royal Decree n°78 art. 2 of 10 November 1967) and have at least two years' clinical experience;
- OR be a general practitioner or a specialist physician holding one of the specific professional titles reserved for health care professionals, including dental practice;
- AND have obtained special competence in health data management according to the criteria described hereafter.

The title of *Physician Specialist in Health Data Management* can only be awarded if the candidate has followed a special training period of at least two years, including:

1. A specific university postgraduate course for at least one full-time year on the following topics:

- a) informatics, telematics, database management;
- b) statistics and epidemiology;
- c) diagnosis, treatment and pathology coding;
- d) medical data registration;
- e) health economy, management and communication principles;
- f) health care organisation in Belgium and in other countries;
- g) Belgian and international laws on personal data protection and on experimental clinical research;
- h) laws on hospitals in Belgium;
- i) health intervention programmes and global disease management;
- j) quality assurance programmes.

2. A practical training period (*stage*) of at least one full-time year in one or more certified training centres. For a specialist candidate, this training practice can be combined with a training programme in any discipline recog-

nised by the Royal Decree of 25.11.1991 on medical specialties.

3. Publication or presentation to a jury of specialists of an original dissertation concerning health data management.

Maintenance criteria

To remain accredited, physician specialists in health data management must prove at regular intervals that they are maintaining and improving their knowledge in the area of health data management, and are contributing to publications at an appropriate level on health data management or on the development of tools to manage health data.

Transitory measures

For two years after the date of publication of the Ministerial Decree (M.D. of 13 December 2001), every physician who worked primarily in health data management or in developing tools therefore, who had contributed to scientific work in this area and could show sufficient knowledge in the courses described under the educational criteria section above, can obtain the title of *Physician Specialist in Health Data Management*, provided he/she introduced his/her candidacy to the ad hoc certification board.

For one year after the publication of the Ministerial Decree, a period of practical or theoretical training already started and being pursued could be taken into account.

Training supervision and training centres

The Decree specifies that the trainee's supervisor ("*Maitre de stage*") should be a Physician Specialist in Health Data Management. Any hospital, research or administrative unit in which the main activity is to manage medical data using an appropriate infrastructure in informatics and telematics can be certified as a "training centre".

Results

Creation of certification boards

In 2002, two boards were created by the Federal Public Service (FPS) of Public Health, one for French-speaking and the other for Flemish-speaking candidates, to examine candidates for certification requirements for the title of *Physician Specialist in Health Data Management*. The Minister of Public Health appointed ten members to each of the certification boards, selected from lists of candidates proposed by universities and physicians' professional unions. Each board elected a chairman (F. Roger France for the French and G. De Moor for the Flemish board), while the FPS of public health nominated civil servants as secretaries.

Regulations for training practice

The two boards agreed on criteria for training practice, taking into account requirements existing in other specialties.

Trainee supervision

Each training supervisor should be a board-certified Physician Specialist in Health Data Management. Their term of office is for 5 years, with possible renewal on re-

quest by the candidate. He/she should have at least 8 years' experience (continuous active practice) in health data management, be actively involved in teaching activities, have an established peer reputation, and have placed several publications in international journals. He/she should be recognised as having responsibility for trainees in the agreed service, and should be employed on an open-ended contract in his/her institution. He/she should commit him-/herself for the time needed to train the candidate and should have at least one part-time collaborator, board certified in the speciality, with at least 5 years' experience and actively present in the training field. The training supervisor may be responsible for a trainee located in a training centre other than his/her agreed service, on condition that the certification board agrees and another supervisor, who agrees to collaborate, is present at least half of the time at the other location.

Training centre recognition criteria

A hospital, research, or administrative unit mainly involved in the management of medical data, using an appropriate infrastructure in informatics and telematics, can be accepted as a "training centre", on the following conditions:

- A trainee supervisor must be appointed by the training centre;
- the activity of the service should correspond to at least one of the domains listed in the required topics for the education programme for specialist status;
- the number of trainees should be limited to a maximum of 3–4, depending on the centre's capacity to appropriately undertake candidate training.

Training programme

Each candidate for speciality training must present an agenda ("plan") for their training work and an "education programme", signed by the training supervisor and submitted to the certification board during the first three months of the training period.

Training reports

A "training report book", as defined by the certification board, must be transmitted at the end of the training period, with comments from the training supervisors, designed to estimate how far candidates have fulfilled their obligations.

A "training evaluation report" describing qualitative and quantitative aspects of the work must be written by the candidate and transmitted to the certification board after the training period. These training evaluation reports will provide indicators for the regular evaluation of training supervisors and agreed centres.

Insurance, employment contract and salary of trainees

The trainee should be covered by professional liability insurance taken out by the employer, as well as accident and healthcare insurance. He/she should have a written contract specifying working conditions as well as legal and financial aspects. The candidate should be paid in relation to the work done, and the salary must be communicated to the certification board.

Board certification

Between 2002 and 2009, 164 of some 200 candidates were certified by the boards and nominated by the Federal Minister of Health for the title of *Physician Specialist in Health Data Management*: 92 in the French section and 72 in the Flemish section.

All physicians who wish to be recognised as *Physician Specialists in Health Data Management* must now obtain a master degree in health data management that is offered by all universities with a medical faculty, to propose a training work programme to the certification Board and complete it, and further to publish original work on a relevant topic.

Salary scale improvement

Official recognition of the title of *Physician Specialist in Health Data Management* had an immediate consequence for physicians working in public services in Belgium, in that their salary scale improved and their title was also recognised in the private sector.

This new competence is unusual in medicine since it is not a clinical speciality. Hence a *Physician Specialist in Health Data Management* does not need to have a number attributed for reimbursement of procedures as other specialists do in Belgium. However, he/she may already be a general practitioner or a clinical specialist with a supplementary "special competence" in health informatics. In such cases, payment will depend on the different activities financed from various sources.

Reorganisation of university programmes in health informatics

Curricula in health informatics have had to be adapted in all Belgian universities where a masters' degree already existed. Publication of the Ministerial Decree was followed by an improved homogeneity in the topics required for professional recognition, although optional topics vary from one university to another.

Employment projections and number of students to be registered

The French certification board estimated the number of positions to fill at between 100 and 160 in the French-speaking community (Wallonia and Brussels), including 60 to 120 hospital posts and 40 posts outside hospitals, with a length of 20 years as a career mean (of maximum 40 years).

For the three French-speaking universities (ULB Brussels, ULg Liège, UCL Louvain), five new positions per year are planned (100/20); which requires enrolment of six students a year or two per university.

Discussion

It is important that other countries are aware of the process by which the title of *Physician Specialist in Health Data Management* was recognised by the public authorities in Belgium in 2001 [2], because any physician who has successfully completed the education curriculum described, completed a training period in health informatics for more

than a year, and published an original paper in this field in an international journal could ask for equivalence of the degree title in their own country if within the EU [3]. The procedure completed by Belgium for recognition of this post may also inspire other countries to do the same.

To our knowledge, Belgium is the first country to have recognised this new speciality for physicians through board certification by an official decree. Elsewhere, it remains, at best, a voluntary registration process.

In the United States, AMIA and AMA are currently working on the creation of a medical speciality in clinical informatics [4]. It is interesting to note that the proposal also involves a “clinical informatics board certification” that follows the US procedures for recognition of a new competence in a new medical subspeciality.

Professional associations in various countries propose criteria available on the web, such as COACH (Canadian Health Informatics Association) [5, 6], UKCHIP (United Kingdom Council for Health Informatics Professions) [7, 8] or UIC (University of Illinois Chicago) [9], but this process is voluntary and does not have the standing of a legal statute approved by Parliament for the adaptation of salary scales, titles, and university curricula.

In France, partial recognition exists in the context of the PMSI (Programme de Médicalisation des Systèmes d’Information), as physician positions, qualifications and functions in a DIM (Département d’Information Médicale) have been officially described since 1982, but the role of these health professionals has been restricted to hospital data management linked to billing data. Also, in 2007, a change in the French hospitals’ funding method has restricted the job of the DIM to billing and accounting, very administrative tasks.

The lack of recognition of this profession has generated so much dissatisfaction that these physicians set up a professional union on 22.02.1988 (SYNADIM: syndicat national des médecins du DIM) to defend their rights [10]. DIM professionals working in health data management in France wish to be recognised as physicians, with medical doctors’ duties, rather than only administrative work. They look for an enlarged mandate within the public health system in their country.

The choice of the title “Physician Specialist in Health Data Management” is somewhat regrettable as it appears rather old-fashioned compared to “Specialist in Health Informatics”, but this alternative terminology is not easily understood by the lay public and the proposed title was accepted by Parliament.

The “High Council of Physician Specialists” of the FPS of Public Health asked certification boards if this new title had to be considered as a full speciality or as a special competence. As it can be combined with a clinical speciality, such as surgery or internal medicine, or with general practice, the Council decided that it is a “special competence” rather than a speciality in its own right, and arguments in favour of physicians working only in health informatics were not

retained. Inclusion in another speciality such as public health was not possible because this title is not yet recognised in Belgium. The present status, however, using board certification is a step forward and is based on the classical procedure of recognition applied to all specialities in medicine. Its extension to professions other than that of physician is not yet under consideration.

Conclusion

Obtaining a university degree is not sufficient in itself [11, 12]; degrees should lead to employment with official recognition of professional titles linked to a salary scale.

The Ministerial Decree of 15 October 2001 in Belgium [2] is a step forward that can lead to professional equivalence in all member countries of the European Union and can show other countries how to achieve professional recognition of health informatics. It has been achieved through the traditional “certification board”, as in the case of other medical specialities. It is very encouraging to learn that a similar approach is being adopted in the USA [4].

Its publication had an effect on the development of academic health informatics programmes in Belgium, by stimulating a master’s degree availability in all faculties of medicine, by enforcing a better uniformity in the basic courses to be taught, and, given the scarcity of resources for a limited number of students, by serving as incentives to group courses between different universities, leading to common inter-university diplomas.

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