



Medical scientific societies in Portugal

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Received: Sept. 2012.

Approved for publication:

Nov 2012

Abstract

Medical scientific societies, just like other scientific associations, are a fairly neglected object in the studies of science. Most of the published research in this area is comprised by historical studies of individual societies, by type or by geographical region. This article aims to fill this gap by presenting original research on contemporary medical societies. It seeks to characterise what are their main activities, how do they function and what relations they establish with other actors in the scientific field. It is focused on Portuguese medical societies but it seeks to draw comparisons with other national contexts whenever there is available information. The data presented was gathered as part of a project intituled SOCSCI Scientific Societies in Contemporary Science, which aims to understand scientific societies in general. This article pays particular attention to three medical societies which were included in a sample of in-depth studies from the project: the Lisbon Society of Medical Sciences, the Portuguese Neurology Society and the Portuguese Neurosciences Society.

Keywords

Medical societies, scientific associations, Portugal.

Sociedade científicas médicas em Portugal

Resumo

As sociedades científicas médicas, tal como as restantes sociedades científicas, são um objeto relativamente negligenciado nos estudos da ciência. A maioria da investigação publicada nesta área é composta por estudos históricos de sociedades individuais, ou por tipo, ou por região geográfica. Este artigo procura preencher este vazio apresentando investigação original sobre sociedades médicas contemporâneas. Procura compreender quais são as suas principais actividades, como funcionam e que relações estabelecem com outros atores no campo científico. É focado nas sociedades médicas portuguesas mas procura fornecer comparações com outros contextos nacionais sempre que existir informação disponível. Os dados apresentados foram recolhidos como parte de um projecto intitulado SOCSCI Sociedades científicas na ciência contemporânea, que procura compreender as associações científicas em geral. Este artigo dá particular atenção a três sociedades médicas que foram incluídas numa amostra de estudos aprofundados do projecto: a Sociedade de Ciências Médicas de Lisboa, a Sociedade Portuguesa de Neurologia e a Sociedade Portuguesa de Neurociências.

Palavras-chave

Sociedades médicas, associações científicas, Portugal.

Introduction

Medical scientific societies, just like other scientific associations, are a fairly neglected object in the studies of science. Most works in this field are authored by physicians interested in the history or functioning of their professional field rather than by historians or sociologists of science.

The most frequent type of published research in this area is historical studies of individual medical societies or by type or by geographical region (see, for instance, Dukes, 1960; Shaw, 1968; Marrett, 1980; Lawrence, 1985). Other studies, some also of an historical nature, deal with specific issues such as the role of medical societies in professionalization (Jenkinson, 1991), in specialisation (Weisz, 2003; 2006), in ethics (Backof & Martin, 1991; Shore, 1995; Bullock & Panniker, 2003; Jones, 2003; Montori & Onorato, 2008), in scientific publishing (Kronick, 1994), in scientific controversies (Wade, 2005), or in policy advice (Vesikari, 2008). Recently, an Italian team developed a study on the attitudes of medical societies towards patient involvements in research activities and healthcare (Gasparini et al, 2006; Mosconi et al, 2008).

As to more general studies on contemporary scientific societies, Schimank (1988) carried out a survey of scientific societies in Germany, including those in the health sciences, drawing comparisons between scientific areas in terms of the number and the type of members, the division in sections, the time of foundation, the publications of journals, the organisation of conferences, the information exchange between societies, the international contacts, the type of members, the financial promotion of research, the participation in organisations of scientific promotion, and the exchange of information with research institutions.

Moreau and colleagues (2004) conducted also a national survey of French medical societies, but with the main aim of building a definition. They identified a set of criteria to discern medical societies and reached the following definition: **"Organised group, within a given disciplinary field, in which members aim to present their work, to improve knowledge in their domain, to provide training and research, to disseminate the results of their activities, to support and promote their discipline"** (2004, p. 788).

This article aims to contribute to further the knowledge on contemporary medical societies. It seeks to characterise their main activities, how do they function and what relations they establish with other actors in the scientific field. It is focused on Portuguese medical societies but it seeks to draw comparisons with other national contexts whenever there is available information.

Methodology

This article is based on a research project intituled SOCSCI Scientific Societies in Contemporary Science¹, which aimed to understand functions and activities of Portuguese scientific societies and the associative behaviour and representations of scientists. The project was carried out between 2010 and 2012 and comprised a census and a survey of scientific associations in Portugal, an analysis of association statutes, an in-depth study of a sample of 24 associations, based on document analysis, interviews with the Presidents of the board, survey of members, ethnographic observation at events, and a survey of researchers working in Portugal concerning membership of scientific associations.

The present article is focused on the findings regarding medical scientific societies. It pays particular attention to three medical societies which were included in the sample of in-depth studies: the Lisbon Society of Medical Sciences, the Portuguese Neurology Society and the Portuguese Neurosciences Society. Nevertheless, other Societies in the sample also have close ties with medical sciences, such as the Portuguese Biochemistry Society. The article traces their evolution and growth, describes their main activities, characterises their membership and governance, and charts their external relations.

The growth and fragmentation of medical societies in Portugal

Medical scientific societies make up the largest disciplinary group in scientific societies in Portugal. Out of a universe of 263 scientific societies identified through the research project SOCSCI, in which this article is based, 107 concern medicine and the health sciences (41 per cent). This has little to do with the weight of the medical sciences in the Portuguese scientific system (11 per cent of R&D expenditure and 13 per cent of total researchers in 2008) and more to do with a tendency for specialisation and corresponding associative fragmentation.

Moreau et al (2004) also found a high number of medical societies in France, namely 225. In the eighties in Germany, Schimank (1988) registered only 90 medical societies: 25 per cent of the total number of scientific societies, for 15 per cent of the total number of scientists.

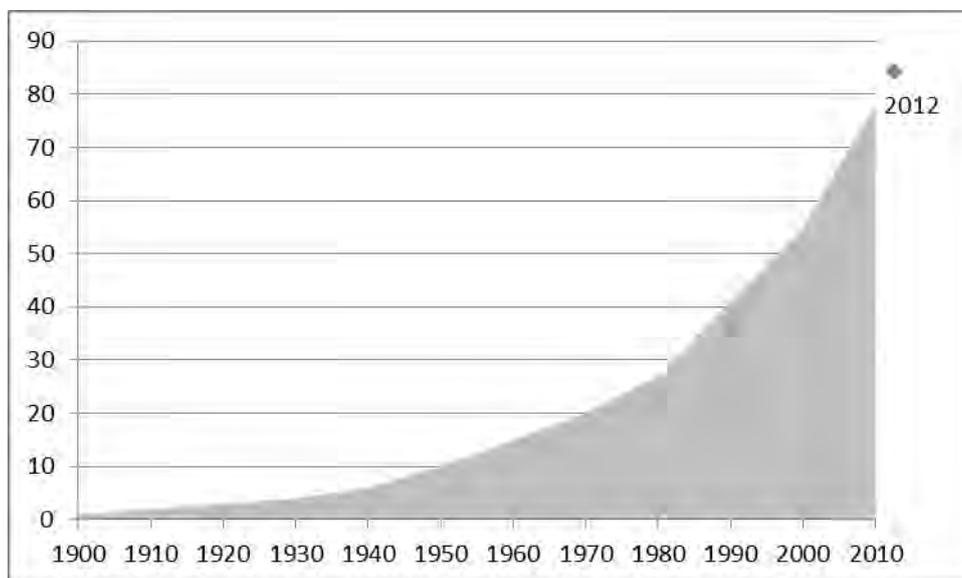
The Lisbon Society of Medical Sciences (SCML) is the oldest scientific society still in existence in Portugal, founded in 1822 but dormant until 1835, due to the civil war (1828-1834). Its creation is

¹ Funded by the Portuguese Foundation for Science and Technology (PTDC/CS-ECS/101592/2008).

associated to the scientific reformism of the liberal government and in the first century of its existence the Society played a significant role in areas such as professional sociability, the internationalisation of Portuguese research, the dissemination of scientific innovations through its journal and the organisation of conferences, the definition of public health policies and even political intervention (several of its members were prominent figures of the republican revolution of 1910) (Nunes, 2010). Despite its name **and the former existence of other regional associations, SCML's scope is national**, just like all other medical societies in Portugal (even though by tradition its President of the board is always from one of two universities located in Lisbon).

Although a foundation date could not be ascertained for 23 of the 107 medical societies identified, Figure 1 charts the evolution of the number of these organisations throughout the 20th and early 21st centuries. A slow increase in the first half of the 20th century is followed by swelling growth rates, especially from 1980 onwards, related with contextual factors. Thus, this trend arose later than in countries like the UK, Germany or the US, where "the 'deluge' of special societies" occurred in the second half of the nineteenth century (Weisz, 2006, p. 38, 57, 80-81). In Germany a new surge of medical societies happened in the 1960s (Schimank, 1988, p. 75).

Figure 1: Accumulated number of medical scientific societies by decade in Portugal



Source: SOCSCI Project; N=84

Although this growth can be partly explained by contextual factors such as the democratic regime instituted in 1974 (previously there had been limitations to the formation of associations), the

expansion of health care, the development of the Portuguese scientific system in general² and of the medical sciences in particular³ in the past few decades, increasing specialisation in medical disciplines and fragmentation of more general scientific societies definitely play the most important role. In fact, the centuries old Lisbon Medical Sciences Society (SCML) has been the birthplace of dozens of specialised medical societies. Many started out as sections of the SCML and eventually became autonomous organisations (only six currently remain as Sections of the SCML). This has weakened the relevance of the SCML:

This has changed a lot (...) as a result of a phenomenon that happened all over the world (...) the emergence of medical specialities, ever more sophisticated, ever more concentrated on their own **specific knowledge, which created their own medical Societies.** (...) These cross-cutting Societies have begun to lose their *raison-d'être*, in the sense of being the centre of knowledge transmission (...) members stopped coming to the meetings because they went to their own Societies, which are in fact the logical place to present such specialised issues. (Interview with the President of SCML)

The same process occurred in some of the specialised medical societies, gradually breaking down into even more specialised associations. For instance, concerning the nervous system alone we can find the Neurology Society, the Neuroscience Society, the Neuropsychology Society, the Neurosurgery Society, the National Institute of Psychology and Neurosciences, the Neuropathology Society, the Neurosonology Society, the Society for the Study of Neuromuscular Diseases, the Association of Myasthenia Gravis and Neuromuscular Diseases, the Multiple Sclerosis Society, the Epilepsy Society, the Stroke Society, the Headache Society, the Association of EEG and Clinical Neurophysiology. Many were generated from one another, but still maintain close connections:

...the Neurology Society was created in the 40's as the Portuguese Neurology and Psychiatric Society, because at the time neurology was not independent from Psychiatry (...) but then the Societies became independent, started to break up. This break up was very peaceful, interests are **different, there was a large field of interest for each Society** (...) currently at the Neurology Society there are, shall we say, sub-societies, some are autonomous, but they all revolve around the same orbit because the people are the same. There is an Epilepsy Society, a Stroke Society, that sprung

² For instance, in 1982 there were around 4 thousand researchers (Full Time Equivalent, FTE), currently that figure lies at 46 thousand (GPEARl, 2011b).

³ In 1982 there were close to 560 researchers in the Health Sciences (FTE), in 2009 that number reached 5,368 (GPEARl 2011a). This growth of the health sciences is patent also in world renowned research centres, such as the Institute of Molecular Medicine, the Gulbenkian Institute of Science or the Foundation Champalimaud, whose scientists numerous prestigious international grants.

from the Neurology Society, but the members are the same, neurologists belong to all these Societies, there is no separation, there is no conflict, we all get along because we are all the same **people. For instance, I'm the President of the Neurology Society and the Vice-President of the Stroke Society.** (Interview with the President of the Neurology Society)

Other medical societies result from the combination of different disciplines into a new interdisciplinary area, such as the Portuguese Neurosciences Society (founded in 1994):

... before this, the neurosciences scientific community had connections mainly to the Portuguese Neurology Society, the more clinical branch. Then there was the biochemical branch that was connected to the Portuguese Biochemical Society (...). Therefore, there was this space that hadn't been occupied yet, of neurosciences, between neurology and biochemistry, so people got together and formed their own group, a scientific society. (...) I would say that the needs were mainly scientific, in the sense that people that study neuroscience didn't identify fully with neurology, because it was too clinical, nor with biochemistry, because it was too general, not really focused on what people were studying, which was neuroscience. This process of scientific establishment and the creation of a body of people dedicated to studying a subject, that's what I think is the justification of the birth of the Portuguese Neurosciences Society. (Interview with the President of the Neurosciences Society)

Thus, medical specialisation plays a significant role in the development of medical societies. Weisz considers that medical specialisation is due to two factors: the unification of medicine with surgery and

a new collective desire to expand medical knowledge that initially prompted doctors to specialize; only specialization, it was believed, allowed for the rigorous empirical observation of many cases that had become necessary in academic medicine. It was the acceptance of such values by newly established communities of clinical researchers that encouraged specialization to emerge. (Weisz, 2003, p. 539).

The author goes on to trace the role medical specialisation played in the emergence of specialised medical societies, as well as their role in encouraging further specialisation, in the UK, France, Germany and the US (Weisz, 2006).

Activities and functions of medical societies

Our extensive research of scientific associations allowed the identification of five main areas fields of activity: knowledge circulation among peers, research promotion, defense of professional interests, policy advice, and scientific dissemination to non-specialised audiences. Medical societies perform these activities in varying degrees.

Knowledge circulation among peers

Knowledge circulation within the scientific community is at the core of the medical societies activities. This is done in two main ways: through the organisation of scientific conferences and the publication of specialised journals. However, these are the areas that have suffered the most with the increasing internationalisation of science. Participation in international meetings and publication in international journals have become the hallmark of a successful scientific career, putting in the shade events and publications from national scientific societies. Nevertheless, in medical sciences, due to a large community of practitioners whose participation in research may be scarce but benefits from getting to know the latest scientific breakthroughs, conferences and journals in Portuguese are still relevant.

Conferences are often the most important moments in the life of scientific societies and the pinnacle of their public visibility (Bloland, 1982; Schimank, 1988; Schofer, 2003). All medical societies that replied to the survey state that they organise scientific conferences. Schimank (1988) achieved similar results in Germany. The main target of national conferences is young interns, but senior members of the profession also usually attend. Conferences serve the dual purpose of training junior practitioners and exchange of information among colleagues.

The Neurology Society has always had the role of being a training school for neurologists. **It's** at the Neurology Society that young interns start presenting their work, to attend scientific meetings. In these annual meetings we do we often bring foreigners, the top people in certain areas, so we give a good scientific level. Foreigners and nationals, we also have good people here, but we always try to bring the best in the world or at least the best in Europe. So interns begin by presenting the first oral presentations, the first posters, to participate in **the meetings. it's like a greenhouse, where people begin to develop (...)** All neurologists have a special fondness for the Neurology Society, we always go to the Society meetings (...) it's like a Mecca of Portuguese neurology, all neurologists aim to go to the **annual meeting (...)** it's a place for meeting everybody,

an opportunity to socialise, to exchange views, to talk about things (...) clinical trials, works in progress (...). In intern evaluation, participation in the Society is valued (...) and people see that it is important for them, not just for the CV but also for what you can learn (...) we get a full picture of neurology, all areas and you don't need to go abroad, you don't need expensive registration fees nor plane tickets nor hotels. (Interview with the President of the Neurology Society)

Unlike the other two, the SCML does not hold regular congresses with training purposes but it has been seeking to organise an annual event with widespread interest for the medical community:

These meetings are not about specialised issues in medicine but rather try to find issues that are cross-cutting **to all specialities**. (...) **the list of events and meetings and debates previous Boards** have been organising to attract physicians from different specialities, issues that are of interest for everybody, such as ethics in medicine, the economics of medicine, relations between medicine and **the media, women in medicine, medical research**. (...) **The last was about medical teaching and the changes in the articulation with the system of health units**. (Interview with the President of the SCML)

Journals were among the leading activities of the earliest scientific societies (Levitan, 1979; Siegelman, 1998; Weisz, 2006; Barca-Salom, 2010). They play a very relevant role in regulating communication in science, drawing the borders of legitimate knowledge and awarding prestige to individual scientists (Zuckerman, 1971; Ben-David, 1972; Bourdieu, 1975; Rilling, 1986; Caelleigh, 2003). However, the scientific publishing business has experienced significant change in recent years (Shad, 1997; Hurd 2,000; Leslie, 2007; Elvebakke, 2010; Velterop, 2003; Doyle et al, 2004; Willinski, 2005) and non-English language national journals have been the worst affected. Only a third of Portuguese medical societies that answered the survey still publish a scientific journal, whereas according to Schimank (1988), in Germany, in the eighties, that proportion was higher (56 per cent).

We don't [publish a journal] because it's meaningless. From a scientific point of view, the Portuguese neuroscientist community doesn't need one because the international and global supply is huge (Interview with the President of the Neurosciences Society)

Other medical societies have struggled (and failed) to compete in the international market. Though maintaining the journal, they use it almost exclusively to publish conference proceedings:

We have a problem with the journal, because it is Portuguese and naturally those who do things that can achieve international recognition, a larger impact, seek an international journal. **That's our dilemma. We only have a Portuguese journal where we publish domestic things that don't get published elsewhere (...). We don't have** enough critical mass to have quality material in sufficient quantity, so our journal is published only twice a year, which coincides with our two meetings, so there is always an abstract of what was presented or what is going to be presented in the meeting. Other societies also publish in our journal, for instance the Neuropaediatrics Society, the **Neurosurgery Society (...)** The journal has to be indexed to be accepted in the international scientific community. And indexing means an assessment by an international committee and we **have done that and we weren't successful, because it** has too few issues, the quantity of articles is **small, because we publish abstracts of our meetings, so it's not really a scientific journal, it doesn't have enough quantity. And it can't have, we're a small country, there is brain drain to international journals.** (Interview with the president of the Neurology Society)

In other disciplines, such as physics or chemistry, these challenges were met with a change in strategy, redirecting the journals to different audiences, such as basic and secondary school teachers, business managers and the general public. No such thing seems to happen in medical societies, possibly due to their highly specialised nature.

Research promotion

Unlike other scientific areas, medical societies are often involved in research, by collaborating in projects with universities and research centres. Another form of research promotion is carried out through the allocation of awards and grants, which is done by close to three quarters of medical societies that replied to the our survey. These equate to both a material and a symbolic reward, and can have the effect of steering research to particular subjects in their disciplines (Bourdieu, 1975; Rilling, 1986; Schimank, 1988). For societies, awards and grants are also a way of drawing new members and forging links to business sponsors (often pharmaceutical companies):

We award research grants and mobility grants. We try to foster the participation of Portuguese scientists in international meetings. On another level, we have the promotion of excellence in neurosciences research, so we give research awards, prizes for research projects, prizes for **scientific articles published in high impact journals. (...)** The first criteria is always merit, but there is one condition, the prize winners have to members of the Neurosciences Society. But that condition is more formal than real, since we let non-members apply to the award, though they have

to become members on the spot. So it is also a way of attracting new members to the Society. The first criteria is always merit. (Interview with the President of the Neurosciences Society)

Professional representation

Contrary to what happens in other scientific areas, in medicine and health sciences there is a clear cut distinction between professional and scientific societies. Whereas in areas such as sociology there is an association that plays both roles, acting in the defence of professional interests and promoting research, medical scientific societies concern themselves solely with scientific issues, leaving professional representation to two other powerful types of organisations, trade unions and the *Ordem dos Médicos*, a self-regulating professional association with the monopoly of the representation of the profession (**equivalent to the UK's General Medical Council**).

Nevertheless, some medical societies carry out activities of a professional nature. For instance, the Portuguese Neurosciences Society is involved in a scheme to attract back Portuguese researchers working abroad:

We have another action that aims to promote the return of Portuguese brain researchers that work in foreign laboratories. We do this in partnership with IBRO, the International Brain Research Organization. We try to garner the participation of young Portuguese brain researchers, PhDs or PhD students that work in foreign laboratories, already renowned by the quality of what they do, in our national meeting, because in doing so we increase the critical capacity of our meeting and we also bring people closer to Portuguese institutions. (Interview with the President of the Neurosciences Society)

Policy advice

Schimank (1988) defines policy advice as another one of the functions of scientific societies. In the health sciences area, some studies have examined medical society appearances before US Congressional committees (Rabinowitz and Laugesen, 2010), their participation in establishing guidelines (Schwartz, 1984; Casparie, 1991; Shaneyfelt et al, 1999) or in expert consultations regarding the recommendation of vaccines (Vesikari, 2008) and stem cell research (Teich, 2002). However, medical scientific societies perform little policy advice in Portugal, especially regarding

science. There is a Scientific Council for the Life and Health Sciences that advises on research policy in this area, but it is made up of individual members from the main Portuguese universities. There is no other advisory structure in which Scientific Societies are represented at least permanently. In this sense, some societies believe they should play a more significant role in this area, as independent bodies above the competition between universities.

We think that as a rule, scientific societies should be consulted by science management structures. We think no one represents the scientific community better than scientific societies. The management of science in Portugal is done usually by consulting groups, individual scientists or science laboratories. That is all very well, but it has some perverse effects. Such as the influence of interest groups over decision makers. Scientific societies are completely independent. They only represent scientists. They represent research units but all of them, in equal terms, so we think it is a serious failing of management structures not to take scientific societies into consideration. (Interview with the President of the Neurosciences Society)

Some medical societies strive to have influence over science and education policy by issuing statements and recommendations of their own accord. The above mentioned meetings organised by **the SCML always result in position papers, summarising the experts' conclusions, which are sent to government officials.** But the practical result of these initiatives is far from clear. Regarding health policy, the Ministry of Health meets occasionally with some medical societies:

The day before last I went to a meeting at the Ministry of Health representing the Portuguese **Neurological Society. It was the first time they contacted us, they didn't forget us, we were there and we had an important role (...)** we are available and it is in our best interest to take part, whenever it is something that concerns neurology. In fact, it is in our program, to be the face of **neurology. (...)** We went there to discuss **diagnostic tests, ultrasounds and ultrasonic doppler (...)** the level of evidence for a referral for such exams, the qualifications of people performing such exams, to establish guidelines for general practitioners. (Interview with the President of the Neurology Society)

Scientific dissemination

Finally, scientific dissemination is a field of activity in which many scientific societies are becoming more active, much favoured by a general trend for the promotion of public understanding of science

(PUS) in Portugal, through funding and Government sponsored programmes (Gonçalves and Castro, 2002; Costa et al, 2005; Delicado, 2006). Medical societies are not at the forefront of this movement: unlike the exact and natural sciences there are no associations devoted solely to public dissemination and the majority of them takes part in few initiatives.

We don't have the size for that. We receive a lot of invitations for participating in this and that, requests from schools, but we don't have the time to go around the country. (...) People who work in hospitals don't have the availability to do that. Whenever possible we give some support, but it is always limited (Interview with the President of the Neurological Society)

This may be due to the fact that one of the main drivers of PUS activities is to stimulate scientific vocations in young people and there is no shortage of candidates for medical schools. Nevertheless, the Neuroscience Society, which is closer to laboratory research than to clinical practice, is heavily involved in one major event of scientific dissemination:

One of the main actions we carry out is the promotion of the International Brain Week. It falls on the third week of March and we are the main promoters of the Brain Week in Portugal, in partnership with Science Alive [Government agency]. We go to schools, we welcome people at our laboratories, we organise roundtables, lectures, exhibitions, etc. A wide number of activities that **involve a lot of scientists, a lot of young people. (...) We have produced short films, in 3d environments, educational films, we produced books, and we take part in several scientific and cultural projects. That material is always made available in our website. (...) Neuroscientists go to dozens or hundreds of schools and receive in their research units groups of students. And this mobility far surpasses the Brain Week. It occurs throughout the year. For instance, tomorrow I'm going to a school in Lousã (...) in May I'm going to a school in Santa Maria da Feira. And a lot of my colleagues do the same.** (Interview with the President of the Neurosciences Society)

In a nutshell, Portuguese medical societies carry out a wide range of activities, that combine to accomplish different roles in contemporary science (with varying degrees of success): to disseminate knowledge among scientists and health care practitioners, to train younger generations, to promote scientific research, to provide expert advice, to raise public awareness of the medical sciences.

Membership and governance of medical societies

According to the SOCSCI survey results, Portuguese medical societies have on average close to a thousand members, which makes them, along with natural sciences societies, the largest scientific associations. The majority of those members (on average, 80 per cent) are health care professionals and the remaining 20 per cent are researchers. Schimank (1988) registered a greater balance **between the academic and the health care sector in German medical societies' membership.**

Having carried out a thorough analysis of the statutes of 70 medical societies, we ascertained that most medical societies require a medical degree as foremost condition for becoming a member. However, some accept non-medical graduates as "affiliated members" and others, of a more interdisciplinary nature, accept other graduates (in biology, chemistry, psychology, pharmacy, or nursing) as full members. Some medical societies have even more stringent criteria for admission, such as internship in a specific medical speciality, registration at the speciality College of the *Ordem dos Médicos*,⁴ participation in at least two scientific meetings promoted by the association or even publication in Science Citation Index classified peer-reviewed journals. This is the case of the Portuguese Neurosciences Society.

Due to these restrictions, the number of members in each Society is directly dependent on the number of practitioners in each specific field. Whereas specialised medical societies tend to aggregate the majority of specialists:

...almost all [neurologists] are members. The older ones may be disenchanted with life, not just with neurology. But I think that you can practically say that all neurologists are members.
(Interview with the President of the Neurology Society)

The representativeness of the SCML has been steadily declining, registering currently only a little over a thousand members in an universe of 44.3 thousand physicians currently registered at the *Ordem dos Médicos*. Nevertheless, according to its President, the Society seems to be attracting a new generation of members, more interest in research than in clinical practice, such as PhD students, and not all of them with a medical degree.

⁴ "Elitist specialist societies frequently set conditions on membership that implicitly or explicitly reflected definitions of specialist status. One very common condition of membership was full-time practice as a specialist and renunciation of all forms of general practice. Another was selective election based on the premise that the specialist was someone recognised by his or her peers to have exceptional knowledge and experience in a particular sphere. Or a specialist could be defined as someone who held a particular kind of post in a hospital or medical school" (Weisz, 2006, p. xxv).

As to the governance structure of the medical societies, all have at least the three compulsory bodies of associations: the General Assembly Board (in charge of convening general meetings and elections), the Board of Directors (in charge of the day-to-day running of the Society) and the Fiscal Council (in charge of monitoring the accounts). But many also have other bodies, such as:

- Consulting Committee, usually made up of former Presidents and renowned figures in the field or representatives from internal or external bodies, in charge of issuing recommendations, advising on statutes changes, regulating editorial policies, carrying out strategic guidance;
- Scientific Committee, composed of senior members of the profession, which issues recommendations but can also make proposals for activities, coordinate scientific and training activities, nominate members for evaluation panels, select presentations at conferences, etc.;
- Ethics Committee, that is responsible for drafting and enforcing the ethics code, exercising disciplinary action and mediating conflicts;
- Other specialised committees, such as education, editorial, admissions.

Slightly over half medical societies that answered the survey are divided into sub-disciplinary sections or regional sections, which aggregate members according to their scientific interests or geographical location. A similar figure to that found by Schimank (1988) in German medical societies. The internal structure tends to vary significantly among Societies (see Table 1).

Table 1: Governance structure and internal divisions of three medical societies

| | Governance structure | Internal divisions |
|---|--|---|
| Lisbon Society of Medical Sciences | Board of Directors (President, President Elect, General Secretary, Treasurer, Librarian, Journal Editor, two secretaries) General Assembly Board (three members) Fiscal Council (three members) Consulting Committee (President, President Elected, General Secretary and Presidents of all Sections) | Specialised Sections: Labour Medicine, Hand Surgery, Plastic Surgery, Geriatrics, Medical Education, Paediatric Surgery |
| Portuguese Neurology Society | Board of Directors (five members) General Assembly Board (three members) | Honour Commission Scientific Council Education and Teaching Committee |

| | | |
|---|---|---|
| | Fiscal Council (three members) | Ethics Committee Science Dissemination and Media Committee History Committee International Relations Committee Liaison Committee between Sections and Scientific Societies Scientific Research Committee Working Group for Accreditation Neurology Health Care Committee Local Organising Committees (Lisbon, Oporto, Coimbra) Editorial Committee Intern Committee |
| Portuguese Neurosciences Society | Board of Directors (five members) General Assembly Board (three members) Fiscal Council (three members) | |

Considering international trends (Backof and Martin, 1991; Shore, 1995; Bullock and Panniker, 2003; Jones, 2003; Weisz, 2006, p. 81), but in line with associations from other disciplinary fields in Portugal (Rego et al, 2012), only half Portuguese medical societies have ethics codes and ethics committees. This is true even for those societies that do not consider that function very relevant, since the ethical observance is attributed mainly to the *Ordem dos Médicos*, and even to specialised bodies in research:

Let us say that this is just a reserve committee. It only exists to solve problems that have to do with the Society, that has to do with members, within the Society. In general terms, in medicine there is the Speciality College, there is the *Ordem dos Médicos*, which has an Ethics Committee. This has nothing to do with disciplinary issues, just issues that have to do with neurology. (Interview with the President of the Neurology Society)

It has nothing to do with us, we are a Medical Sciences Society, we don't do science. If we did science, we would have to have an ethics code. However, when we evaluate scientific work, one of the things we assess is the ethics of scientific work. For instance, in the Pfizer awards (...) some scientific works were rejected because they don't comply, they don't prove that they have the approval of the hospital or the research centre's Ethics Committee and that's reason enough to reject them. (Interview with the President of the SCML)

Positions in governing bodies are allocated mostly by elections, held at two or three year intervals. In the vast majority of cases there is a single list to all three associative bodies, so electoral turn-out is, as expected, low. The list of candidates is usually made up of members representing different regions or scientific institutions:

It's an implicit commitment, the Board of Directors must be representative of the research units in Portugal, and have some regional representativeness. In the current Board we have two members from Coimbra, the President and the Secretary, we have a member from Oporto, the Vice-President and two members from Lisbon, the Treasurer and another. (Interview with the President of the Neurosciences Society)

Officers tend to remain in the governing bodies for more than one term of office, usually in different positions, confirming the oligarchic iron law (Michaels and Paul, 1915).

Two members of the new list were part of the previous Board. **Myself, I'm the President and used** to be the Secretary. The Treasurer from the previous Board remains as a member of the current Board. We have been trying to preserve the memory of how the Society works, favouring, but not imposing, **the inclusion of one or two former members in each new Board. It's precisely for keeping** the memory of the procedures and history of the Society. (Interview with the President of the Neurosciences Society)

At the SCML, continuity and cohesion are further reinforced by the figure of the President elect. He/she acts as a Vice-President and directly succeeds the President in the following term of office.⁵ Presidents are in most cases senior researchers at the acme of their careers, usually Full Professors at **the country's most prominent universities or Heads of Hospital Services**. This means that leading a medical society seems to be a prestigious position, a mark of peer recognition.

⁵ At the time of the fieldwork, the President of SCML was, for the first time in its history, a woman.

External relations

As seen above, medical societies enjoy close relations with each other, especially in the ones in close sub-disciplines or specialities. They tend to share members, but also occasionally facilities, administrative personnel, among other resources:

...even the Societies that are autonomous, often for convenience reasons, for administrative purposes, we all come to the same meetings, we are all neurologists (...) at the beginning we needed to have an official address (...) so SCML worked as a mother-house, in which other Societies were housed, somewhere to have the mail be sent (...) they had administrative staff, they dealt with issues. Some of the smaller Societies didn't have money to have a secretary, an office, none of these things (...) To some of these smaller Societies, we give them support, we give them money, we deal with their financial records, we let them use our bank accounts. (Interview with the President of the Neurology Society)

Some medical societies also hold joint scientific meetings and dissemination events:

For instance, in the International Brain Week we are in partnership with the Biochemistry Society, the Neurology Society, the Paediatrics Society, the Psychiatry and Mental Health Society, for producing dissemination material. (Interview with the President of the Neurosciences Society)

Despite its wide-ranging nature, the SCML seems to have the least connections to other scientific societies. Also, there is no platform or federation of Portuguese medical societies.⁶ The sole example of such an organisation we found is of a sub-disciplinary nature. Six medical societies,⁷ together with patient organisations, have formed in 2011 the Portuguese Brain Council, with the aim of supporting patients and their carers but also to raise awareness among citizens and decision-makers concerning the importance of brain research.

Regarding connections with international scientific societies, the majority of Portuguese medical societies belong to European or World federations and establish close ties to some other national

⁶ Unlike the Royal Medical Society in the UK, which played an important role in countering "the excessive tendency towards specialisation", contributing to "raise the public status of the profession; pooling resources [that] would provide more funds for the advancement of science; [reduce] travel expenses for individuals" (Weisz, 2006, p. 41).

⁷ The Portuguese Societies of Neurology, Neurosciences, Neuroradiology, Neuropaediatrics, Neurosurgery and Psychiatry and Mental Health.

associations, especially from geographically or linguistically close countries, such as Spain and Brazil. Joint conferences, journal exchanges, networks and agreements are some of the ways in which these international connections materialise.

We are affiliated to the European Federation of Neurological Societies, EFNS, and we have to pay them. Just like Portugal pays to be a member of the European Community, so we have to pay this federation (...) **We were invited by the Brazilian Neurology Academy to make our journal available on their website (...)** [they also] proposed us that our members could become automatically **members of their Academy and vice versa (...)** with Latin-American countries we have a good **opportunity now, the Spanish Society also proposed us to connect, I'm going to a meeting in Spain soon (...)** **to see how we can collaborate and become closer.** (Interview with the President of the Neurology Society)

Again, the SCML is a quite different case, since it has no international connections. Its President claims this is due to all similar international associations facing also challenging times (competition from specialised societies).

Universities and hospitals are strong supporters of medical societies, often providing facilities (head offices and rooms for conferences) and resources, as well as freeing their staff for association activities. This may be related to the need of continuous professional training of these professionals and the provision of training, congresses, and publications by scientific societies. Just like in the British case (Weisz, 2006, p. 37-38), some medical societies emerged from specific institutions before achieving a more comprehensive membership.

Medical societies seem to have no close ties with the Government. The Ministry of Education and Science used to provide financial support to some Societies and their journals and events, but this line of funding was discontinued in 2011. As seen above, scientific societies do not take part in any policy advisory boards. In sum, medical societies seem to play a more important role for the professional community than for public policies, or society in general.

As seen above, medical societies, unlike their counterparts in other disciplines, seem to enjoy fairly good relations with business companies, especially pharmaceuticals that often sponsor their awards, scientific meetings and publications. This is a quite contentious issue in medicine (Glassman et al, 1999, Kassirer, 2007) and some ethical concerns (and their rebuttal) are evident from the interviews:

SCML has been in partnership with Pfizer Laboratories for 50 years for our awards. It has been an **excellent relationship, a very important contribution for medical research. Of course it's a monetary**

contribution, the awards are paid by Pfizer, but SCML gives prestige to the awards. The great prestige these awards have comes from SCML, the strictness in assessing the projects, based **exclusively on merit criteria (...)** **It's a very useful partnership, with economic benefits for SCML (...)** This relationship with pharmaceuticals laboratories has been very transparent, very healthy, for them **is very good in terms of public awareness, it's very good for the scientific community, and the Society here works only as a warranty of quality for the award.** These companies respect the Society and value its neutrality. (Interview with the President of SCML)

At the congress, few people pay their own registration fee, most are paid by [pharma] laboratories. **(...) There is always an exhibition area in which laboratories have their stands and they pay good money for that.** They also give lunches. For instance, lunch on day x of the congress is paid by the Laboratory something, coffee-break on the next day is paid by another Laboratory. And then there **are the symposia (...)** **The industry promotes a symposium for publicising a new drug (...)** we have to have an ethical relation with them. The trade-off we negotiate is that they give a contribution to the Society, they pay, but also they have to bring some people, from here or from abroad, to give a talk at the symposium about the subject. If it is about a drug for dementia, people talk about the drug, but usually there are three or four persons, one talks about the drug but the others talk about the subject in general and the latest news on dementia. (Interview with the President of the Neurology Society)

In short, medical societies are fairly established in the scientific field, in close connection with other social actors such as other national and international societies, research universities and institutes. They have strong links with the public and private sectors, albeit these are stronger in the area of health than in science.

Conclusions

Although the origin of the Portuguese medical societies can be traced back to the early nineteenth century, with the foundation of the Lisbon Society of Medical Sciences in 1822, the majority of Portuguese scientific medical societies are quite recent, having been created for the most part since the nineteen eighties. This delay can be explained by contextual factors, such as the free right to association dating only from 1974 and the late development of the Portuguese science system, as well as by the expansion of medical sciences and health care.

Medical societies have grown to become by far the largest disciplinary group among Portuguese scientific societies, comprising around 40 per cent of their total. This number surpasses the relative

weight of both funding and human resources for the medical sciences in the Portuguese science system. This trend for a high number of medical societies was identified in other national contexts, and can be explained by an increasing specialization of medical disciplines, which leads to the fragmentation of more general societies into specialized ones.

Portuguese medical societies are strongly connected to both medical research and practice, just like in other national cases. They are supported by universities and hospitals that provide them with facilities and other resources. They also take part in international networks and federations, have renowned professors and hospital administrators occupying the most important positions in the governing bodies, they grant research awards, and organize activities promoting the circulation of knowledge between researchers and practitioners. Among these activities the organization of conferences should be highlighted, as they seem to retain its relevance in the current context of internationalization of Portuguese science, with the dual purpose of training junior practitioners and promoting the exchange of information among peers. On the other hand, journals are only published by a third of surveyed medical societies, and are seen as increasingly unnecessary due to the current international offer. In some cases they were relegated to publish conference proceedings.

Despite the strong presence of practitioners, medical societies generally maintain a focus in the circulation of scientific knowledge and the promotion of research, leaving professional issues like ethical vigilance to other types of organizations. The absence of ethical codes and committees in half the societies surveyed and the lack of relevance of those that exist can be linked to this clear division of work between organizations. In fact, the ethical regulation is attributed mainly to the *Ordem dos Médicos*, a self-regulating professional association with the monopoly of representation of the profession.

It should be also noted that medical societies also strive to maintain a connection to other sectors of Portuguese society, although with varying success. Some societies showed a desire for a more active role in policy advice, sometimes even issuing statements and recommendations on their own accord. However, there is no Portuguese advisory structures in which scientific societies are permanently represented, and consultation by the government is at best sporadic. Regarding the relation to the general public, medical societies seem to be outside the contemporary trend for the promotion of public understanding of science. Unlike societies in the exact and natural sciences, which are becoming increasingly active in dissemination of scientific knowledge, most medical societies take part in few initiatives of this kind, investing more on activities for their own closed community. On the other hand, and unlike scientific societies from other disciplinary areas, medical societies maintain good relations with business companies, especially pharmaceuticals, which sponsor events, awards and publications.

Bibliography

- Backof, J. F. & Martin, C. L. (1991). Historical perspectives: Development of the codes of ethics in the legal, medical and accounting professions. *Journal of Business Ethics*, 10(2), 99–110.
- Barca-Salom, F. X. (2010). Introducción de innovaciones e implicación social. La Real Academia de Ciencias y Artes de Barcelona en el segundo tercio del siglo XIX. *Eä Journal*, 1(3), 1–38.
- Ben-David, J. (1972). The profession of science and its powers. *Minerva*, 10(3), 362–383.
- Bloland, H. G. (1982). Opportunities, Traps, and Sanctuaries: A Frame Analysis of Learned Societies. *Journal of Contemporary Ethnography*, 11(1), 79–105.
- Bourdieu, P. (1975). La spécificité du champ scientifique et les conditions sociales du progrès de la raison. *Sociologie et sociétés*, 7(June 2011), 91–118.
- Bullock, M. & Panicker, S. (2003). Ethics for all: differences across scientific society codes. *Science and engineering ethics*, 9(2), 159–70.
- Caelleigh, A. S. (2003). Roles for scientific societies in promoting integrity in publication ethics. *Science and engineering ethics*, 9(2), 221–41.
- Casparie, A. F. (1991) Guidelines to shape clinical practice. The role of medical societies: the Dutch experience in comparison with recent developments in the American approach, *Health Policy*, 18(3), 251–259.
- Costa, A. F. da, Conceição, C. P., Pereira, I., Abrantes, P., & Gomes, M. do C. (2005). *Cultura Científica e Movimento Social Contributos para a análise do programa Ciência Viva*. Oeiras: Celta Editora.
- Delicado, A. (2006). Os museus e a promoção da cultura científica em Portugal. *Sociologia - Problemas e Práticas*, 51, 53–72.
- Doyle, H., Gass, A., & Kennison, R. (2004). Open access and scientific societies. *PLoS Biology*, 2(5), E156.
- Dukes, C. E. (1960). London Medical Societies in the Eighteenth Century. *Proceedings of the Royal Society of Medicine*, 53(699), 699–706.
- Elvebakk, B. (2010). What is an Academic Journal ? Problems Associated with the Transition to Electronic Publishing. *Science Studies*, 23(2), 20–35.
- Gasparini, M., Bonito, V., Leonardi, M., Tarquini, D., Colombi, L., Congedo, M., Marcello, N., et al. (2006). **Neurologists and patients' associations: alliances and conflicts**. *Neurological sciences: official journal of the Italian Neurological Society and of the Italian Society of Clinical Neurophysiology*, 27(3), 194–204.

- Glassman, P. a, Hunter-Hayes, J., & Nakamura, T. (1999). Pharmaceutical advertising revenue and physician organizations: how much is too much? *The Western Journal of Medicine*, 171(4), 234–8.
- Gonçalves, M. E., & Castro, P. (2002). Science, culture and policy in Portugal: a triangle of changing relationships? *Portuguese Journal of Social Sciences*, 1(3), 157–173.
- GPEARI. (2011a). *Sumários Estatísticos IPCTN09*. Lisboa: GPEARI/MCTES.
- GPEARI. (2011b). *IPCTN10 Resultados Provisórios*. Lisboa: GPEARI/MCTES.
- Hurd, J. M. (2000). The transformation of scientific communication: A model for 2020. *Journal of the American Society for Information Science*, 51(14), 1279–1283.
- Jenkinson, J. (1991). The Role of Medical Societies in the Rise of the Scottish Medical Profession 1730–19391, *Social History of Medicine*, 4 (2): 253-275.
- Jones, A. H. (2003). Can Authorship Policies Help Prevent Scientific Misconduct ? What Role for Scientific Societies? *Engineering*, 9(2), 243–256.
- Kassirer JP. (2007), Professional societies and industry support: what is the quid pro quo?, *Perspect Biol Med.*, 50 (1 Winter), 7-17.
- Kronick, D. A. (1994). Medical “publishing societies” in eighteenth-century Britain. *Bulletin of the Medical Library Association*, 82(3), 277–82.
- **Lawrence, S. C. (1985). “Desirous of Improvements in Medicine”: Pupils and Practitioners in the Medical Societies at Guy’s and St. Bartholomews Hospitals, 1795 – 1815. *Bulletin of the History of Medicine*, 59, 89–104.**
- Leslie, D. M. (2007). A Shifting Mosaic of Scholarly Publishing, Scientific Delivery, and Future Impact Changing the Face of Learned Societies. *Journal of Mammalogy*, 88(2), 275–286.
- Levitan, K. B. (1979). Scientific Societies and their Journals: Biomedical Scientists Assess the Relationship. *Social Studies of Science*, 9(3), 393–400.
- Marrett, C. B. (1980) Influences on the Rise of New Organizations: The Formation of Women's Medical Societies, *Administrative Science Quarterly*, Vol. 25, No. 2 (Jun., 1980), pp. 185-199
- Michaels, Robert and Eden Paul (1915), *Political Parties: A Sociological Study of the Oligarchical Tendencies of Modern Democracy*, **New York: Heart’s International Library Co.**
- Montori A. & Onorato, M. (2008). Why There Is a Need of an Ethics Committee in Scientific Medical Societies, *Digestive Diseases*, 26, 32-35.
- Moreau, N., Guérot, C., & Durocher, A. (2004). Typologie des sociétés savantes médicales Enquête auprès de 129 organisations. *Presse Médicale*, 33(12), 784–790.
- Mosconi, P., Colombo, C., Guella, F., Pierotti, B., & Vimercati, F. (2008). Are Italian medical societies bridging the distance from citizen and patients’ associations? Results of a survey. *Journal of Preventive Medicine and Hygiene*, 49(3), 112–5.

- Nunes, M. de F. (2010). As sociabilidades Médico-Científicas. Corpo, Estado, Medicina e Sociedade no tempo da I República (pp. 65–74). Lisboa: Imprensa Nacional da Casa da Moeda.
- Rabinowitz, A., & Laugesen, M. (2010). Niche players in health policy: medical specialty societies in Congress 1969-2002. *Social Science & Medicine*, 71(7), 1341–8.
- Rego, R., Delicado, A., & Junqueira, L. (2012). Regulação ética nas associações profissionais de cientistas: variações por disciplina. In Santiago, R., Carvalho, T. & Caria, T. (Eds.), *Grupos Profissionais, Profissionalismo e Sociedade do Conhecimento* (pp. 45–57). Porto: Afrontamento.
- Rilling, R. (1986). The Structure of the Gesellschaft Deutscher Chemiker (Society of German Chemists). *Social Studies of Science*, 16(2), 235–260.
- Schimank, U. (1988). Scientific associations in the German research system—Results of an empirical study. *Knowledge in Society*, 1(2), 69–85.
- Schwartz, J. S. (1984). The role of professional medical societies in reducing practice variations. *Health Affairs*, 3(2), 90–101.
- Shad, J. G. (1997). Scientific Societies and Their Journals: Issues of Cost and Relevance. *The Journal of Academic Librarianship*, 18(5), 406–407.
- Shaneyfelt, T. M., Mayo-smith, M. F., & Rothwangl, J. (1999). Are Guidelines Following Guidelines? The methodological quality of clinical practice guidelines in the peer-reviewed medical literature. *Journal of the American Medical Association*, 281(20), 1900–1905.
- Shaw, A. B. (1968). The oldest medical societies in Great Britain. *Medical History*, 12(3), 232–244.
- Shore, E. G. (1995). Effectiveness of research guidelines in prevention of scientific misconduct. *Science and Engineering Ethics*, 1(4), 383–387.
- Siegelman, S. S. (1998). The Genesis of modern science: contributions of scientific societies and scientific journals. *Radiology*, 208, 9–16.
- Teich, A. (2002). AAAS and public policy: speaking softly and carrying a medium-sized stick. *Technology in Society*, 24(1-2), 167–178.
- Velterop, J. (2003). Should scholarly societies embrace open access (or is it the kiss of death)? *Learned Publishing*, 16(3), 167–169.
- Vesikari, T. et al (2008). European Society for Paediatric Infectious Diseases/European Society for Paediatric Gastroenterology, Hepatology, and Nutrition Evidence-Based Recommendations for Rotavirus Vaccination in Europe. *Journal of Pediatric Gastroenterology & Nutrition*, 46(5), 615-8.
- Wade, N. J. (2005). Medical societies and insanity in late-eighteenth-century London: the fight between Andrew Marshal and John Hunter. *Journal of the History of the Neurosciences*, 14(1), 11–5.

- Weisz, G. (2003). The Emergence of Medical Specialization in the Nineteenth Century. *Bulletin of the History of Medicine*, 77(3), 536–574.
- Weisz, G. (2006). *Divide and conquer: a comparative history of medical specialisation*. Oxford: Oxford University Press.
- Willinsky, J. (2005). Scholarly Associations and the Economic Viability of Open Access Publishing. *Open Journal System Demonstration Journal*, 1(1).
- Zuckerman, H., & Merton, R. K. (1971). Patterns of Evaluation in Science: Institutionalisation, Structure and Functions of the Referee System. *Minerva*, 9(1), 66–100.

Notes

Funding for this research has been provided by the Portuguese Foundation for Science and Technology, through the project "SOCSCI Scientific Societies in Contemporary Science" (PTDC/CS-ECS/101592/2008).

This article does not entail any conflict of interests.