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RESEARCH ARTICLE

The Medical Oncology resident mentor: situation and workload

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Abstract

Purpose The Spanish Society for Medical Oncology (SEOM, for its acronym in Spanish) and the National Commission for the Specialty of Medical Oncology seek to highlight the important workload and unrecognized dedication entailed in working as a Medical Oncology (MO) resident mentor, as well as its relevance for the quality of teaching units and the future of the specialty.

Materials and methods The current situation and opinion regarding the activity of MO resident mentors was analyzed by reviewing the standing national and autonomic community regulations and via an online survey targeting mentors, residents, and physicians who are not MO mentors. The project was supervised by a specially designated group that agreed on a proposal containing recommendations for improvement.

Results Of the MO mentors, 90% stated that they did not have enough time to perform their mentoring duties. An estimated 172 h/year on average was dedicated to mentoring, which represents 10.1% of the total time. MO mentors dedicate an average of 6.9 h/month to these duties outside their workday. Forty-five percent of the mentors feel that their role is scantly recognized, if at all.

Conclusions The study reveals the substantial dedication and growing complexity of MO resident mentoring. A series of recommendations are issued to improve the conditions in which it is carried out, including the design of systems that adapt to the professional activity in those departments that have time set aside for mentoring tasks.

Keywords Medical Oncology · Resident mentor · Workload · Recommendations · Spain · SEOM

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Introduction

As the primary figure in residents' teaching and learning process, resident mentors are decisive for the quality of training received by new Medical Oncology (MO) specialists and, therefore, key to the future of the specialty.

Considering the complexity of training and in line with the provisions put forth by Law 44/2003, dated 21 November, regarding the organization of healthcare professionals, Commission Regulation (EU) No 213/2011, Medical Oncology is officially recognized by the EU with a minimum period of training of 5 years [1].

At the request of the Commission's National Healthcare System's human resource technical commission, the National Commission of Medical Oncology modified the specialty training program which, taking into account a core curriculum, defines the competences to be acquired and the criteria and instruments for evaluation of specialists-in-training [2].

In line with the standing Spanish regulation [3], the main functions of the resident mentor include designing, and proposing to the Teaching Commission, the guidelines or standard training itinerary of the specialty, drafting individualized training plans for each resident, acting as the resident's reference and contact person, planning and actively collaborating in their learning, designing and proposing external rotations to the Teaching Commission, and conducting regular interviews with other mentors, collaborators, trainers, and professionals. It states that mentoring activities are considered clinical management duties and must be evaluated and recognized as such. Healthcare Administrations will encourage mentors to carry out continuous education activities about specific aspects of their role and developments of Autonomous Community regulations will contemplate additional functions to be performed. RD 183/2008 further establishes that the Autonomous Communities shall be in charge of regulating the evaluation procedures for mentors' accreditation and regular reaccreditation. However, as of 2017, only seven Autonomous Communities have developed a regulatory framework regarding the system of specialized healthcare training and only four have defined the time of specific dedication to conduct the duties as resident mentor, during the workday.

The figure of the mentor channels, orients, stimulates, and contrasts the acquisition of knowledge and ultimately guarantees the future professional's competence to the public. While the vast majority of mentors are well aware of the scope of their functions, they are unable to fully carry them out due to inadequate organization of the center and department, with healthcare responsibilities that preclude them from having enough time to properly plan and supervise the resident, as per the planned objectives [4].

According to the Program of Education for the Specialty of Medical Oncology (MO POE) and the evaluation criteria of the specialists-in-training [5, 6], competencies should be assessed at the end of each rotation period. The evaluation involves conducting evaluations that, in addition to written examinations, include mini-CEX (Mini-Clinical Evaluation Exercise), auditing records, and 360º feedback, among others. The full implementation of MO POE and, in particular, the implementation of these evaluation systems involve more time on the part of the mentor, who must take on more tasks and responsibilities. This, together with the growing trend toward applying competence-based training systems and objective structured examinations (OSCE) is giving rise to new training needs to successfully confront more complex mentoring functions, and the need to reserve time that suits mentoring functions, separate from the time dedicated to care responsibilities.

With this context in mind, the overall objective of this study is to highlight the significant workload and unrecognized dedication that being a MO mentor entails, as well as the bearing it has on the quality of teaching units and their accreditation.

Four specific objectives were set to fulfill this objective: (1) analyze the regulatory framework in which MO resident mentors carry out their duties and to make a diagnosis of the situation in different teaching units; (2) estimate the time dedicated to mentoring; (3) obtain the vision of resident mentors, residents, and other professional profiles about the evolution of the figure of the resident mentor and possible improving areas, and (4) to issue a series of recommendations with the ultimate aim of enhancing the quality of MO residents' training.

Materials and methods

A working group was designated comprising nine members of the SEOM, all with different responsibilities in specialized healthcare training in MO. Seven of the members of the working group belong to the Executive Committee of SEOM's Residents and Young Attending Physicians (+MIR) section. Two of the members were members of the MO working group created at the request of the National Specialty Commission to draft the new MO training program.

As a starting point, a review was undertaken of the standing national and Autonomous Community regulatory framework as regards resident mentoring. The impact of several aspects analysis was conducted, such as the core curriculum, development of the new MO POE, and evaluation systems on mentoring residents, particularly in MO.

To gather information and opinions about mentoring residents, two online survey models were designed and applied, one targeting MO resident mentors and a second

survey targeting other profiles, including Medical Oncology residents, heads of department, non-mentoring physicians specialized in MO, hospital managers, heads of studies, and people in charge of hospital teaching units. The project's working group validated the design and content of both surveys.

Survey for resident mentors: The survey for resident mentors was sent to a total of 141 MO resident mentors. The sample included all SEOM-affiliated resident mentors and mentors of other residents identified during the project. The survey consisted of 49 questions grouped into 6 blocks including: general data, organization, functions and time of dedication, training needs, recognition, and research.

Estimation of time dedicated to resident mentoring duties. On the basis of the data collected in the survey, the average time (mean and median) mentors dedicated was estimated by types of activity and total time dedicated to mentoring.

Survey for other profiles: The survey for other profiles included 17 questions about general data, diagnosis of the situation, and opinion. This survey was sent to a total of 298 MO residents and 69 professionals belonging to other professional categories.

All the participants in the survey were informed about the study's objectives. Completion was voluntary and the data obtained were treated anonymously.

All the questionnaires are available for consultation at:

https://seom.org/adjunt/Encuesta_TUTORES_SEOM_VF.pdf

https://seom.org/adjunt/Encuesta_NO_Tutores_SEOM_vf.pdf

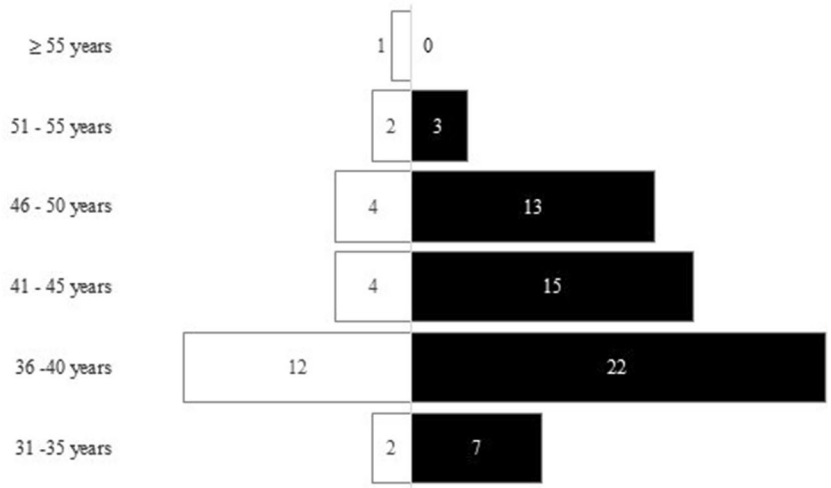
Identification of recommendations. Based on the conclusions of the analysis of regulations, trends, and of the surveys' results group in a face-to-face meeting identified and agreed on a total of 29 recommendations aimed at improving MO resident mentoring.

Results

Results of the survey of the situation of MO resident mentors

Profile of resident mentors and medical oncology teaching units in Spain

Based on the general data from the MO mentors' surveys, the standard MO mentor in Spain was estimated to be female (70.6%) and between 36 and 40 years of age (36.7%). Seventy-three percent (73%) of the MO mentors who participated in the survey were 45 years of age or younger (Fig. 1). From professional profile perspective, 93.8% of the participating mentors were area specialized physicians (FEA, for its acronym in Spanish) and without university ties. The average years they had been mentoring was 4.5 (±3.3). Regarding the number of mentors in MO departments, 40% indicated the existence of two mentors at the department and 28%, a single mentor. The average MO department in Spain with a teaching unit would have two resident mentors. Of note is the fact that 20% of the mentors surveyed stated that they currently had more than five residents assigned to them, despite the standing regulations establishing a maximum of five residents per mentor [3]. On the other hand, 60% of mentors expressed that their center had a Teaching Quality Management Plan, of whom 98% stated it was currently being applied.



MO: Medical Oncology

Fig. 1 Pyramid of MO resident mentors

Situation of the development of the figure of resident mentors

Among the MO mentors surveyed, a certain degree of ignorance about the existing Autonomous Community regulatory development was detected. More than 70% (71.4%) of the participants in Autonomous Communities having their own regulatory development stated that they were unaware of it or that there was no regulatory development in their Autonomous Community.

Of the MO mentors surveyed, 68% admitted that there was no official system to evaluate their functions. Fifty-two percent indicated that their Autonomous Community did not require accreditation to be renewed after a certain time period. In those cases in which it was necessary, 42.4% indicated that mentoring accreditation was maintained for 4 years. Other non-mentoring professional profiles were largely ignorant about accreditation and selection criteria for mentors. Approximately 80% of the residents and 70% of other non-mentoring professionals were unaware of the criteria for accreditation, election at the departments, and reaccreditation for mentors in their Autonomous Community.

Functions and time of dedication of MO resident mentors

Only four Autonomous Communities (Canarias, Castilla y Leon, Catalonia, and Basque Country) have defined a specific time of dedication to resident mentoring as part of the workday. Accordingly, 74% of those surveyed indicated that no minimum time had been specified for dedication to resident mentoring in their Autonomous Community. Ninety percent of the MO mentors surveyed stated that they did not have enough time to carry out their mentoring duties during their workday. Broken down by type of function, the mentors estimated that managing and supervising residents took up most of their dedication, with 37% of the time dedicated to mentoring tasks, followed by planning and evaluation, which would account for 25% (Table 1). Regarding the future needs of dedication, 37.5% of the mentors surveyed considered that more time should be spent on evaluating residents, followed by the need to increase the time to apply the new MO POE (25%), and the time dedicated to training the mentor (14.6%).

Table 1 Estimation of time dedicated by the MO resident mentor per duty (mean and median percentage)

Duty	Mean ± SD	Median
Planning	26.0% ± 11.2	25
Management and supervision	36.8% ± 13.6	33
Evaluation	24.9% ± 11.4	25
Training and reaccreditation	14.5% ± 12.1	10

Total time spent on mentoring functions estimated is 172 h/year on average, which, considering a 37.5-h workweek, represent 10.1% of the total work time. Considering an average of four residents assigned [to each mentor], this represents 3.9 h/resident/month. In comparison, the Autonomous Communities that have established a time of dedication to mentoring duties have set it at 5%, or between 3 and 5 h/resident/month. (Table 2).

Information about functions and training for resident mentors

Of the mentors surveyed, 79% admitted that they had not received any information about the duties to be carried out as resident mentor prior to their designation. With respect to continuous training activities, 73.7% of the mentors stated that they had received little training about educational methods in the past 5 years. In fact, only 23% of the mentors surveyed indicated that there had been some kind of specific training program or itinerary for mentors at their institution. The mentors considered specific training about teaching and evaluation methodologies as the most relevant for their specific training. This aspect was also highlighted by residents and non-mentoring professionals, together with training in motivation and leadership (Fig. 2).

Recognition of the mentor's work

Recognition of their role by other physicians of their department was perceived as being scant or very scant by 45% of the mentors surveyed; 60% stated the same when referring to hospital management. Thus, the lack of recognition was deemed the second largest impediment to performing their job as mentor (Fig. 3). In contrast to this perception, 77% of the residents and 80% of the other non-mentoring professional profiles stated that the role of resident mentor is quite or very relevant in the training of MO residents at their hospital.

The most common systems of recognition consisted of issuing certificates accrediting their designation and time dedicated to mentoring, followed by recognition in selection processes and awarding positions.

MO mentors (33.6%), MO residents (30.1%), and other non-mentoring professionals (34.4%) all considered that the work of the resident's mentor should be acknowledged by adapting the professional activity in the department, enabling mentors to have enough protected time.

Investigation

Almost all the mentors surveyed (98%) stated that they participated in their department's lines of research, 41% of whom were doctors. More than 80% of the residents and

Table 2 Estimation of time dedicated by the Medical Oncology resident mentor. Comparison with time established in Autonomous Community regulations

	Mean (h/year)	Time established in Autonomous Community regulations
Total hours dedicated to mentoring residents	172.0 h/year	
Percentage of total work h/year dedicated to mentoring (1700 work h/year[a])	10.1%	5%[b]
Hours dedicated per resident/year (assuming an average of 4 residents per mentor)	43 h/resident/year	
Hours dedicated per resident/year (assuming 11 months)	3.9 h/resident/month	3–5 residents/month[c]
Hours of dedication outside workday	82.8 h/year ± 42.3 6.9 h/month ± 13.6	

FTE full time equivalent

[a] Total work hours/year was estimated assuming a work week of 37.5 h and 45 work weeks per year, considering therefore 1 FTE 1700 h/year

[b] DECREE 75/2009, dated 15 October, by means of which the FSE system is regulated in Castilla y León

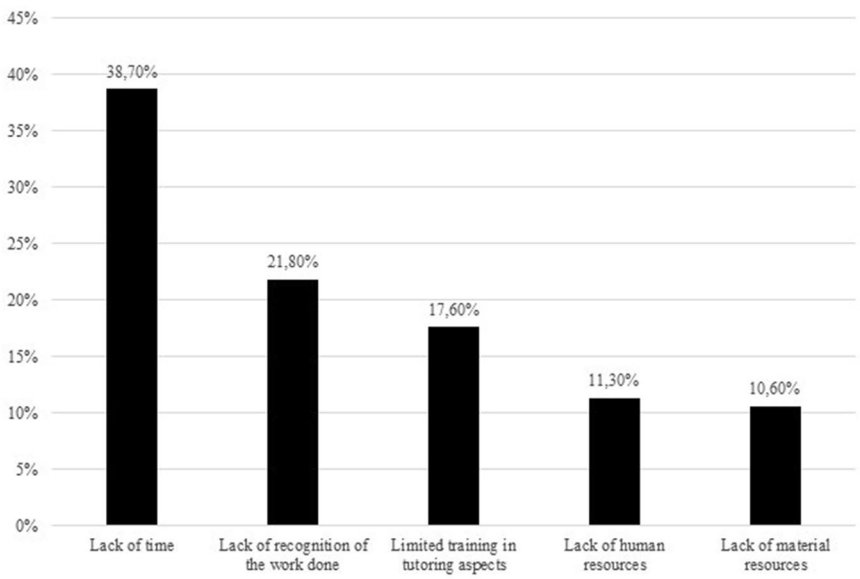
[c] DECREE 165/2015, dated 21 July, by means of which specialized healthcare training is regulated in Catalonia, and DECREE 34/2012, dated 6 March, by means of which the FSE system is regulated in the Basque Country, establishes a dedication of 3h/resident/month. DECREE 103/2014, dated 30 October, by means of which the FSE in health sciences is regulated in the Canary Islands establishes a dedication of 5h/resident/month with a limit of 2 days per month when assuming the maximum number of residents

Fig. 2 Issues considered by Medical Oncology resident mentors to be the most relevant in their specific training

non-mentoring MO professionals felt that it was important for the mentor to be involved in research.

Recommendations put forth by the working group

After analyzing the conclusions of the diagnosis and areas for improvement identified, the project's working group identified and agreed on a total of 29 recommendations aimed at improving the conditions in which resident mentors conduct their professional work. These recommendations were grouped into four thematic areas: Area 1. Recommendations to improve the organization and coordination of teaching; Area 2. Recommendations regarding duties performance and dedication time; Area 3. Recommendations concerning MO mentors' training, and Area 4. Recommendations about the resident mentor figure recognition (Table 3).



MO: Medical Oncology

Fig. 3 Main deficiencies detected by MO mentors to be able to perform their duties

Area 1: Recommendations to improve the organization and coordination of teaching

The recommendations in this area are related with Autonomous Community regulations about specialized healthcare training elaboration, specifically, as regards accreditation and reaccreditation procedures, aligning the number of residents to the regulations, and encouraging the participation and coordination of the resident mentor with the teaching structures at each hospital.

Area 2: Recommendations regarding performance of duties and time of dedication

The main recommendation derived from the study would be defining the minimum dedication time to mentoring duties in Autonomous Community regulations and measures facilitating their fulfillment. A minimum of 5 h/resident/month or 5–8% of the workday is recommended. The allocation of time and specific resources is key to making it possible to implement the evaluation systems called for in the MO POE.

Area 3: Recommendations concerning MO mentors' training

Reinforcing training in teaching and evaluation methodology, motivation, and leadership, as well as specific aspects related to the training program is recommended. It would be advantageous to establish a given time for training, define specific itineraries, and facilitate preferential access to continuous training courses of special interest for mentors.

Area 4: Recommendations about the recognition of the figure of the resident mentor

The best measure of recognition was deemed to be the consideration of specific time for mentoring and adapting mentors' professional activity to make it easier for them to fulfill it. Furthermore, the incorporation of merits related to mentoring in the professional career and dissemination activities about the relevance of the figure of the mentor for the specialty's future were also recommended.

Discussion

As part of its commitment to quality healthcare and the future of the specialty, SEOM promoted the elaboration of a study of the current situation and workload of MO resident mentors in Spain. The ultimate aim was to showcase the work carried out by the mentors and to improve the conditions in which they conduct it, by issuing, promoting, and disseminating a series of recommendations. In this study, the context in which mentors perform their role was found to be rather heterogeneous. In spite of the fact that Article 11 of

Table 3 SEOM Recommendations for the development and improvement of resident mentoring

Areas	Recommendations	
Area 1. Teaching organization and coordination	R1	Foster the development of Autonomous Community regulations with respect to Specialized Healthcare Training in the Autonomous Communities that do not yet have any regulations in this regard
	R2	Regulate mentors' accreditation and reaccreditation procedures in those Autonomous Communities in which they have not yet developed them in accordance with Royal Decree 183/2008, dated 8 February. Disseminate the objective criteria for accreditation among residents and other professionals of the MO department
	R3	Align the number of resident mentors with the standing regulations (Royal Decree 183/2008, dated 8 February), which establishes a maximum of 5 residents/mentor
	R4	Promote the adaptation of the Medical Oncology Specialty Training Plan in light of the centers' characteristics and bring this need to the attention of the hospital Teaching Commission
	R5	Define the time during which accreditation is valid and establish reaccreditation systems in all Autonomous Communities
	R6	Develop and apply objective criteria for choosing mentors
	R7	Incorporation of research-related merits into criteria for choosing resident mentors (doctorate, etc.)
	R8	Bolster MO resident mentor participation in Teaching Commissions
	R9	Define and implement models of coordination between mentors and Head of Studies
	R10	Bolster the application of teaching quality management plans
Area 2. Mentors' duties and time of dedication	R11	Define a minimum amount of time of dedication to mentoring in those Autonomous Community regulations that have not established a specific time, with a minimum of 5 h/resident/month (5–8% of the complete workday), taking into account the time that is currently dedicated outside of the workday, and that said dedication should increase in the coming years, particularly the time dedicated to carrying out evaluations
	R12	Implement measures that encourage fulfillment, including organization in the departments, so that mentors can fulfill the time reserved for teaching and training
	R13	Promote measures aimed at providing time and resources for the proper execution of the systems of evaluation set forth in the MO POE (in particular, 360º evaluation, miniCEX, and auditing records). Disseminate the measures promoted
	R14	Promote dissemination activities of the duties carried out by the resident mentor, especially targeting other professionals in the department
	R15	Promote dissemination activities about existing systems of evaluation of resident mentors, particularly targeting residents and other professionals in the department
	R16	Foster the application of medical simulation systems for training and evaluation of MO residents

Table 3 (continued)

Areas	Recommendations	
Area 3. MO resident mentor training	R17	Foster training in teaching and evaluation methodologies, knowledge about and learning of educational methods, motivation and leadership, and aspects having to do with the training program
	R18	Define time of dedication reserved for resident mentor training
	R19	Establish procedures that facilitate information to resident mentors about their tasks and duties prior to their designation as mentors
	R20	Foster the development of specific training programs or itineraries for mentors and other teaching figures
	R21	Facilitate mentors' access to training related to their teaching duties, with preferential access to continuous education courses
	R22	Bolster training in aspects having a greater impact on practice in the coming years, such as the application of precision medicine initiatives
	R23	Improve resident mentors' training in research, particularly as regards aspects of clinical genetics, genetic counseling, and the application of precision medicine in Medical Oncology
	R24	Bolster training in research methodology
Area 4. Recognition of the figure of the resident mentor	R25	Implement systems of recognition of mentoring in Healthcare Departments that do not yet have them
	R26	Define time of dedication set aside to perform mentoring activities in the development of Autonomous Community regulations
	R27	Promote adaptation of the professional activity in the departments, which will enable the mentor to have sufficient time available and reserved for mentoring in their work plan, in the Autonomous Communities that do not yet have it
	R28	Implement a system of criteria and scoring to incorporate merits related to mentoring in the professional career
	R29	Promote dissemination activities of the relevance of the mentor's role in maintaining teaching accreditation targeting management

MO Medical Oncology or Medical Oncologists

RD 183/2008 sets forth the minimum requirements regarding the mentor activities and mentor dedication, it establishes that the Autonomous Communities are responsible to set the criteria for their designation and foster accreditation, recognition, and training actions, among others. Insofar as time of dedication is concerned, Article 11.4 of said RD contemplates that the Autonomous Communities will adopt the measures needed to guarantee the adequate dedication of the mentors to their teaching activity, be it within or outside of the workday.

The first aspect of note is that, after almost 10 years of the publication of Royal Decree 183/2008, only seven Autonomous Communities (Aragon, Canarias, Castilla y Leon, Catalonia, Extremadura, La Rioja, and Basque Country) have developed regulations in this regard; although, some hospitals have elaborated especially innovative programs, the Hospital Universitario Cruces being especially noteworthy, with a competence-based, specialized healthcare training project (FSE, for its acronym in Spanish) [7].

Despite the Royal Decree regulating core curricula were abrogated in 2016, it can be assumed that the functions of the resident mentor should adapt to this new FSE system [8]. In spite of its abrogation, national commissions have continued working on updating its programs, considering aspects of core curricula and the incorporation of teaching innovations in methodology, as well as in evaluation systems. The role of resident mentors in each of the new training periods and time required to carry them out should be defined.

The lack of time in which to carry out teaching duties is considered the main hindrance to perform mentoring duties adequately. Only four Autonomous Communities have established the amount of time to be dedicated to mentoring duties, albeit with a fair degree of heterogeneity in the number of hours. The Canary Islands establishes [9] a dedication of 5 h per resident per month during the workday with a limit of 2 days per month when the mentor has assumed the maximum number of residents determined by the regulation. Catalonia and Basque Country establish 3 h per resident and month [10, 11]. Castilla y Leon defined dedication as 5% of work time [12]. This last Autonomous Community pioneered the implementation of time dedicated to teaching for FSE Intensification Program [13]. This program allows mentors to balance their care activities with their training duties, decreasing their care activities by up to 50%.

The lack of time specifically set aside for mentoring in practice, implies that mentoring represents an added burden to their care activities, distributed among the professionals generally subject to the criteria of the head of department or its clinicians. It is worth noting that all centers accredited to offer positions for interns and residents (MIR, for its acronym in Spanish) undertake a commitment to teaching; consequently, it deemed an integral part of and is not subordinate to care [14].

The demand and growing complexity derived from the application of the new MO POE [2] and, particularly from the implementation of new systems of evaluation of residents, make increasing the amount of time dedicated to mentoring highly advisable in the coming years. This increase in time is especially justified to avoid overcoming the maximum ratio of residents assigned to each mentor provided for by RD 183/2008. Moreover, the pressure of care is a major reason why mentoring is taking place outside the workday, contributing to discouragement and perception of lack of recognition. Together with other factors inherent in the specialty, they can add to the burnout specialists suffer. According to a study conducted by the Association of Teachers and Advisors Networks (AREDA) [15], 35.3% of MIR mentors have contemplated quitting their teaching job at some point. Commitment to the quality of training of new specialists should not be left to the good will, professionalism, and self-motivation that most mentors undoubtedly demonstrate; instead, specific recognition systems are necessary.

In addition to this one, various studies and surveys [15, 16] have revealed that mentors perceive that their work is scarcely recognized. Adapting the distribution of workloads and activities in MO departments, making it possible to have a certain number of hours reserved for mentoring duties during the workday would be considered the best way to recognize the work involved in mentoring and would have positive repercussions on the quality of residents' training. Another possible means to recognize the role of mentors would be through economic incentives associated with performing mentoring duties. Thus far, only Catalonia links mentoring accreditation to economic recognition [17].

The definition of accreditation and reaccreditation processes and specific mentor training are key to maintain high standards of quality and excellence in the specialty; in particular, by means of priority access to training for mentors, especially with respect to innovative teaching methodologies, new systems of evaluation, and aspects about team motivation and leadership.

SEOM, together with the National Commission of Medical Oncology Specialty, proposes a series of recommendations that include improvements to the accreditation, reaccreditation, continuous training systems, and in particular, to protecting adequate time to dedicate to mentoring as the main measure of recognition.

Conclusions

The analysis has revealed the diversity regarding the framework of development of the duties of MO resident mentors, as well as other specialties in Spain. The number one deficit is the lack of time to carry out their functions. To overcome the deficits identified, it is suggested that the professional activity be adapted so that mentors can have a certain number of protected hours that are sufficient for them to carry out their mentoring duties. The full application of the MO POE and new systems by which to evaluate residents will require more time dedicated to mentoring, as well as adaptations at each center. Changes in the regulatory framework have a direct impact on mentors' functions; hence, it is considered essential that the role of the mentor be regulated and recognized in Spain and, ultimately, MO professionals' training improved.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflicts of interest.

Research involving human participants and/or animals Consent is not required for this type of study. This article does not contain any studies with human participants or animals performed by any of the authors.

Informed consent Informed consent was obtained from all individual participants included in the study.

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