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Radiotherapy and Oncology 151 (2020) 176–181

Contents lists available at ScienceDirect

Radiotherapy and Oncology

journal homepage: www.thegreenjournal.com

Original Article

National societies' needs as assessed by the ESTRO National Societies Committee survey: A European perspective

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ARTICLE INFO

Article history:
Received 21 May 2020
Received in revised form 31 July 2020
Accepted 1 August 2020
Available online 7 August 2020

Keywords:
National Societies
Radiation oncology
Survey

ABSTRACT

Purpose: To determine how ESTRO can collaborate with Radiation Oncology National Societies (NS) according to its mission and values, and to define the new roadmap to strengthen the NS network role in the forthcoming years.

Materials and methods: The ESTRO NS committee launched a survey addressed to all European National Societies, available online from June 5th to October 30th 2018. Questions were divided into three main sections: (1) general information about NS; (2) relevant activities (to understand the landscape of each NS context of action); (3) relevant needs (to understand how ESTRO can support the NS). Eighty-nine European NS were invited to participate. Respondents were asked to rank ESTRO milestones in order of importance, indicating the level of priority to their society.

Results: A total of 58 out of 89 NS (65.2%) from 31 European countries completed the questionnaire. The majority of NS ranked "Optimal patient care to cure cancer and to reduce treatment-related toxicity" as the highest level of priority. This aligns well with the ESTRO vision 2030 "Optimal health for all together." NS also indicated a high need for more consensus guidelines and exchange of best practices, access to high quality accredited education, implementation of the ESTRO School Core Curriculum at the national level, and defining quality indicators and standard in Radiation Oncology, improved communication and increased channelling of information.

Conclusion: The results of this survey will be used to strengthen the relations between ESTRO and European NS to promote and develop initiatives to improve cancer care.

In 2012, for the first time in its history, ESTRO published a vision statement for 2020 [1], in which ESTRO acknowledged that "whilst differences exist in the state of development of RO and clinical oncology in individual countries within Europe, ESTRO together with NS will create and prioritise innovative strategic partnerships in order to strengthen the clinical and scientific specialty in the respective countries and support an increased level of patient care and quality of treatment throughout Europe".

In 2013, the ESTRO NSC was formed to represent a bridge between ESTRO and the NS to promote the ESTRO vision and implement the strategy at a national level [2]. The mandate for the NSC was to:

Glossary: BSS, Basic Safety Standards; CME, Continuing Medical Education; CPPD, Continuing Personal and Professional Development; CPD, Continuing Professional Development; DIRAC, Directory of Radiotherapy Centres; ESTRO, European Society of Radiotherapy and Oncology; HERO, Health Economics in Radiation Oncology; IAEA, International Atomic Energy Agency; NS, National Societies; NSC, National Societies Committee; RO, Radiation Oncology; ROSEIS, Radiation Oncology Safety Education and Information System; SM, SurveyMonkey; UEMS, European Union of Medical Specialists.

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https://doi.org/10.1016/j.radonc.2020.08.001
0167-8140/

- Create a database including NS of health professionals involved in RO
- Identify the needs and requirements of the different NS
- Facilitate the co-operation between the various ESTRO committees and task forces and different NS according to their priorities
- Support networking between the different health professionals within the RO community.

The ESTRO NS database is a voluntary register, which now contains 89 health professional societies related to RO from 36 European countries. Every year, the NSC organises a one-day NS meeting as an integral element of the annual ESTRO congress meeting.

At the end of 2017, the ESTRO NSC underwent some changes in membership with a new Chair and several new committee members. The reformed NSC decided to conduct a survey addressed to the NS to gather up-to-date information about their activities, needs and priorities, with the aim to define the new roadmap related to the development of the NS network from 2020 to 2025. The results of the survey are reported in this paper.

Methods and materials

An online questionnaire (Supplementary S1) was created using SM (www.surveymonkey.com). The questionnaire was adapted from a survey conducted in 2012 (unpublished) and comprised 20 questions divided into 3 sections:

1. Society membership (questions 1–11)
2. Society activities (questions 12–17)
3. Society needs and priorities (questions 18–20)

In Section 1, societies were asked to provide general information including membership numbers, represented professions, and percentage of members involved in RO activities, the societies' engagement of young members, and the availability of national registers of professionals. As RO-related professions in Europe may have different names in different countries, the questionnaire used the terms listed in the ESTRO glossary of professional titles (radiation oncologists, medical physicists, radiation therapists, as well as biologists) as defined by the UEMS [3]. An "Other" option was provided to capture all other titles.

Section 2 included questions on the society's regular activities such as conferences, educational events, professional accreditation and dissemination of information.

In Section 3, the NS were asked about their needs and priorities to better understand how ESTRO can support them. A list of items corresponding to well-established ESTRO priorities was provided comprising:

A. Optimal patient care to cure cancer & reduce treatment-related toxicity
B. Improved access to guidelines and best practice in radiation oncology
C. Access to high quality accredited education [4]
D. Implementation of the most recent ESTRO School Core Curriculum [5] at the national level
E. Promoting activities to raise awareness of the benefits of RO and reduce stigmas surrounding radiation treatment
F. Support lobbying of policy makers to promote best practices at the national level
G. Support innovative research in RO
H. Application of the HERO tool [6] + research and development in health economics and service delivery
I. Implementation of the BSS to comply with European Council's directive 2013/59/EURATOM [7]
J. Implementation of the ROSEIS system [8]: an incident reporting system to enhance safety issues in RO practice
K. Defining quality indicators and standards in RO
L. Promoting the engagement of young scientists in the future of RO.

Respondents were first asked to score each item according to importance for their NS on a five-point Likert scale (5 = very important, 1 = not important at all) and then to select the three items with the highest priority.

Representatives from the 89 organisations in the ESTRO NS register (Presidents/past Presidents, members of the NS Board or ESTRO *liason* persons) were invited to participate in the survey. The first invitation was sent on June 5th 2018 and the survey closed on October 30th 2018. Several reminders were sent during this period to maximise participation. Additional mails were sent to the non-responding NS, including solicitation through our personal contacts, asking to canvass the ESTRO liaison person. Respondents were asked for consent to use their data for publication. While analysing the survey results some extra questions were sent to clarify some of the survey answers.

Descriptive statistics, including percentage value and weighted mean (used to determine the priority of each scored item) was used to analyse the data.

Results

Sixty-four of the 89 (72%) NS in the ESTRO register representing 32 of 36 (89%) countries completed the questionnaire. Four NS did not provide consent for publication. Another two were excluded since they did not answer at least 80% of the questions. Data from the remaining 58 NS (65.2%) from 31 countries were available for analysis. The distribution of respondents by country is shown in Fig. 1.

There was considerable variation in the number of members amongst the different NS. The total number ranged from 40 to 4750 with a median value of 301. Nine of the 58 NS (16%) had less than 100 members, while 6 (10%) had more than 1000 members.

The composition of the NS was also very diverse. Thirty-five (60%) of the NS had members from a single profession (radiation/-clinical oncologists: 7, physicists: 17, radiation therapists: 9), while the remaining 23 (40%) were multi-professional (including two or more professional types amongst radiation/clinical oncologists, physicists, radiation therapists, radiographers, biologists, medical oncologists, surgeons, radiologists, histopathologists, nurses, engineers). Of the last, 20 had multi-professional members within RO, while 3 had multi-professional members also from other disciplines. Not all NS's members were active in RO; for example, Medical Physicists societies usually included physicists working in different field, such as RO, Radiology and Nuclear Medicine. Fig. 2 shows the distribution of medical professionals in the NS in terms of median value for both the total number of members and for those involved in Radiation Therapy.

Nineteen (33%) of the NS had a specific young members' group, while 10 (17%) had plans to establish such a group, although the age cut-off was not specified in the survey and it may be not homogeneous among countries. Another two had some activities to encourage young member involvement. Sixteen (28%) NS indicated the existence of a specialist registers for radiation oncologists, 22 (38%) for medical physicists and 9 (16%) for radiation therapists. Only 15 (26%) NS answered the additional questions, which were posed at a later stage to understand whether the professionals need to be registered to work in a RO department. Of these, 11

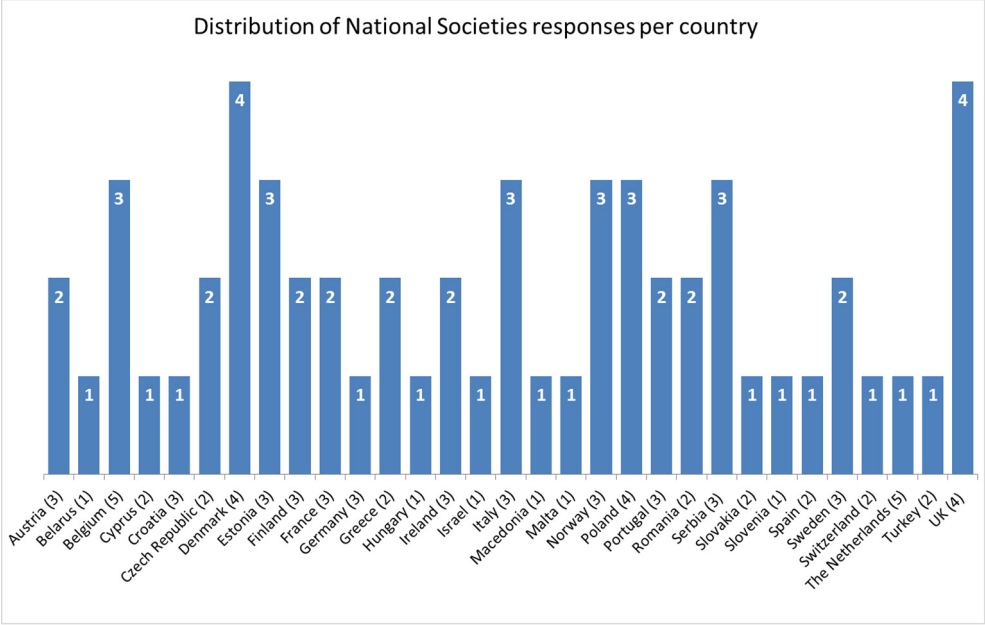


Fig. 1. Distribution of NS' responses per country.

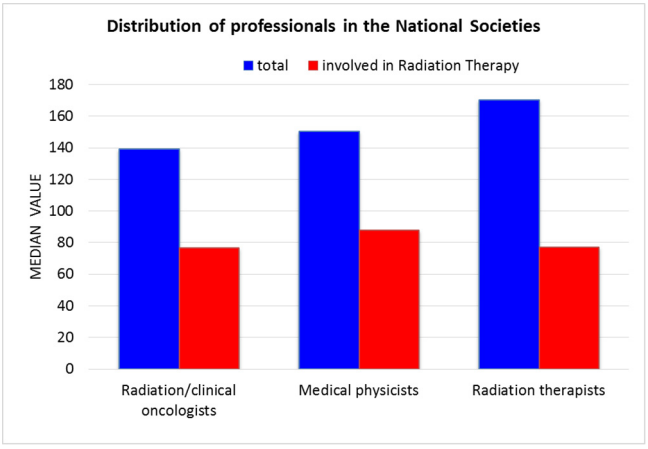


Fig. 2. Distribution of medical professionals within the NS.

(73%) NS confirmed that the professionals need to be registered to work, and that in most countries, the specialist register is held by the Ministry of Health. Twenty-seven (84 %) countries had registers of existing RO centres; in 19 (59 %) countries, these were maintained by the government while in 5 (16 %), they were maintained by professional societies.

Nearly all the NS (56/58 = 97%) organised national conference meetings for their members; in 39/56 (70%), these were held annually while in 14/56 (25%) they were held every other year. Only 4/56 (7%) of the NS conference meetings had ESTRO endorsement; when asked whether they plan to request ESTRO endorsement in the future, 22/52 (42%) said yes, while 25/52 (48%) said no.

As far as continuous professional development is concerned, 49 of the 58 (84%) NS accredited their own educational activities either internally, or relying on an external organisation (e.g. Ministry of Health, universities, hospital departments, or a combination of agencies), while only 9 (16%) NS did not have accreditation for their educational activities.

NS were asked on how they disseminate information about ESTRO to their members. The most common method of communication was via email (40/58, 69%). Thirty (52%) NS displayed information about ESTRO activities on their website, while 22 (38%) distributed information through their newsletters. Sixteen NS (28%) used social media as well as scientific events as methods to communicate ESTRO activities.

The results of the societies' needs and their priority are shown in Fig. 3a and b.

Unfortunately, Item K on defining quality indicators and standards in RO was inadvertently omitted from the first scoring question (question 18), while it was correctly included in the following question on defining three items with the highest priority. Seven of the 11 items achieved a mean score of 4 or higher for importance, while only 4 items received a score of less than 4 but in any case higher than 3, as shown in Fig. 3 a.

All NS recognized the ESTRO vision for 2030, i.e. "Optimal health for all together", is of primary importance for them [9].

The four items most frequently selected as a top three priority, excluding the item *Optimal patient care to cure cancer & reduce treatment-related toxicity*, which is intrinsic in the ESTRO vision, were:

(1) Improved access to guidelines and best practice in RO
(2) Access to high quality accredited education (CME/CPD/CPPD)
(3) Implementation of the ESTRO School Core Curriculum at the national level
(4) Defining quality indicators and standards in RO

Discussion

Although the response rate of our survey was quite high, not all NS of some countries completed the survey even after several reminders, indicating a low interest on the ESTRO activities, which is also reflected by the number of ESTRO members from these NS.

Our survey has shown that RO-related NS across Europe vary considerably in terms of membership numbers, composition, practice and activities. In particular, 16% of NS had fewer than 100 members, while 10% had more than 1000 members. Sixty percent of the NS had members from a single profession, while 40% were

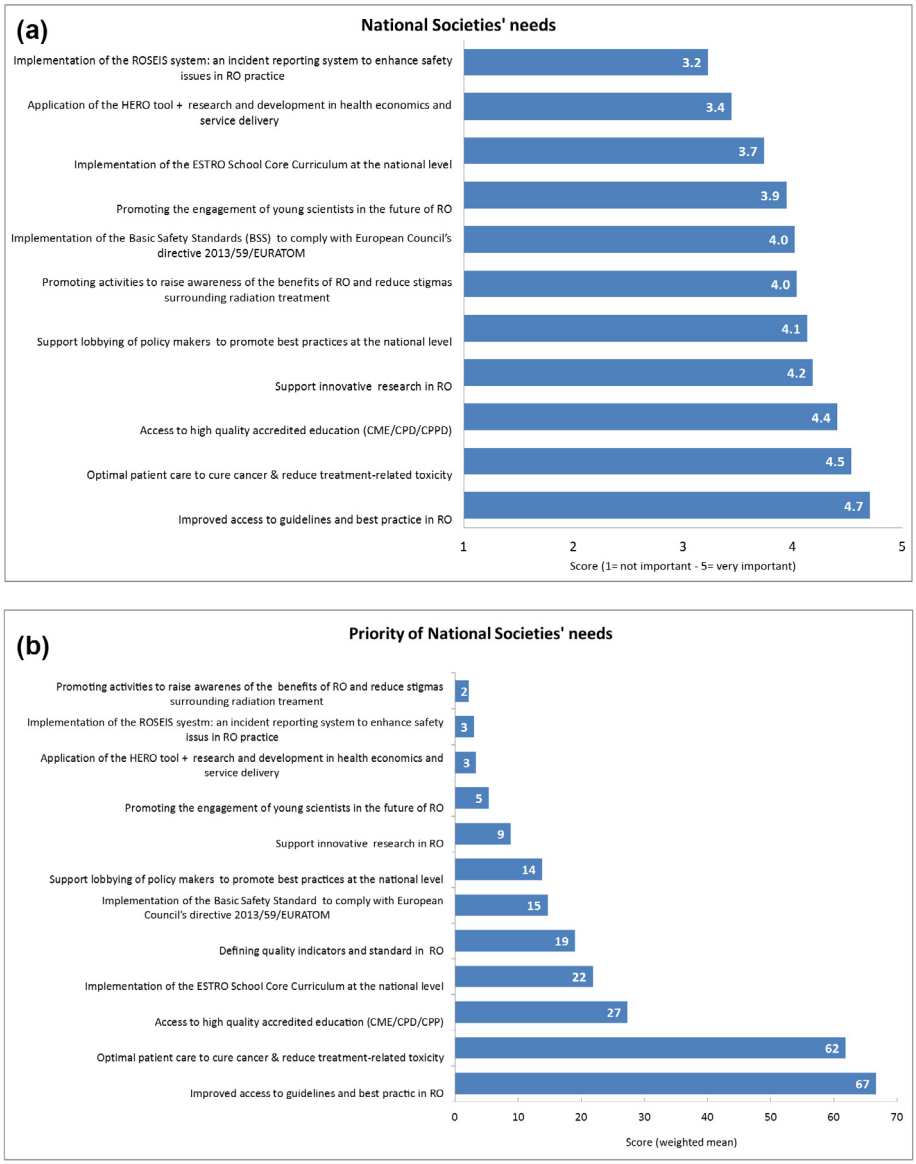


Fig. 3. NS' needs (a) and their priority (b).

multi-professional. These figures would suggest that ESTRO continues to have an important role as an umbrella organisation for networking opportunities and exchange of science/projects/ideas in RO. In particular, for the single discipline societies, ESTRO represents the only forum to discuss RO matters in a multidisciplinary setting.

Despite the diversity, there was considerable agreement in the NS concerning needs and priorities. The highest priority for the NS remains to improve patient outcomes through access to guidelines, high quality accredited education and through the implementation of the ESTRO School Core Curriculum at the national level. The ESTRO core curriculum for Radiation Oncologists/Radiotherapists has been revised since April 2019, while the revision for Medical Physicists in RO is currently ongoing and is expected to be approved by the NS at ESTRO 2021. In both cases, NS have been actively involved either as members of the working group or in the revision process.

Interestingly, a recent study investigated the factors perceived to have an impact on the implementation of the Core Curriculum for RO at a national level [10]. Barriers to curricular implementation include organizational and systems levels (i.e.: lack of support from both government and internal organizations and 'poor fit' with the political and economic context), insufficient teaching faculty, lack of coordination with the government and training institutions and lack of influential leadership [10]. The NSC could play a crucial role in bridging ESTRO with the NS in order to fill this gap and help improving the implementation of the ESTRO Core Curriculum at the national level.

While there was considerable interest for quality indicators and standards to objectively assess RO treatments and support for lobbying of policy makers, there was less interest in specific projects such as the HERO project and the ROSEIS system. This appears contradictory as ROSEIS collects data on incidents and accidents, which is a key quality indicator on safety and HERO is aimed at identifying resource needs and gaps to support lobbying of policy makers. Possible reasons for this include a lack of familiarity with these programmes and their potential benefit by respondents.

This poses a question on how updates on ESTRO projects are sent to the NS. It is important to guarantee that the *liason* person of each NS is regularly updated on each ESTRO projects. Moreover,

a more in-depth discussion is warranted of how to evolve this relationship beyond one-way knowledge transfer.

Surprisingly, supporting innovative research and promoting the engagement of young scientists in RO were not designated as high priorities for the NS. This was reflected by the fact that only 33% of the NS had a specific young members' group. Moreover, only 17% of the NS had plans to establish such a group in the near future. Some of the societies advocated involving young members in existing committees rather than have a specific group. Possible reasons were that they felt this was a more inclusive approach or because they were too small to have a separate young member's group. This is an issue that is being specifically addressed by the ESTRO operational plan, particularly within the Young Committee in collaboration with the NSC. Initiatives have been put forward to enhance the role of young members within their respective NS and to support the establishment of young groups and task forces to target the needs and expectations of junior specialists, residents and RO professional at the early stages of their careers. A successful example of this effort is the recent establishment of a young section, within the Polish Society of RO, endorsed by ESTRO [11].

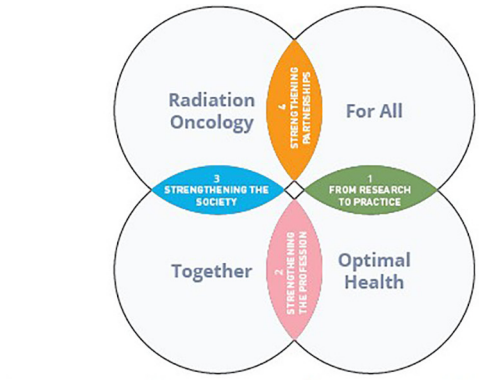
When focusing in education and training, only 7% of respondents had ESTRO endorsement for their educational activities, while 38% expressed an interest in obtaining endorsement, indicating a possible lack of familiarity with this process and in particular on potential benefits for their societies and members. Different stages of support for non-ESTRO education activities are provided by ESTRO according to a policy that includes procedure to obtain activities *endorsed by*, *in collaboration with* or *joint with* ESTRO [12] and their relative levels of promotion packages including visibility at an European level through ESTRO website and newsletter, collaboration on setting the scientific program and also financial support for invited speakers. There is room for improvement for ESTRO in the communication to the NS regarding endorsement of educational activities, highlighting the benefits in terms of improving visibility and scientific appeal of the event.

Although the survey was thought to be well-designed, due to the diversity of backgrounds of respondents including language, culture, NS composition and organization, and variation in interpretation of terminology for different professional groups in different countries, there was a need for direct contact for clarification of answers. We see this approach as a good addition of this survey and extremely useful for the design of future surveys.

In 2019, ESTRO published a new vision for 2030 with four areas of strategic focus - from research to practice, strengthening the profession, strengthening the Society and strengthening partnerships. A summary of the key elements to deliver this vision is shown in Fig. 4. It is encouraging that many of these elements were also identified as priorities by the NS.

Other medical societies have included NSCs in their governance structures. For example, the European Society for Medical Oncology has established a NSC as part of its public policy structure, to focus on public policy initiative and lobbying efforts to enhance the specialization of medical oncology at a national level. The European Association for Cancer Research also has a NSC in its structure to develop relationships, foster mutual collaboration and joint networking with NS. The European Society of Radiology (ESR) has a subcommittee, within the NSC, dedicated to professional issues and economics in radiology. The NSC at ESR also supports a social responsibility project, aimed at improving access to radiological training and educational resources for aspiring physicians and scientists in less affluent regions within Europe.

ESTRO through its National Society Committee can play a key role in European policy lobbying for standardisation and improvement of RO practices in Europe for the benefit of all cancer patients. This survey constitutes an up-to-date picture of the activities and needs at a European level of the different NS.



1.1 Defining ESTRO's role in Research
- Facilitating research
- Collaborating with research organisations
- Gathering evidence to foster radiation oncology in the broad sense
- Creating a holistic repository for radiation oncology data
- Covering the entire research portfolio

1.2 Disseminating Research
- Publishing Journals
- Running Workshops
- Interdisciplinary action strengthening its meeting portfolio
- Participating to multidisciplinary site-specific meetings

1.3 Driving the generation of Guidelines
- Adopt a site-specific approach from research through guidelines
- Establishing a comprehensive guidelines portfolio
- Collaborating with other societies to generate and disseminate guidelines
- Ascertaining immediate and broad access to guidelines

2.1 Driving Education
- Continuous development of school & courses
- Providing a blended and continuous learning strategy
- Further developing and promoting its online learning framework
- Collaborating with other educational groups to increase offerings
- Strengthening the ESTRO FACULTY

2.2 Leading the international recognition of RT
- Defining and promoting its Core Curricula
- Defining and advocating for all radiation oncology professionals
- Promoting international exchanges and mobility
- Further developing its Advocacy efforts at EU level

3.1 Strengthening the outreach to RO professionals
- Developing all membership categories
- Continuously reassessing its members needs
- Actively promoting its benefits and services
- Setting up a comprehensive communication strategy
- Systematically assessing the impact of its activities

3.2 Building a time-proof organisational structure
- Professionalising further its governance & structure
- Active head hunting to secure future leadership
- Setting-up a leadership mentoring program

4.1 Growing its international presence & building up exchanges
- Collaborating with RO related National societies
- Strengthening worldwide collaborations with other Radiation and Oncology societies
- Further enhancing collaboration with patients and their advocates
- Creating partnerships with international agencies, organisations and associations
- Creating partnerships and new collaborative approaches with corporate members
- Providing advice to the European bodies on RO policy

Fig. 4. Area of strategic focus in ESTRO vision 2030.

The analysis of the results showed that there is a need to improve the communication channels between ESTRO and European NS. It is particularly important to ensure that when changing NS boards the past and on-going projects are endorsed by the new board.

The results of this survey will be used to strengthen the relations between ESTRO and NS to promote and develop initiatives to improve cancer care and to define a roadmap for NS' network for the next 3 years.

Initiatives include a more consistent involvement of the NS in clinical guidelines production. The newly established Physics (science in development) and RTT workshops may represent a good forum to involve active groups in NS in European projects both for research on hot topics or harmonisation of clinical practice to produce guidelines.

A project on quality indicators and standards for RO is also being planned. At the moment ESTRO NSC is encouraging NS to include structural QI data in the IAEA – DIRAC. Networking between NS and ESTRO will be further reinforced to guarantee a common platform for the definition of the best practice in RO. This is particularly crucial for instance in the management of the COVID-19 outbreak to define the best practices to run RO departments during the outbreak [13].

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

The authors gratefully acknowledge Gabriella Axelsson for her contribution to the NSC activities and survey preparation, Chiara Gasparotto for her contribution to the NSC activities and the ESTRO Stakeholders Council for revision and approval of the paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.radonc.2020.08.001.

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