



SPECIAL ARTICLE

Strategic reflections of the Spanish Society of Endocrinology and Nutrition on the future of the speciality in the period 2018–2022[☆]



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Abstract Endocrine diseases are experiencing an important increase in their prevalence, due to causes of various kinds, including the epidemic of obesity and malnutrition, the aging of the population, but also the effect of endocrine disruptors, among others. On the other hand, new technologies, both in terms of molecular and genetic analysis, image and new therapeutic devices, require that the endocrine professional community in Spain must be in constant training. The connection with patients through their associations, increasingly active, and with civil society in general, the professional commitment and demand of various social groups for a modern and equitable care, and to carry out research that facilitates the achievement of advances for patients, forces the specialist in endocrinology and nutrition and the Spanish Society of Endocrinology and Nutrition (SEEN) to position themselves and respond to all these challenges. In this document, the SEEN presents its proposals and its strategy until 2022.

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PALABRAS CLAVE

Estrategia;
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Reflexión estratégica de la Sociedad Española de Endocrinología y Nutrición sobre el futuro de la especialidad en el periodo 2018-2022

Resumen Las enfermedades endocrinas están experimentando un importante incremento de su prevalencia, debido a causas de diversa índole, entre ellas la epidemia de obesidad y de desnutrición, el envejecimiento de la población, pero también el efecto de los disruptores endocrinos, entre otros. Por otra parte, las nuevas tecnologías tanto a nivel de analítica

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molecular y genética, de imagen y de nuevos dispositivos terapéuticos, obligan a que la comunidad profesional endocrina en España tenga que estar en constante formación. La conexión con los pacientes a través de sus asociaciones, cada vez más activas, y con la sociedad civil en general, el compromiso profesional y la demanda de diversos colectivos sociales de una atención moderna y equitativa, y a llevar a cabo investigación que facilite la consecución de avances para los pacientes, obliga al especialista en endocrinología y nutrición y a la Sociedad Española de Endocrinología y Nutrición (SEEN) a posicionarse y dar respuesta a todos estos retos. En el presente documento, la SEEN expone sus propuestas y su estrategia hasta el 2022.

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Introduction

Spanish specialists in Endocrinology and Nutrition will have to face significant challenges in the coming years resulting from the increasing prevalence of health problems inherent to or strongly related to our specialty, and also from the growing technical nature of the different diagnostic and therapeutic processes.

The following document compiles the strategic reflections of the Spanish Society of Endocrinology and Nutrition (Sociedad Española de Endocrinología y nutrición [SEEN]) referred to the period 2018–2022. Professional and organizational aspects related to our specialty are addressed, with an analysis of the positioning of the SEEN itself, and proposals are made regarding the initiatives that will have to be taken in order to adequately respond to these challenges and the demands of our patients, the healthcare system and society in general.

To prepare this document, a group of members of the SEEN currently or recently linked to its Steering Committee met in Alcalá de Henares (Madrid, Spain) on 24 and 25 March 2017. This strategic reflection was produced as a result of this two-day meeting, and we have called it the Alcalá de Henares Document. The aim of the document is to summarize these reflections and define the future challenges faced by both the SEEN and the specialty of Endocrinology and Nutrition in Spain, as well as to offer potential proposals that could or should be implemented in this country.

Methodology

The methodology used to carry out the strategic reflection included a review of different documents found in the literature, with the preparation of a list of the current and future problems and challenges. An in-depth analysis of the identified topics was made, and strategic objectives were proposed, along with possible actions seeking to meet them. Lastly, after several rounds evaluating the proposals, the present article was drafted in the form of an executive document, with clear and concise proposals and messages.

Future challenges, and strategies and actions to address them

The situational analysis identified the following future challenges:

Challenge 1: risk of diluting the specialty, with a potential decrease in its specific relevance in the healthcare services portfolio of the Spanish National Health System

In the hospital care setting there has been a progressive decrease in recent years in the beds assigned to our specialty. This is largely related to and caused by the development of Day Hospitals in Endocrinology and Nutrition, the simplification of diagnostic procedures, and the increased influence of various specialties such as Cardiology, Oncology, and advanced and robotic surgery, among others. In a certain sense, this situation is leading to lesser in-hospital visibility of our specialty. This in turn results in lesser investments in terms of both human and material resources in our discipline. Furthermore, there has been a hiring of other specialists to fulfil the professional functions assigned to our specialty (particularly internists), partly influenced by a certain managerial vision of the professional responsibilities that may be assigned to these specialists. As a result of this, in recent years we have not seen the necessary growth in the professional assignments to Departments of Endocrinology and Nutrition. Such investment is not only necessary and desirable, but would also be expected according to European criteria. The development and assignment of specialists in the specific field of Nutrition are still markedly inadequate in most hospitals.

Strategic objective 1.1: to position endocrinologists as reference professionals, and the SEEN as reference scientific and professional society, for any disease related to endocrinology and nutrition, including diseases that are shared with or transferred to other specialties

For this purpose, the services portfolio of Departments of Endocrinology and Nutrition should be made known and

promoted in different clinical settings, both in and out of hospital. This portfolio should detail the relation of physicians specializing in Endocrinology and Nutrition to other professionals involved in the clinical care of patients with diseases corresponding to our specialty.

One of the specific actions to be carried out is fostering and strengthening the creation of multidisciplinary units, led by physicians in our specialty, in hospitals for all medical problems of great prevalence and complexity. This necessarily must be addressed in a tertiary institution setting. This approach should apply to many or almost all medical problems in our specialty. Examples are: diabetic foot, pituitary adenomas, pregnancy in endocrine patients, sterile partner studies, thyroid cancer, home enteral and parenteral nutrition, neuroendocrine tumors and morbid obesity, as well as many others. It is also necessary to establish direct and close contact with other scientific societies in order to enhance multidisciplinary strategies and the generation of joint protocols and documents.

On the other hand, the active participation of specialists in Endocrinology and Nutrition in committees, clinical commissions and other multidisciplinary teams in the hospital setting needs to be promoted. Examples are: Hospital Pharmacy Committees, Transplant Committees, Oncology Committees, and Units specializing in amyotrophic lateral sclerosis (ALS), inflammatory bowel disease, eating behavior disorders, among others.

Strategic objective 1.2: to develop and implement actions to avoid dilution of the specialty

It is necessary to promote the brand image of our specialty and of the SEEN through dissemination initiatives on social and professional networks, and to use communication channels with the incorporation of images to more easily reach the younger population, such as YouTube or Instagram, among others.

We need to promote the journal *ENDOCRINOLOGÍA, DIABETES Y NUTRICIÓN* (EDN), increasing its impact factor and positioning it as a reference of prestige for diseases related to Endocrinology, diabetes, obesity and Nutrition.

The prominence and participation of endocrinologists in care and research in other fields such as psychoneuroendocrinology and oncological endocrinology, among others, should be incremented.

Actions at health management board level are indicated in order to place value and quantify the impact of Departments of Endocrinology and Nutrition in hospitals.

We need to define the minimum data requirements for information systems to be able to accurately quantify the activity of hospital interconsultations, promoting the transverse significance of the specialty in the hospital setting.

Clinical practice guidelines and protocols are to be established, with publication of the positionings of the SEEN in order to efficiently organize patient clinical care, ensuring adequate composition of the healthcare teams regarding the medical, nursing, assistant and other healthcare professionals available in each center. Work processes and procedures, and their impact, as well as quality indicators, must be clearly defined. These reference documents should serve as a guide for professionals, both as regards the characteristics

of the procedures to be used, and as institutional support so that the Departments can cover the staff and resource elements needed to operate adequately.

Greater prominence is needed, underscoring the idoneity of specialists in Endocrinology and Nutrition for applying the services portfolio of the specialty in the healthcare, teaching and management setting.

We need to promote the professional, teaching and scientific development of nursing professionals, nutritionists, dieticians and other professionals related to the Department of Endocrinology and Nutrition.

Retired specialists in Endocrinology and Nutrition should be integrated in SEEN activities.

Challenge 2: the emergence of new technologies and the increased use of molecular diagnostic techniques

The incorporation of new technologies is an undeniable phenomenon in which our speciality needs to participate and gain experience for the benefit of our patients. Therefore, specific actions aimed at incorporating technological advances into our daily activity should be promoted.

Strategic objective 2.1: to promote the use, training and adoption of new technologies among professionals in endocrinology

In order for endocrinologists to have full access to new medical technologies, actions are required to ensure that they are trained in the use and management of these new technologies.

The training of specialists in Endocrinology and Nutrition in new molecular and imaging diagnostic technologies should be promoted, ensuring their efficient and daily use.

We need to encourage the development of multidisciplinary basic-clinical translational teams capable of leading and accepting responsibility for the development, training and updating of these skills among SEEN members, as well as for translational research in our specialty. These actions will improve specialist training, facilitating participation in high quality projects and doctoral theses.

The SEEN must be in charge of accrediting adequate training in these new technologies.

The profile of the supporting nurse with expertise in new technologies should be developed.

Support and recommendations should be provided on data management, and initiatives should be established to allow modification of the electronic clinical history format to facilitate the conduction of different types of searches with a view to improving data analysis and patient management.

The development of remote medicine or telemedicine will allow more efficient organization of the time dedicated to patient care and the automatization of clinical alerts relating to case management.

Through the use of new audiovisual technologies, between-center communication and the exchange of knowledge should be promoted, such as clinical or research sessions between different Departments of the specialty,

thereby facilitating network operation and the conduction of multicenter studies.

Strategic objective 2.2: to counter the reduction of staff focused on patient care due to the increase in professionals dedicated to new diagnostic techniques and other innovative technologies

Ongoing dialog between the clinical care supervisors and the medical directive and management boards in relation to staffing of the Department should place priority on the incorporation of medical and nursing staff with accredited training in new technologies. The mission of the SEEN should be to ensure the accreditation of training in these technologies.

Strategic objective 2.3: to offer counseling for the national health system policy makers on the funding of new technologies

The advent of new technologies (e.g., continuous blood glucose monitoring) is important in patient care, but at the same time it also represents a substantial increase in health-care costs. Rigorous cost-effectiveness analyses are needed to help define the criteria for the selection of those patients that may benefit from the new technologies. The SEEN can and should offer counseling for the Administration on the indications for funding.

Challenge 3: patient empowerment

Patients have evolved from being supervised by the physician to becoming part of the therapeutic team, participating in care decisions and influencing scenarios and the allocation of financial resources. Furthermore, in the non-distant future, patients may be expected to participate in decisions referred to the allocation of financial resources for research.

Strategic objective 3.1: to support participatory medicine

In a context of social and democratic medicine where the patient is not just simply another individual but a dynamic subject upon which the care process is focused, more active and close collaboration with the patient associations will be needed.

Strategic objective 3.2: to strengthen the relationship with patient associations

Linked to strategic objective 4, it is necessary to enhance the use of social networks, with appropriate filtering and intensity. Consequently, expert staff will be required to manage the relationship with specific patient associations and to ensure that such ties remain fluid. In this regard, staff must be trained in the use and design of *Apps*, the usefulness of which is obvious.

There consequently will be an increase in collaboration between the SEEN and patient associations, participating in and advising on their activities.

Challenge 4: appearance of the healthy patient and lifestyle changes

Increasingly often, we receive consultations in our professional field on how to maintain health in relation to diet, healthy lifestyle and disease prevention.

Strategic objective 4.1: to position the SEEN as a reference in the promotion of healthy lifestyles

Despite the difficulties involved, Spanish endocrinologists – in the same way as other specialists in their respective fields – cannot avoid commitment to health promotion actions. For this reason, it will be necessary to lead initiatives for the holding of seminars, conferences, workshops, etc., in all strata of society.

Strategic objective 4.2: to support initiatives against pseudoscientific therapeutic and preventive alternatives

Different pseudoscientific and miracle treatments or options with no rigorous scientific basis constitute professional intrusion, and are increasingly being presented to society in general, and to the patients under our care. In the face of this growing phenomenon, driven in part by the social networks, we will have to maintain – as we have historically done – a vigilant and active attitude in the fight against pseudoscientific (when not outright fraudulent) concepts and practices.

Strategic objective 4.3: to incorporate physical activity specialists to the healthcare teams

We need to incorporate physical activity specialists to our healthcare teams, making it possible for those professionals in this area who are interested in the management of diseases such as obesity, diabetes, osteoporosis or high cardiovascular risk to form part of the SEEN and its working groups.

Strategic objective 4.4: to increase the active presence of the SEEN in the communications media in relation to disease prevention

We should increase the activity of the SEEN in the definition of recommendations or preventive actions targeted to diseases pertaining to the field of Endocrinology and Nutrition in the communications media. Such projection moreover would increase our visibility in relation to this crucial function.

Challenge 5: aging of the population

The increase in longevity in Spain is undeniable and can be expected to continue. This undoubtedly will have a major and decisive impact upon our professional activity in the coming years.

Objective 5.1: to promote training in geriatric endocrinology

In order to meet this great challenge, we must encourage the training of professionals in our speciality in the management of endocrine and nutritional diseases in the elderly, from as early as the resident in training stage. Such measures are also needed in application to the nursing staff of our Departments, as these professionals play a very relevant role in this concrete area. On the other hand, many endocrine diseases increase in prevalence over the years and in old age, including type 2 diabetes, hypothyroidism, osteoporosis, malnutrition and obesity. Therefore, such actions are inevitable and should be implemented immediately.

In addition to the abovementioned training measures, preventive activities aimed at minimizing the impact of endocrine diseases in old age are required.

Lastly, the characteristics and contents of geriatric endocrinology should be precisely defined, and care protocols must be established with other professional groups strongly implicated in the care of these patients, such as general practitioners, internists and, of course, geriatricians.

Challenge 6: consolidation of the subclinical patient

The refinement and optimization of hormonal diagnostic procedures has led to the definition of subclinical dysfunctional states or disorders. This has generated an important number of patients in situations of this kind, with a very broad range of disease conditions associated to or attributable to such situations. The refinement and optimization of these procedures in many cases allows us to establish an early diagnosis, when the condition is still reversible; this is clearly very important for the patient. In any case, the great number of patients this situation generates clearly represents a very important increase in the need for care.

On the other hand, advances in our understanding of hereditary diseases imply a need for clinical monitoring of healthy patients with familial genetic abnormalities that may potentially develop disease or already have subclinical disease.

Strategic objective 6.1: to implement actions to define subclinical patients and their required management

Our speciality should lead the generation of care guidelines and protocols, as well as care pathways aimed at managing subclinical patients, with due consideration of the important role played by primary care professionals. Such actions have

already been applied in the past, but have not always been adequately implemented in the different territorial settings. Continuous monitoring of their implementation is therefore needed.

Strategic objective 6.2: to inform about the importance of subclinical diseases

Increasing the information aimed at general society in relation to subclinical diseases will facilitate their adequate treatment and monitoring.

In addition, such information should also reach those healthcare professionals that have most contact with these patients, such as primary care physicians.

Challenge 7: The reduction of R&D and training funds

The very serious economic crisis that has had a particularly strong impact in Spain in recent years has led to a significant decrease in public funding of biomedical investigations, to the point of almost collapsing research in the country.

Strategic objective 7.1: To promote actions to increase funding of training and research

The SEEN has conducted training activities throughout its history that have been and continue to be very important for its members. In the future, these activities will have to be continued and improved upon, particularly through advanced training courses and training grants. Furthermore, these courses can be coordinated with international courses organized by European societies of Endocrinology, Nutrition and Andrology, and of all the biomedical knowledge areas included in our speciality.

At research level, the SEEN must continue and intensify its efforts to create its own research networks and projects, capturing public funding and sponsorships from the pharmaceutical and technological industrial sectors. In the future, and in addition to maintaining this line, it will be advisable to consolidate these research networks by incrementing both national and international public funding support.

The results and impact of the SEEN Quality Register (RECALSEEN) initiative must be analyzed in depth and used to drive specific actions in this regard.

Challenge 8: changes in professional profile and specialty demand

The advent of new diseases and the progress of medical diagnostic technologies, systems linked to our speciality, molecular medicine, artificial intelligence and big data, in addition to clinical management, have caused specialists in Endocrinology and Nutrition to undergo continuous recycling, and the new generations now complete their resident in training cycle perfectly prepared to respond to the needs in each moment and setting.

Strategic objective 8.1: to influence the training and specialization of future endocrinologists

In order to improve the quality of our specialists, strategies should be implemented to recruit the best candidates in the medical career for the specialty of Endocrinology and Nutrition. These actions should be implemented as early as during Medical School by endocrinologists who are university professors, and by the SEEN through their collaboration with medical student associations. Departments of Endocrinology and Nutrition should offer visits to residents in training candidates, with the provision of generic information that may be prepared by the SEEN - explaining the characteristics of the specialty, the existing professional opportunities, and future projection of the specialty itself.

The appropriate steps should be taken before the Administration, underscoring the diversity and complexity of current and future endocrine and nutritional disease, as well as the new technologies being incorporated to our field, in order to receive accreditation to expand the resident in training period to a fifth year.

The characteristics of the endocrinologist of the future should be defined, adapting the training plan to the needs and forecasts of the coming years. To this end, the SEEN must influence decision-making on the part of the national commission of the specialty and the pertinent administrative authorities.

An excellent educational instrument of the SEEN is its ongoing training courses. These must continue to maintain their level of excellence and should be improved upon and adapted to the emerging needs, so that residents as well as endocrinologists of any age can be recycled with the support of leading experts in different disciplines. These SEEN courses should be recognized in evaluation of the development and professional career of physicians specializing in Endocrinology and Nutrition, in different settings, through continued training credits, as is already done by other scientific societies.

We should promote stays in prestigious national and international hospitals, and in translational research centres, with a view to promoting and intensifying innovating culture at both healthcare and research level. It is also important for the SEEN to establish agreements with national and international highly specialized centers to facilitate the rotation of residents and specialists, and to enhance the added value of our professional society and its members.

Strategic objective 8.2: to implement actions to respond to future demands of the specialty, including a shared approach of certain diseases with other specialties

The SEEN should develop recommendations to define the proportion of endocrinologists with respect to the reference population. This needs to be done regularly, based on the services portfolio and the specific population needs in each territorial setting. Accordingly, the number of current and future professionals needed should be recalculated on a periodic basis. It is advisable to create an *ad hoc* commission to define future dimensioning of the specialty.

Challenge 9: treatment of diseases shared with other specialties

Medical practice in the XXI century and the complexity of our patients and their diseases imply the multidisciplinary sharing of care responsibilities with other specialists in a substantial number of cases. This is particularly the case in tertiary centers, but also at other care levels.

Strategic objective 9.1: to position endocrinologists as reference professionals, and the SEEN as reference authority, in relation to all endocrinological disease conditions, including those shared or transferred to other specialties

Given the complexity of most endocrine diseases, and particularly the number of cases seen in tertiary level centers, it is advisable for SEEN congresses to systematically include certain shared disease conditions, such as infertility and osteoporosis, among many others. Preferential areas therefore must be defined and made visible in courses and at congresses, with the invitation of professionals from the other specialties concerned. In this regard, we need to continue promoting the creation of multidisciplinary teams focused on shared diseases and - where applicable - led by an endocrinologist.

Strategic objective 9.2: to implement actions to define future demand of the specialty, including diseases shared with other specialties

Based on this new care scenario, we should define which multidisciplinary units should be created or consolidated, and for what shared diseases (infertility, tumors, gastrointestinal tract disorders, morbid obesity, cardiovascular conditions, etc.), in order to improve treatments and care processes.

Strategic objective 9.3: to strengthen the relationship between the SEEN and other scientific societies, especially those with which patients are shared

It is advisable to lead meetings with other professional societies in order to develop guides and protocols to define how these shared diseases should be organized and treated, e.g., the joint approach to osteoporosis with rheumatologists. Communication with Primary Care should be a preferential issue, given the bilaterality in patient referrals and the need to maintain a high level of coordination.

Strategically, it is important to take the initiative in generating clinical guidelines or consensus, allowing us to maintain the leadership position which Endocrinology should have in relation to numerous diseases.

Strategic objective 9.4: to expand the membership base of the Society by opening the SEEN to other specialties

The SEEN already has members that are not endocrinologists and whose contributions are very important in terms of both healthcare and scientific content. Continued enrichment of the SEEN with new members from other professional settings and who participate in multidisciplinary teams may result in improved quality of care, research and training of our professionals.

In this same regard, endocrinologists should participate, collaborate and become more implicated in other professional societies with which we have strong ties, in order to facilitate joint strategic actions, as has already been the case with the SEEDO, SENPE and SED.

Challenge 10: to organize multidisciplinary obesity and diabetes care

The pandemic of obesity and type 2 diabetes in Western countries, including Spain, is a very serious problem that undermines the future of our population, and which is expected to increase in the coming years.

Strategic objective 10.1: to position SEEN as reference in the promotion of prevention and healthy lifestyles

Strategies focusing on the promotion of obesity preventive measures should be defined, proposed and guided by endocrinologists, in collaboration with the SEEDO and SED. An example would be the Oklahoma strategy, among others. The Cities Alliance against Obesity is a reality that must continue to spread across the country.

Strategic objective 10.2: to position endocrinologists as references in the evaluation and management of people with obesity

Specialists in Endocrinology and Nutrition should lead strategies, prepare clinical guidelines and supervise functional obesity units, including the professionals who are in charge of this condition.

Actions on the part of the Administration are needed to increase human and financial resources with a view to offering comprehensive and integrated care for these patients and their associated problems.

Strategic objective 10.3: to organize and lead the multidisciplinary care of diabetes mellitus

The increasing prevalence of diabetes and substantial number of therapeutic options being developed for the disease make it necessary to create specific functional units with a view to facilitating protocolization of the care process. Given the in-depth knowledge of the specialist in Endocrinology and Nutrition of all aspects related to the course and the different therapeutic options of diabetes, the

endocrinologist must assume leadership of organizational units of this kind, assuming particularly a coordinating role with all the professionals involved.

Challenge 11: organizing the multidisciplinary care of thyroid disease

Thyroid disease is one of the most prevalent conditions in our specialty. Morphological thyroid gland alterations may be evidenced in up to 40 % of the population when imaging tests are performed. Care organization is very heterogeneous. Recently, oncologists have expressed a special interest in the management of thyroid cancer. Iodine deficiency and thyroid dysfunction in the context of pregnancy are other areas of growing interest, but the problems they pose have not been resolved to date.

Strategic objective 11.1: to organize the management of thyroid disease and particularly thyroid neoplastic disease

The proposed strategic actions are summarized as follows: establish recommendations to consolidate the organization and management of patients with thyroid tumors by means of multidisciplinary units, and to lead all the actions related to disease conditions of this kind.

We need to generate reference documents for the creation of interdisciplinary committees in agreement with the other medical societies related to this disease.

Hospital management should be influenced to create interdisciplinary committees specific of this disease condition.

Gynecologists and midwives should become involved in actions to promote iodine intake before conception, with the prescription of potassium iodide supplements before and during pregnancy, as well as during lactation.

Specific protocolization is required for the referral of patients with thyroid disease from primary care to specialized care, as well as for the long-term follow-up of some of these disorders.

Challenge 12: leading nutrition within and outside of the hospital environment

In recent years the general population, the media in particular, and of course also the food industry have shown a growing interest in the most advisable eating patterns of the population. Different scientific societies dispute leadership on this issue. Endocrinologists must assume their leadership responsibilities in this area, in a professional scenario that is often complex and influenced by different lobbies.

Strategic objective 12.1: to position endocrinologists as references in promoting prevention and healthy lifestyles regarding population nutrition

Informative campaigns should be conducted through the media and must adequately respond to all information that

proves erroneous or hazardous for health, and which may reach the population through these channels.

Strategic objective 12.2: to support initiatives against pseudoscientific therapeutic and preventive alternatives

Surveillance must be exerted on all clearly pseudoscientific initiatives that have been presented as scientific advances in recent years, without any scientific rigor, and which sometimes receive great media attention. Endocrinologists and the SEEN as their professional society must act *ex officio*; on an ethical and professional responsibility basis, to clarify to the population all the erroneous information and clearly fraudulent activities that are increasingly common in our society.

Likewise, the SEEN and endocrinologists should have adequate and independent communication with the food industry, avoiding any possible conflicts of interest.

Challenge 13: organizing multidisciplinary care for phosphorus-calcium metabolic disorders and bone metabolic diseases

The aging of the population and good access to different imaging techniques and hormone measurements on the part of different specialists have led to a considerable increase in patient referrals - some justified and others not so justified - due to an increased prevalence of osteoporosis, vitamin D deficiency and hyperparathyroidism.

Strategic objective 13.1: to create functional units led by endocrinologists

Leadership should be established of the organizational activities and interdisciplinary collaboration initiatives referred to diseases with other professionals outside the endocrinological setting. The different therapeutic approaches available, and their evolution over time, make it necessary to create phosphorus-calcium metabolism disease functional units in which the specialist in Endocrinology and Nutrition must assume a leading role.

Challenge 14: recruiting and retaining SEEN members

The SEEN has established itself as a well-structured and organized professional organization, and must ensure that most Spanish endocrinologists are an active part of it, as well as promote and facilitate generational turnover and professional empowerment of the young physicians.

Strategic objective 14.1: to consolidate the SEEN as the reference for continued training and professional support

In this regard, the social networks should be encouraged to communicate and engage young endocrinologists. The journal EDN should be promoted as a scientific

dissemination tool. A strategy must be created to access pre-resident in training students and associations. In addition, we must legitimately exert the necessary influence and negotiate with the Administration to define the appropriate professional profiles and the numerical territorial allocations within the hospital Departments. A plan should be drawn to create commissions or leadership areas for young professionals within SEEN, such as the Endojoven initiative.

Challenge 15: impact of transparency policies and regulations

Society as a whole and the members of the SEEN demand transparency regarding the professional actions and the functioning of their professional society, the SEEN. In addition, regulatory frameworks are being introduced, particularly at the level of professional and institutional relations with the drug industry, based on the principle of transparency.

Strategic objective 15.1: to strengthen relations with the drug and food industry, while maintaining independence and keeping a transparent institutional image

Protocols are needed for transparent action and data protection based on the Personal Data Protection Act (Ley Orgánica de Protección de Datos [LOPD]). Consultations with partners should be made to know the majority opinion on this aspect.

Challenge 16: increasing the presence of Spanish endocrinologists at international level

Science is an activity without borders. The advancement of Endocrinology in Spain requires a strong international connection, with a first reference framework corresponding to Europe and the European societies related to our specialty of Endocrinology and Nutrition.

Strategic objective 16.1: to increase the international projection and ties of Spanish endocrinologists, the SEEN and its members

We need to create a lobby strategy to allow Spanish endocrinologists to be on the top-notch Steering Committees, such as those of the European Society of Endocrinology (ESE) and the European Society for Clinical Nutrition (ESPEN). The number of Spanish ESE and ESPEN members - particularly young members - should be incremented.

A common position should be adopted with the ESE regarding positioning with respect to the International Society of Endocrinology (ISE).

Periodic congresses of the ESE and ESPEN, and related activities of these societies (updating courses, seminars, etc.), should be organized in Spain.

Uncited references

1-14.

References

1. Bouillon R. The future of endocrinology and the endocrinologist of the future. *Horm Res.* 2001;56 Suppl 1:98–105.
2. Clark A, Andrikopoulos S. A bright future ahead for Journal of Molecular Endocrinology. *J Mol Endocrinol.* 2015;55:E1–2.
3. Ho KK. Endocrinology: the next 60 years. *J Endocrinol.* 2006;190:3–6.
4. Lamberts SWJ, Romjin JA, Wiersinga WM. The future endocrine patient. Reflections on the future of clinical endocrinology. Department of Medicine, Division of Endocrinology. Erasmus Medical Center Rotterdam.
5. Lucas T. Plan estratégico de la SEEN; 2009.
6. Monereo S. Mirando al futuro: La endocrinología sin puertas. Servicio de Endocrinología y Nutrición Hospital Universitarios de Getafe.
7. Navarro E, Herrero A, Moreno A, Brandes O, Murillo J, Ballesteros MD, Disponible en <http://www.seen.es/docs/seen/cartera%20ServiciosEyN2016.pdf>, 2016.
8. Pelley E, Danoff A, Cooper DS, Becker C. Female Physicians and the Future of Endocrinology. *J Clin Endocrinol Metab.* 2016;101:16–22.
9. Sánchez Franco F. Present and future of the formation MIR of Endocrinology and Nutrition. *Endocrinol Nutr.* 2011;58:507–9.
10. Stratakis CA. Applications of genomic medicine in endocrinology and post-genomic endocrine research. *Hormones (Athens).* 2005;4:38–44.
11. Trimarchi F. Clinical Endocrinology in the near future: a post-modern challenge. *J Endocrinol Invest.* 2015;38(1):95–9.
12. Vigersky RA, Fish L, Hogan P, Stewart A, Kutler S, Ladenson PW, et al. The clinical endocrinology workforce: current status and future projections of supply and demand. *J Clin Endocrinol Metab.* 2014;99:3112–21.
13. Why Endocrinology. *Endocrine News.* March 2015.
14. Zafón C. Evolutionary endocrinology: a pending matter. *Endocrinol Nutr.* 2012;59:62–8.