



## SPECIAL ARTICLE

# Mentoring Programme: Guiding your first steps towards scientific excellence



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**Abstract** SEMICYUC's first Mentoring Programme aims to support the research careers of the Society's youngest members. Added benefits include acquiring new research and/or clinical skills, increasing the ability of critical thought, and fostering the development of the next generation of research leaders. This project would not be possible without the exceptional team of mentors or research experts willing to embark on the journey with the young trainees. This article sets out the foundations of such a programme and proposes future changes for continuous improvement.

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### PALABRAS CLAVE

Mentoría;  
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**Programa de Mentoría: acompañando tus primeros pasos hacia la excelencia científica**

**Resumen** El primer Programa de Mentoría de SEMICYUC tiene como objetivo apoyar la carrera investigadora de los miembros más jóvenes de la Sociedad. Como beneficios añadidos está la adquisición de nuevas capacidades de investigación y/o clínicas, incrementar la capacidad de reflexión y fomentar el desarrollo de la próxima generación de líderes en la investigación.

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Personal de  
investigación;  
Creatividad

Este proyecto no sería posible sin el equipo excepcional de mentores o expertos investigadores dispuestos a emprender el viaje con los jóvenes aprendices. El presente artículo expone las bases de dicho programa, además de proponer futuros cambios en haz de una mejora continua.  
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When Ulysses went to the war of Troy, he placed his loyal friend Mentor (the son of Alcimus) in charge of his home, the management of the interests of Ithaca and the education of his own son, Telemachus. Once the war was over, and having no news of his father, Telemachus decided to go in search of Ulysses, accompanied by Mentor.<sup>1,2</sup> In this way, and always under the guidance of Mentor, Telemachus learned how to fend for himself in carrying out his mission. Mentor adapted himself to the needs of his pupil, accepting the responsibilities involved and assuming the mission of Telemachus as his own. The fact that Ulysses had placed his close friend Mentor “in charge” thus became more than a simple and routine duty of tutorship.

Over time, the term “mentor” (*Μέντωρ*) has undergone a semantic transformation from a personal or proprietary name to a common name. Thus, a mentor is currently understood to be a “wise person”, someone who provides counseling, guidance or tutorship. Mentoring is characterized by the emotional, intellectual and social development of the mentored individual (mentee) or trainee, with greater emphasis being placed on one dimension or another depending on the needs of the individual and his or her circumstances.

The objectives of the Spanish Society of Intensive and Critical Care Medicine and Coronary Units (*Sociedad Española de Medicina Intensiva, Crítica y Unidades Coronarias* [SEMICYUC]) include the endorsement, support and promotion of tutoring as a key element of training, research experience and professional development, and it is in this setting where the First Mentoring Program has been developed.

## Objectives of the program

The main objective of the program is to support the research career of the trainee, as well as favor the resolution of doubts and the acquisition of different skills through leadership and guidance. The program seeks to establish, develop and facilitate positive, lasting and mutually beneficial tutoring team relations allowing the students to plan, learn, collaborate and grow. There are several benefits for both the mentored individual and the person providing mentorship (Table 1).<sup>3,4</sup>

## Characteristics of the participants

The mentor guides and advises the trainee in his or her research activities. The relationship between them is established from the development of a specific research project

within an area of interest in which the mentor is a leader or expert. The role of the mentor is to facilitate, guide and supervise, affording constructive criticism and positive feedback. Acting as a mentor requires empathy, cordiality with the trainee, and fostering reflection.

On the other hand, the mentored person is a member of the SEMICYUC that meets the SEMICYUC-Youth criteria.<sup>5</sup> He or she must be willing to start/improve his or her research activities guided by a more veteran and experienced researcher. A good trainee should be open to receiving advice, must be proactive, and will have to be strongly committed to the program.

Participation in the program requires time and dedication on both parties.<sup>6</sup> The trainee decides the principal objective of his or her personal project, with the understanding that the mentor may contribute a different point of view which may or may not imply a change in the originally planned course. The mentor helps to formalize the goals, objectives and parameters of success with the trainee, affords feedback and stimuli regarding the achievements, and facilitates the development of the trainee during the mentoring program.

## Process of the program

The first program call took place in the spring of 2022, receiving a total of 10 trainee and 16 mentor proposals. Both parties completed a form requesting structured and detailed information about personal projects, current trajectory and short- and long-term goals.<sup>7</sup>

The applications were evaluated by three members of the SEMICYUC-Youth team. The interests and/or skills of both parties were considered during this process, along with their respective particular requirements.<sup>8,9</sup> The pairing procedure was carried out as an individual work, and subsequently consensus was established — with debate among the three members of the group in the event consensus was not reached. The aim was to establish pairs adapted as best as possible to the needs and/or areas of scientific interest. Hierarchical relations with the trainee or relevant conflicts of interest were avoided in all cases. The process yielded a final total of 7 matched pairs.

With the start of the program in early 2023, the timings and format of the meetings between the mentors and students will be defined by both parties. These periodic meetings will be monitored by the SEMICYUC-Youth team through assessment questionnaires designed by both parties (accessible from the Society website using a QR code).<sup>10</sup> At these meetings it is advisable to address different aspects, including vocational aspirations, assessment of

**Table 1** Acquired value for the participants in a Mentoring Program.

Benefits for the trainee	Benefits for the mentor
<ul style="list-style-type: none"> <li>• Acceleration of the learning process and development of research skills</li> <li>• Expansion of scientific training through the acquisition of new research and/or clinical capacities</li> <li>• Promotion of the access to greater resources and useful opportunities for the professional career</li> <li>• Fostering of the development of the next generation of research leaders</li> <li>• Increased awareness and critical thought capacity</li> <li>• Clarification of objectives and favoring of action planning</li> <li>• Fostering of personal self-control and self-leadership</li> <li>• Increased self-efficacy, motivation and resiliency</li> <li>• Increased problem solving and decision-making capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Access to new ideas and tendencies, generation of knowledge</li> <li>• Professional renovation</li> <li>• Development of empathy and intuition</li> <li>• Improvement of skills related to social, emotional and conversational intelligence</li> <li>• High personal satisfaction levels</li> <li>• Broadening of perspectives</li> </ul>

the research setting, the professional options, competencies to be acquired, the skills needed to adequately carry out the research project (for example, reconciliation, the generation of a contact network, the management of conflicts and communication), and review of the situation (objectives and results). The contents of the meetings will be confidential for the SEMICYUC-Youth members involved in the project. The final aim of the meetings is to share experiences and listen. Both parties will learn: the mentored individuals will lead the topics to be dealt with, and the mentors will foster autonomy and personal and vocational development.

The participants furthermore will have documents designed to facilitate the research process and the mentor–trainee relationship. The “Development Plan” affords a framework for the review of the personal, professional and career objectives of the trainee. The “Work Sheets” allow the mentors and trainees to follow up on the progress made between meetings, providing a mechanism for evaluating achievements, analyzing gaps or lagoons, tracing corrections in the course, and discerning new directions.

Lastly, the participants will have access to an evaluation sheet for assessing the experience of the trainee and the mentor during the mentorship. The results obtained from the evaluation will be used to assess the efficacy of the program and modify it as required in later editions.<sup>11</sup>

## Purpose of the program

The program has a duration of two years during which the mentors and trainees will be able to develop a research project that proves motivating for both parties, and which may result in a solid study reflected in a publication in a scientific journal of prestige. The program would also set the bases for a communication network among young researchers. This network in turn would provide greater visibility for the young investigator, favor his or her integration, and would promote the development of a relevant role within the different scientific activities of the SEMICYUC.

## Proposals for future lines

We are witnessing the first edition of the Mentoring Program, and there is still much to learn. The possibility of affording more flexible access to the program, without an inscription period and keeping the pairing program open all year, could facilitate the creation of mentor–trainee pairs, thereby increasing the number of potential research projects within the Society.

On the other hand, mentor selection could be facilitated through the respective Working Groups of the SEMICYUC. This could make the pairing process easier, since a potential mentor could be identified knowing the interests of the trainee beforehand.

Lastly, mention should be made of the possibility, within the network of investigators, of fostering the participation of different hospital centers and research groups, facilitating access to different databases. In addition to access and potential exploitation of the existing databases, the initiative could serve to promote the learning of how to create and optimize such tools to respond to research issues.

## Conclusions

We have presented the bases of the first Mentoring Program of the SEMICYUC, the fundamental aim of which is to foster the vocational development of young intensivists, promoting activities intended to consolidate their research, clinical and leadership skills. Great enthusiasm has been placed in this project, which we hope will be successfully carried out in this and future editions.

## Publication ethics

The activity involved in this study requires no Ethics Committee approval. The program was approved by the Steering Committee of the SEMICYUC in the first trimester of 2022.

## Author's contribution

BLV, LGB and RAA drafted and prepared the manuscript. JABM, IGB, MFC, LLOC, MMM and SPM reviewed the initial manuscript. ACO supervised the program, and approved the final version.

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## Conflicts of interest

The authors declare that they have no conflicts of interest in relation to the publication of this study.

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## References

1. Homero. *La Odisea* (traducción en verso de José Manuel Pabón). Madrid: Gredos; 1985.
2. Grant M, Hazel J. *Gods and mortals in classical mythology*. 3rd edition Massachusetts: Dorset Pr; 1985.
3. Burgess A, van Diggele C, Mellis C. Mentorship in the health professions: a review. *Clin Teach*. 2018;15:197–202.
4. Cooke KJ, Patt DA, Prabhu RS. The road of mentoring. *Am Soc Clin Oncol Educ Book*. 2017;37:788–92.
5. SEMICYUC Joven [Accessed 30 January 2023]. Available from: <https://semicyuc.org/semicyucjoven/>.
6. Gusic ME, Zenni EA, Ludwig S, First LR. Strategies to design an effective mentoring program. *J Pediatr*. 2010;156, 173–4.e1.
7. Programa de Mentoría [Accessed 30 January 2023]. Available from: <https://semicyuc.org/programa-de-mentorias/>.
8. The Center for Simulation, Advanced Education and Innovation. Children's Hospital of Philadelphia (CHOP) — Mentoring Program. Available from: <https://www.chop.edu/pediatric-residency-program/mentoring>.
9. University of Kansas Medical Center Faculty Mentoring Program, 2008.
10. Lyons MD, Edwards KD. Strategies for monitoring mentoring relationship quality to predict early program dropout. *Am J Community Psychol*. 2022;70:127–38.
11. Minshew LM, Zeeman JM, Olsen AA, et al. Qualitative evaluation of a junior faculty team mentoring program. *Am J Pharm Educ*. 2021;85:8281.