

## Editorial

Improving the quality of healthcare. Results of the *SEC-Excelente* accreditation program in heart failure of the Spanish Society of Cardiology

## Mejorando la calidad de la asistencia desde la Sociedad Española de Cardiología. Resultados del programa SEC-Excelente en insuficiencia cardiaca

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In 2016, the Spanish Society of Cardiology (SEC), then directed by an Executive Committee chaired by Andrés Íñiguez, launched the SEC-Quality project. The objective of this initiative was to enhance the quality of cardiovascular care in Spain and to close the virtuous circle of care (figure 1) started several years earlier with the RECALCAR project.<sup>1,2</sup> By analyzing minimum data set (MDS) data on cardiovascular discharges from all publicly funded hospitals in the Spanish National Health System, RECALCAR provided information on the resources and structure of Spanish cardiology departments and, additionally, on the health care outcomes of the most impactful and prevalent cardiovascular diseases. This project, conducted via an agreement between the SEC and the Spanish Ministry of Health, has provided highly valuable data on the outcomes of cardiovascular care in Spain. This has led to the development of such lauded programs as the Infarction Code Program, which has been implemented nationwide.<sup>3</sup> The design of SEC-Quality included RECALCAR (SEC-RECALCAR) and 2 other programs, SEC-Excellence and SEC-Primary, whose objectives are to recognize and accredit the quality of care provided by Spanish cardiology departments and units via compliance with ambitious quality standards, both in terms of their internal functioning (SEC-Excellence) and their coordination with primary care (SEC-Primary). The SEC-Quality program has been incorporating new projects in subsequent years and continues to be one of the strategic pillars of our society, as recognized in the document on Spanish cardiology of the future.<sup>4</sup>

The SEC-Excellence program, a fundamental component of SEC-Quality, entails the quality accreditation of the most indispensable cardiovascular procedures and processes performed by cardiology departments and units in Spanish hospitals. For each selected process or procedure, the SEC Executive Committee, in collaboration with the corresponding section or scientific association, devised a Scientific Committee that drafted a document of

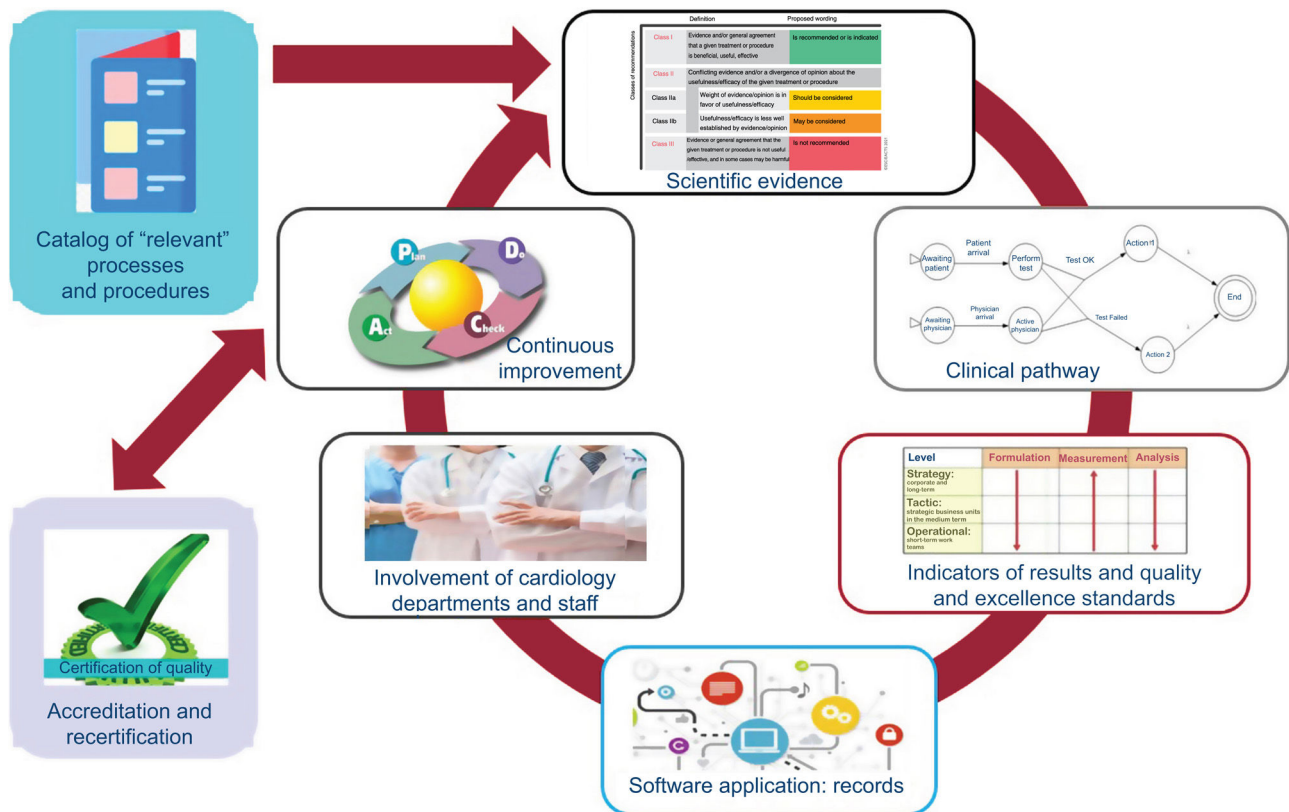
standards to be met by the unit requesting accreditation. Compliance with these standards is checked by a technical secretariat using a document and/or in-person audit and the Scientific Committee proposes, when applicable, the awarding of the SEC-Excellence accreditation to the corresponding unit. The first process to be developed was for heart failure (HF)<sup>5</sup> and, in the current document, we present the logistics and results from a 7-year period (2017–2023).

HF is not just a cardiovascular problem but is also a general health concern due to its high and growing incidence and prevalence,<sup>6,7</sup> its elevated short- and long-term mortality,<sup>8,9</sup> and its substantial economic burden on the health care system. As shown by various clinical registries and the RECALCAR analysis,<sup>8–11</sup> and despite the major advances of recent years in the diagnosis and treatment of HF,<sup>12</sup> its in-hospital mortality in Spain has not decreased in the last 15 years, remaining at about 10%, with major disparities among autonomous communities.<sup>10,11</sup> Long-term mortality remains very high, as do hospitalization and decompensation rates.<sup>8,9,12</sup> Accordingly, it was deemed critical to improve the quality of HF care in Spain by establishing exacting standards, based on evidence and clinical practice guidelines,<sup>5,12</sup> that were similar in all Spanish centers. The SEC-Excellence HF program was centered on a fundamental aspect in HF care that has been shown to improve outcomes and optimize available resources, namely, the establishment of multidisciplinary HF programs and units. This type of HF management is a class I A recommendation in clinical practice guidelines.<sup>12</sup>

Under its Scientific Committee, the SEC-Excellence HF project established and defined 3 fundamental aspects: a) unit classification and nomenclature; b) standards for the different types of units proposed; and c) and standards for the general HF process. Three types of units were defined—community, specialized, and advanced—based on services offered, human and material resources, and the type and level of the department and the hospital in which it is located. The characteristics of each type of unit can be found in the consensus document, which has already been published and forms the basis of the program.<sup>5</sup> The unit

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**Figure 1.** The virtuous circle of quality of SEC-Quality and SEC-Excellence.

subdivision has been accepted both in terms of nomenclature and characteristics by a similar accreditation program for HF units subsequently started in Europe by the European Society of Cardiology (ESC).<sup>13</sup> In general, community units are located in primary-level hospitals, without on-site cardiology departments or catheterization or electrophysiology services. They focus on coordination with primary care and with the specialized referral HF unit. Specialized and advanced units are located in secondary- or tertiary-level hospitals, within cardiology departments, and have a full services portfolio and the standard resources (catheterization, electrophysiology, cardiac surgery). The difference between the specialized and advanced units lies in the on-site availability in advanced units of heart transplant programs and long-term circulatory assist support.<sup>5</sup> To begin the accreditation process, the department in question voluntarily asks the SEC-Excellence Committee to be officially assessed. The SEC-Excellence Committee analyzes the compliance with standards via an external audit, which is validated by members of the SEC-Excellence HF Committee. Compliance of the department or unit with the quality standards will lead to accreditation being awarded by SEC-Excellence HF. This accreditation of excellence is finite and must be periodically reassessed to ensure that the department continues to meet the proposed quality and outcome standards. To guarantee the feasibility of the process, a first step was conducted in 2017 with a small group of hospitals that included a balanced regional distribution of the services and classification of units (considering their level). The results of this pilot phase have since been published.<sup>14</sup> Once the feasibility of the process was confirmed, the program was opened to all cardiology departments and units in publicly funded and private health centers in Spain, allowing them to request, in an entirely voluntary manner, the SEC-Excellence HF accreditation. In all

centers in the pilot phase, the external audit included a document analysis and on-site monitoring to guarantee compliance with the accreditation requirements. In the subsequent phases, and once the feasibility of the system was confirmed, on-site assessment was only performed in a random sample of 5% of the units. Document analysis sufficed for the remainder. If the unit lacked any of the obligatory requirements or standards during the audit, a provisional accreditation was awarded as long as the unit committed to rectifying this shortfall within 6 months.

In addition to the requirements and standards of the process, the human and material resources, and the department portfolio, units were also required to have information systems enabling the analysis of outcome indicators (eg, mortality, admissions). To that end, the units were encouraged to participate in Spanish and European registries. In addition, as a requirement for accreditation, the units were asked to commit to participating in a SEC-Excellence HF registry by including patients followed up in the unit in the manner specified in the registry design. Briefly, the Scientific Committee drafted a registry project with a 1-year follow-up. Each accredited unit had to include consecutive patients with HF managed in the unit in 2 short 1-month periods (March and November). The study was approved by the Ethics Committee of Hospital Universitario Central de Asturias, and the objective was to enroll 3000 patients from 75 units, with an average of 40 patients per unit. The baseline characteristics of the patients included by the first 14 accredited units (pilot phase) have already been published.<sup>14</sup> A year of follow-up has now been completed by 45 units, with 1716 patients included between 2019 and 2021. The results are being analyzed and will serve as a hugely important source of knowledge for understanding HF management in Spain and the results of this quality accreditation program. The third

inclusion phase of the registry is underway for units accredited since 2019, which will enable us to achieve the proposed target of 3000 patients.

The results of the SEC-Excellence HF accreditation program are as follows: between 2017 and 2023, 91 units have requested and received the SEC-Excellence HF quality accreditation. These units are detailed in [table 1](#). In 34 of the 91 units, the initial accreditation was provisional due to a lack of compliance with some of the

**Table 1**

Heart failure units accredited in the SEC-Excellence program of the Spanish Society of Cardiology (2017–2023). Year of accreditation and type of unit

|  |
|--|
| 2017   |
| Hospital Universitario y Politécnico La Fe, Valencia (advanced)                      |
| Hospital Universitario de Bellvitge, L'Hospitalet de Llobregat, Barcelona (advanced) |
| Hospital Universitario Central de Asturias, Oviedo, Asturias (advanced)              |
| Hospital Universitari Germans Trias i Pujol, Badalona, Barcelona (specialized)       |
| Hospital Marina Salud, Denia, Alicante (community)                                   |
| Hospital General Universitario Morales Meseguer, Murcia (specialized)                |
| Hospital Comarcal San Juan de la Cruz, Úbeda, Jaén (community)                       |
| Hospital Clínico San Carlos, Madrid (specialized)                                    |
| Hospital Universitario de Vigo, Vigo, Pontevedra (specialized)                       |
| Complejo Hospitalario Universitario de Granada, Granada (specialized)                |
| Complejo Hospitalario Universitario de A Coruña, A Coruña (advanced and specialized) |
| Hospital Universitario Reina Sofía, Córdoba (advanced and specialized)               |
| Complejo Hospitalario de Jaén, Jaén (specialized)                                    |
| Complejo Asistencial Universitario de Burgos, Burgos (specialized)                   |
| 2018   |
| Hospital Virgen de los Lirios, Alcoy, Alicante (community)                           |
| Hospital Universitario de Basurto, Bilbao, Vizcaya (specialized)                     |
| Hospital Universitario 12 de Octubre, Madrid (advanced)                              |
| Hospital General la Mancha Centro, Ciudad Real (community)                           |
| Hospital de la Santa Creu i Sant Pau, Barcelona (advanced)                           |
| Hospital Virgen de la Victoria, Málaga (specialized)                                 |
| Hospital Santa Caterina, Salt, Girona (community)                                    |
| Hospital Valle del Nálón, Langreo, Asturias (community)                              |
| Hospital Universitario San Cecilio, Granada (specialized)                            |
| Hospital Universitario Puerta de Hierro, Majadahonda, Madrid (advanced)              |
| Hospital Universitario Infanta Cristina, Parla, Madrid (community)                   |
| Hospital Universitario de Cruces, Bilbao, Vizcaya (specialized)                      |
| Hospital Universitario Vall d'Hebron, Barcelona (advanced)                           |
| Hospital Universitario Dr. Josep Trueta, Girona (specialized)                        |
| Hospital San Pedro de Alcántara, Cáceres (specialized)                               |
| Hospital Miguel Servet, Zaragoza (advanced)  |
| Hospital del Mar, Barcelona (specialized)  |
| Hospital de Zafra, Zafra, Badajoz (community)  |
| Hospital de Torre Vieja, Torre Vieja, Alicante (community)                           |
| Hospital de Santa Bárbara, Puertollano, Ciudad Real (community)                      |
| Hospital Moisés Broggi, Sant Joan Despí, Barcelona (community)                       |
| Hospital de Jerez de la Frontera, Jerez de la Frontera, Cádiz (community)            |
| Hospital Universitario Virgen de la Arrixaca, El Palmar, Murcia (advanced)           |
| Hospital Clínico Universitario de Valladolid, Valladolid (advanced)                  |
| Hospital Clínico Universitario de Valencia, Valencia (specialized)                   |
| Hospital Clínic de Barcelona, Barcelona (advanced)                                   |
| Hospital Alto Guadalquivir, Andújar, Jaén (community)                                |
| Hospital General Universitario de Valencia, Valencia (specialized)                   |
| Hospital Universitario de Lugo, Lugo (specialized)                                   |

**Table 1** (Continued)

Heart failure units accredited in the SEC-Excellence program of the Spanish Society of Cardiology (2017–2023). Year of accreditation and type of unit

|  |
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| Hospital Universitario Dr. Negrín, Las Palmas de Gran Canaria, Las Palmas (specialized)      |
| Hospital Universitario de Ferrol, Ferrol, A Coruña (community)                               |
| 2019   |
| Hospital Universitario de Albacete, Albacete (specialized)                                   |
| Hospital Virgen Macarena, Sevilla (specialized)  |
| Hospital Regional de Málaga, Málaga (specialized)  |
| Hospital Gregorio Marañón, Madrid (advanced)   |
| Hospital Universitario Nuestra Señora de la Candelaria, Santa Cruz de Tenerife (specialized) |
| Hospital Universitario de Salamanca, Salamanca (specialized)                                 |
| Hospital Universitario de León, León (specialized)   |
| Hospital de Manacor, Mallorca (community)  |
| Hospital Universitario Ramón y Cajal, Madrid (specialized)                                   |
| Hospital Universitario Infanta Leonor, Madrid (specialized)                                  |
| Hospital Universitario de la Princesa, Madrid (specialized)                                  |
| Hospital Universitario de Fuenlabrada, Fuenlabrada, Madrid (specialized)                     |
| Hospital Universitario de Bellvitge, L'Hospitalet de Llobregat, Barcelona (specialized)      |
| Hospital Universitario de Araba, Vitoria, Álava (specialized)                                |
| Hospital General Universitario Reina Sofía, Murcia (community)                               |
| Hospital General Universitario de Alicante, Alicante (specialized)                           |
| Hospital de Torrejón, Torrejón de Ardoz, Madrid (specialized)                                |
| Hospital de Sagunto, Sagunto, Castellón (community)  |
| 2020   |
| Hospital de la Ribera, Alzira, Valencia (community)  |
| Hospital de Figueres, Figueres, Girona (community)   |
| Hospital de Especialidades de Puerto Real, Puerto Real, Cádiz (specialized)                  |
| Hospital Universitario de Santiago, Santiago de Compostela, A Coruña (specialized)           |
| Hospital Universitario Santa Lucía, Cartagena, Murcia (specialized)                          |
| Complejo Hospitalario Virgen de la Salud, Toledo (specialized)                               |
| Hospital Virgen de Valme, Sevilla (specialized)  |
| 2021   |
| Hospital Juan Ramón Jiménez, Huelva (specialized)  |
| Hospital Universitario Virgen del Rocío, Sevilla (advanced)                                  |
| Hospital Universitario Puerta del Mar, Cádiz (specialized)                                   |
| Hospital Universitario La Paz, Madrid (specialized)  |
| Hospital Universitario de Vinalopó, Elche, Alicante (community)                              |
| Hospital Universitario de Getafe, Getafe, Madrid (specialized)                               |
| Hospital General Universitario de Elche, Elche, Alicante (specialized)                       |
| Hospital de Cabueñes, Gijón, Asturias (specialized)  |
| 2022   |
| Hospital de Ourense, Ourense (specialized)   |
| Hospital de Donostia, San Sebastián, Guipúzcoa (specialized)                                 |
| Hospital General Universitario de Elda, Alicante (community)                                 |
| Hospital Álvarez-Buylla, Mieres, Asturias (community)  |
| Hospital Verge de la Cinta, Tortosa, Tarragona (community)                                   |
| Hospital Universitario Severo Ochoa, Leganés, Madrid (community)                             |
| Complejo Hospitalario de Badajoz, Badajoz (community)  |
| Fundación Jiménez Díaz, Madrid (community)   |
| Hospital de Don Benito, Don Benito, Badajoz (community)                                      |
| Hospital de Palamós, Palamós, Girona (community)   |
| Hospital de Galdakao, Bilbao, Vizcaya (community)  |
| Hospital Central de la Defensa Gómez Ulla, Madrid (community)                                |
| Hospital Universitario de Vic, Vic, Barcelona (community)                                    |

standards. The most frequent missing standards were the lack of a coordinated and signed clinical pathway or consensus-based process between cardiology, internal medicine, and primary care in the corresponding health area (14 of the 34 cases [41.2%]). Other less frequent causes were related to equipment or services portfolio (lack of rehabilitation units or 24-hour on-call cardiology in the center), as well as training aspects (training courses in HF for primary care). All units corrected these shortcomings in the 6-month period and subsequently received definitive accreditation.

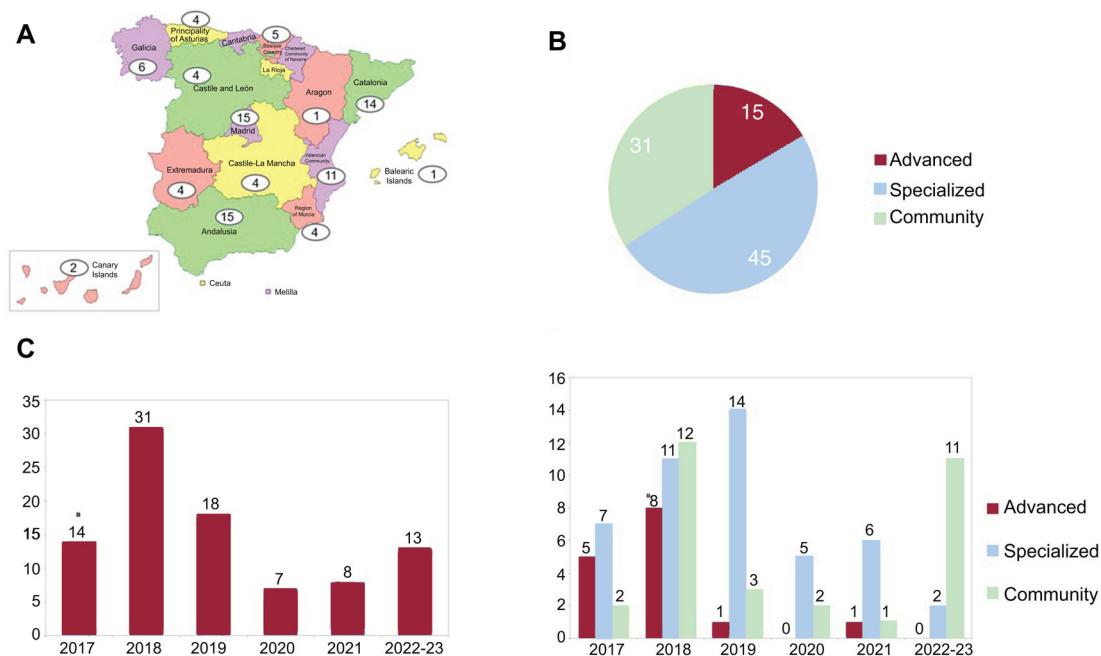
Table 1 and figure 2 depict the number of units accredited per year, the types of units accredited, and the regional distribution by autonomous community. As shown, 14 units were accredited in the 2017 pilot phase, mostly specialized and advanced units. The years with the highest numbers of accredited units were 2018, with 31, and 2019, with 18. In 2020 and 2021, the number of applications fell, likely due in part to the COVID-19 pandemic. However, the numbers increased again in 2022 and 2023 to 13 units. In 2024, 25 units applied for accreditation, indicating that the vast majority of cardiology departments and units of Spanish publicly-funded hospitals will be achieve accreditation.

Of the 91 already accredited units, 45 are specialized and 31 are community units. The 15 units with heart transplant programs in Spain at the time of application have already received the accreditation of advanced HF unit, with most obtaining accreditation in the first few years of the program (figure 2D). In 2022 to 2023 and according to forecasts for 2024, community units predominate. This trend is understandable, given that almost 100% of the secondary- and tertiary-level hospitals have already received accreditation for their specialized and advanced units. Almost all autonomous communities have accredited units, except for La Rioja, Cantabria, and the Chartered Community of Navarre and the autonomous cities of Ceuta and Melilla. The autonomous communities with the most accredited units are the Community of Madrid with 15, Andalusia with 15, Catalonia with 14, and the Valencian Community with 11; this is due to their larger populations and number of hospitals (figure 2A).

These results show the feasibility of such a complex quality accreditation program that involves a huge number of institutions

and professionals. The emphasis placed on quality by the SEC in 2017 in the HF area has been consolidated and maintained for 7 years, with avenues for further development. This process has relied on the dedication and effort of a huge number of people, who are mentioned in the Acknowledgments. However, it is crucial to highlight the pivotal role of the SEC, the SEC-Quality project, and the Heart Failure Association of the SEC. The impact of this program has been highly significant in Europe and, as already mentioned, has become the foundation for the accreditation project for centers of excellence in HF of the ESC.<sup>13</sup> This initiative has also conducted a pilot phase,<sup>15</sup> and is currently being extended to all member states. In Spain, other scientific societies have implemented quality accreditation programs in HF, such as the Spanish Society of Internal Medicine and its Integrated Management Units for Patients with Heart Failure program. SEC-Excellence HF and its exemplary development have also served as an example and stimulus for the other processes and procedures of SEC-Excellence and SEC-Primary, currently underway. Finally, the project highlights the importance of quality as a critical and strategic component of the SEC and reflects the vision of the Executive Committee chaired by Andrés Íñiguez, which initiated this success story in 2016.

Naturally, many aspects of this SEC-Excellence HF program remain to be improved and expanded. Among them, and to conclude, we would like to mention the 3 key areas that we believe to be the most important. The first is the need to demonstrate that this program improves treatment and prognosis and that these improvements are consistent among all regions and all types of units. Fundamental factors are the finalization and analysis of data from the SEC-Excellence HF registry. This phase is currently underway and we hope to report the results in the near future. Maintenance of this registry over time is also important to obtain data on temporal trends. Second, reaccreditation of units is required to guarantee that the previous quality standards are maintained or even improved, as was planned to be done at 6 years in the initial protocol. Currently, the Scientific Committee of SEC-Excellence HF is designing reaccreditation criteria to begin this process. Finally,



**Figure 2.** Results of the SEC-Excellence HF accreditation program from 2017 to 2023. A: distribution of units accredited by autonomous community. B: types of units accredited. C: number of units accredited per year. D: number of units accredited by type of unit and year.



given that the Heart Failure Association of the ESC is initiating the accreditation process for centers of excellence in HF in Europe, based on our criteria and unit classification, the units accredited in SEC-Excellence should immediately receive European certification, without undergoing the logistical process designed by the ESC. We intend to request this recognition in conjunction with the Heart Failure Association of the SEC.

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## CONFLICTS OF INTEREST

None.

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