Revista Española
de Educación Médica

Performance of medical schools in Chile in the face of new accreditation criteria

Desempeño de las facultades de medicina en Chile frente a los nuevos criterios de acreditación

Oscar Mauricio Jerez Yañez[1], Ignacio Rodrigo Aguilera Fortes[2], Ignacio Tomás Campolo[3], Diego Alejandro Aller Acuña[4], Martín Munita Leiva[5] y Liseth Alejandra Bravo Osorio[6]*

[1] University of Chile, Faculty of Medicine, Department of Health Sciences Education, Metropolitan Region, Chile, ojerez@uchile.cl, ORCID ID: 0000-0003-0869-5938
[2] University of Chile, Faculty of Medicine, Metropolitan Region, Chile, ignacio.aguilera.f@ug.uchile.cl, ORCID ID: 0009-0006-0632-0285
[3] University of Chile, Faculty of Medicine, Metropolitan Region, Chile; ignaciocampolo@ug.uchile.cl, ORCID ID: 0009-0008-0210-431X
[4] University of Chile, Faculty of Medicine, Metropolitan Region, Chile; diegoaller@ug.uchile.cl, ORCID ID: 0009-0000-4657-2379
[5] University of Chile, Faculty of Medicine, Metropolitan Region, Chile; martin.munita@ug.uchile.cl, ORCID ID: 0009-0000-6395-6067
[6] University of Chile, Faculty of Medicine, Metropolitan Region, Chile; lisethbravo@uchile.cl, ORCID ID: 0009-0005-1078-2725

* Correspondence: lisethbravo@uchile.cl

Received: 28/08/24; Accepted: 10/10/24; Published:14/10/24

Abstract: Introduction: The accreditation of medical programs is essential to ensure quality in the training of future physicians. Recently, new accreditation criteria have been implemented in Chile, aligned with international standards. The objective is to evaluate the latest accreditation process of medical programs in Chile using the new criteria, in order to identify patterns and lessons learned, to improve medical education and guide towards international standards. Methods: The accreditation records of Chilean universities that teach medicine, available on the website of the National Accreditation Commission, were analyzed. The analysis included an exhaustive review of the new criteria and the accreditations were re-evaluated using a three-level scale ((basic, advanced and excellence)), proposed by the commission. An analysis of means and variance was performed for each criterion and the programs were grouped by years of accreditation assigned with the previous criteria, through a content and cluster analysis. Results: A high variance was observed between universities in the evaluated criteria. The criteria with the highest evaluations were graduate profile, study plan, academic staff and internal management. The worst- rated criteria included training process results, infrastructure, self-regulation, connection with the community, and professional productivity. The grouping revealed three main groups of universities, differentiated by their years of accreditation and levels of compliance with the criteria. Discussion: There are differences in the implementation and compliance with the new accreditation criteria, identifying areas of strength and weakness. The comparison with the previous process more than 20 years ago allows establishing a baseline for future evaluations and adjustments to international standards. Conclusions: The study provides a detailed overview of the current state of medical programs in Chile under the new accreditation criteria, offering recommendations for continuous improvement.

Keywords: Accreditation; Medical Education; Quality Criteria; Chilean Universities.

Resumen: Introducción: La acreditación de las carreras de medicina es fundamental para asegurar la calidad en la formación de futuros médicos. Recientemente, se han implementado nuevos

criterios de acreditación en Chile, alineados con estándares internacionales. El objetivo es evaluar el último proceso de acreditación de las carreras de medicina en Chile utilizando los nuevos criterios, con el fin de identificar patrones y aprendizajes, para mejorar la educación médica y orientar hacia estándares internacionales. Métodos: Se analizaron las actas de acreditación de las universidades chilenas que imparten medicina, disponibles en la web de la Comisión Nacional de Acreditación. El análisis incluyó una revisión exhaustiva de los nuevos criterios y se reevaluaron las acreditaciones utilizando una escala de tres niveles (básico, avanzado y excelencia), propuesta por la comisión. Se realizó un análisis de medias y varianza para cada criterio y se agruparon los programas por años de acreditación asignados con los criterios anteriores, mediante un análisis de contenido y clústeres. Resultados: Se observó una alta varianza entre universidades en los criterios evaluados. Los criterios con más altas evaluaciones fueron perfil de egreso, plan de estudio, cuerpo académico y gestión interna. Los criterios con peor evaluación incluyeron resultados del proceso formativo, infraestructura, autorregulación, vinculación con el medio y productividad profesional. La agrupación reveló tres grupos principales de universidades, diferenciados por sus años de acreditación y niveles de cumplimiento de los criterios. Discusión: Existen diferencias en la implementación y cumplimiento de los nuevos criterios de acreditación, identificando áreas de fortaleza y debilidad. La comparación con el proceso anterior hace más de 20 años permite establecer una línea base para futuras evaluaciones y ajustes hacia estándares internacionales. Conclusiones: El estudio proporciona una visión detallada del estado actual de las carreras de medicina en Chile bajo los nuevos criterios de acreditación, ofreciendo recomendaciones para la mejora continua.

Palabras clave: Acreditación; Educación Médica; Criterios de Calidad; Universidades Chilenas.

1. Introduction

The relevance of accreditation in medical courses is essential to ensure the quality of training of future health professionals. Accreditation is an evaluation process in which an authority systematically reviews courses (program accreditation) and the educational institution (university accreditation) to verify that it meets previously established quality criteria (1). This process ensures that educational institutions meet minimum quality standards in the training of health professionals, and encourages continuous improvement in teaching and the results of the training process, through curricular innovations and methodologies such as clinical simulation. The incorporation of these innovations is playing a crucial role by offering safe environments for technical training and facilitating experiential learning, resulting in more effective teaching oriented to real practice (2-4).

The World Federation for Medical Education (WFME) is highly relevant in promoting high quality standards in medical education globally. Through its accreditation recognition program, the WFME seeks to raise educational standards in basic medical education, postgraduate education and continuing professional development (5). This program emphasizes the need to adapt accreditation standards to local contexts, considering the diversity of educational systems and teaching methods (6). The 2020 review of the global standards by the WFME highlighted the flexibility of these standards to adjust to different national contexts, facilitating the improvement of the quality of medical education (7).

In October 2023, the National Accreditation Commission (CNA) of Chile was accepted as an eligible agency for the WFME's "World Federation for Medical Education Recognition Program". In 2024, the WFME visit to CNA highlighted the importance of

aligning Chilean accreditation criteria with international standards, which promotes a rigorous and comprehensive evaluation of medical programs in the country (8). The new accreditation criteria for medical programs in Chile include five fundamental dimensions: teaching and results of the training process, strategic management and institutional resources, internal quality assurance, connection with the environment, and research and creation (9). These criteria are distributed in nine areas and establish three levels of achievement, with the aim of ensuring high-quality training for the country's future doctors (10).

The accreditation system in Chile not only categorizes institutions as accredited or non-accredited, but also uses a scale of years to reflect the level of quality achieved (10). Currently, all traditional universities in Chile are accredited, while a significant portion of private universities have low levels of accreditation (11).

Despite the advances in the accreditation system in Chile, significant challenges remain, such as the need to establish a culture of permanent self-assessment and ensure effective regulation and oversight (12). With the implementation of the new accreditation criteria, it is essential to establish a comparative baseline with the previous process, which reflects more than 20 years of accreditation experience in the country. These new criteria seek to align accreditation processes with international standards and require rigorous evaluation to identify areas for improvement and ensure that educational institutions respond adequately to the changing needs of the health sector.

The objective of this article is to evaluate previous accreditation processes during the period 2016-2023, based on these new criteria, thereby identifying relevant patterns and learnings that may influence the future of medical education in Chile. This evaluation will establish the baseline through which the future impacts of the new standards on the quality of medical training can be understood and will guide future efforts to improve education in the country.

2. Methods

The accreditation records available on the website of the National Accreditation Commission (11) of all Chilean universities that teach medicine were collected. The analysis was developed in several stages. First, the research team thoroughly reviewed the new accreditation criteria, which ensured a precise understanding of each of them. Subsequently, a team of peer researchers carried out the re-evaluation of the last accreditation of each institution. This re-evaluation was based on a three-level scale and score, proposed by the CNA, defined according to the new accreditation criteria: Level 1 (basic), for institutions that had just begun to implement the minimum requirements; Level 2 (advanced), for those that had made significant progress in the implementation of the criteria, but were still in the development phase; and Level 3 (excellence), for institutions that had achieved full integration and compliance with the established criteria, demonstrating an advanced and stable level. A detailed analysis of the means and variance of each criterion in all universities was then carried out, with the aim of identifying strengths and weaknesses, as well as differential behaviour between institutions. The medical courses of the different institutions were then grouped by the years of accreditation obtained, with cluster 1 being the institutions that obtained 7 years of accreditation, cluster 2 with 5-6 years of accreditation and cluster 3 with 2-4 years of

accreditation. The common elements present in each of them were identified and grouped through a content analysis. This grouping allowed a systematic and structured comparison with the new accreditation criteria. Finally, the results of the re-evaluations were jointly reviewed by the researchers to calibrate and validate the evaluations, which ensured the coherence and reliability of the results, and guaranteed that all institutions were evaluated with the same standards and criteria.

3. Results

Twenty-five transcripts were accessed, representing 96% of the medical programs accredited between 2016 and 2023. The average number of years of accreditation is 5.16. Regarding the results of the universities according to each criterion, a high variance is observed between them (see Figure 1). The universities with peaks in the graph present a high variability in their scores, which indicates significant differences in the evaluated criteria. On the other hand, those with valleys show a more homogeneous consistency. The criteria with an evaluation above the average (1.4) (see Table 1) are: graduate profile (M = 1.71), study plan (M = 1.63), academic staff (M = 1.5) and internal management (M = 1.63). On the other hand, the criteria with the worst evaluation include: results of the training process (M = 1.25), infrastructure (M = 1.21), self-regulation (M = 1.25), connection with the environment (M = 1.25) and professional productivity (M = 1.22).

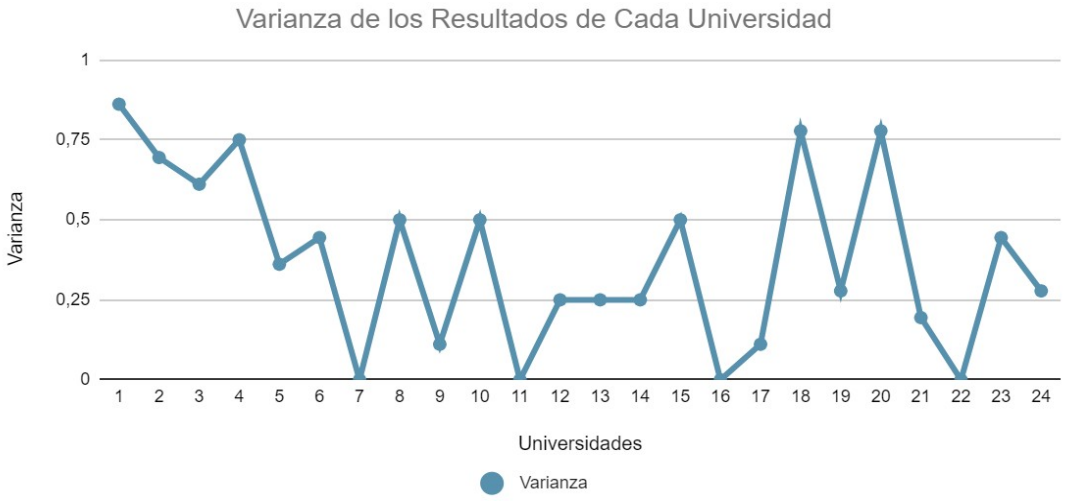

Figure 1 : Variance graph of the results of each university.

Table 1. Arithmetic mean and variance by system criterion.

Criteria	Media	Variance
1. Graduation profile	1.71	0.56
2. Curriculum	1.63	0.59
3. Academic bodies	1.5	0.61
4. Result of the training process	1.25	0.37
5. Internal management	1.63	0.51
6. Infrastructure	1.21	0.26
7. Self-regulation	1.25	0.37
8. Connection with the environment	1.25	0.37
9. Professional productivity	1.22	0.18

The medical training programs of the universities in Cluster 1 stand out for their high level of consolidation and external linkage, which positions them favorably to face new accreditation criteria. In the dimension of teaching and results of the training process, these educational programs present a clear definition of the graduate profile aligned with professional standards (M = 2.67), and coherent and well-structured study plans (M = 3). In addition, they have an appropriate academic staff (M = 3) and effective mechanisms to ensure admission, teaching, learning and academic progression. In terms of strategic management and institutional resources, these universities have well-defined management systems (M = 2.33), adequate infrastructure (M = 1.33) and sufficient resources. Regarding internal quality assurance, they apply self-regulation policies systematically (M = 2). In the dimension of links with the environment, they have well-developed policies and bidirectional activities that strengthen the training process (M = 2.3). In research, creation and/or innovation, they promote activities that enrich the training process (M = 1.5 in professional productivity). The challenges for these universities include staying up to date in innovation and research, adapting to new demands from the health sector and managing workload overload.

The medical training programs of the universities in Cluster 2 are in a phase of implementation and continuous improvement, focusing on the adaptation of the teaching process and the development of competencies. They have developed coherent and updated graduation profiles (M = 1.4), and have study plans that integrate theoretical and practical activities (M = 1.53). Despite having mechanisms for selecting and training academics (M = 1.5), they need to strengthen continuous updating. They implement mechanisms for monitoring academic progress and evaluating training results (M = 1.47). In the dimension of strategic management and institutional resources, they have internal management structures that ensure coordination and decision-making (M = 1.4), although they can improve in terms of student participation. They also have adequate infrastructure (M = 1.2), but they should focus on continuous updating and maintenance. Regarding self-regulation (M = 1.67) and self-assessment mechanisms, they need to improve in the implementation and monitoring of improvement plans. In the dimension of outreach, they carry out outreach activities (M = 1.13), but they must strengthen the systematicity and evaluate the impact of these activities. Finally, in the dimension of research, creation and/or innovation, they promote research (M = 1.2 in professional productivity), although they need more resources and strategies to integrate students into these activities. The areas to improve for the medical education programs of the universities of Cluster 2

include greater curricular integration, strengthening the outreach with the professional environment and the implementation of more inclusive and bias-free learning assessment systems.

Universities in Cluster 3 are in the initial foundation and structuring phase, focusing on establishing a solid base for their academic programs. In the dimension of teaching and training process results, they have made initial efforts in defining the graduate profile (M = 2), but they need to validate and disseminate these profiles more widely. In addition, they have basic study plans (M = 1.17) that require periodic review and adjustment to ensure consistency with the graduate profile. They have processes for selecting and hiring academics (M = 1.17), but they need more solid evaluation and updating mechanisms. They also need to develop systematic mechanisms for monitoring and evaluating academic progress and the academic staff (M = 1.33). In the dimension of strategic management and institutional resources, they must establish clearer and more effective internal management structures (M = 1.33), with greater transparency and student participation. They also need to significantly improve in terms of infrastructure and resources for learning (M = 1.17). In terms of internal quality assurance, they need to develop and implement internal quality assurance systems more systematically (M = 1). In the dimension of engagement with the environment, they must strengthen engagement policies and activities (M = 1) so that they are bidirectional and they must measure their impact. Finally, in the dimension of research, creation and/or innovation, they are in the initial stages of promoting research and need to develop more strategies to integrate research into the training process (M = 1.17 in professional productivity). The areas for improvement for universities in Cluster 3 include the effective implementation of continuous improvement actions, the development of systematic mechanisms for internal management, the evaluation of results of the training process, the strengthening of infrastructure and learning resources. Table 2 shows the results by cluster.

Table 2. Arithmetic mean by cluster of medical education programs at universities and system average.

Criteria	Cluster 1	Cluster 2	Cluster 3	Mean
1. Graduation profile	2.67	1.4	2	2.02
2. Curriculum	3	1.53	1.17	1.9
3. Academic body	2	1.47	1.33	1.6
4. Result of the training process	1.33	1.33	1	1.22
5. Internal management	2.33	1.4	1.83	1.86
6. Infrastructure	1.33	1.2	1.17	1.23
7. Self-regulation	2	1.2	1	1.4
8. Connection with the environment	23	1.13	1	1.49
9. Professional productivity	1.5	1.2	1.17	1.29

4. Discussion

The analysis of the 25 accreditation certificates, representing 96% of the medical programs accredited between 2016 and 2023, showed an average accreditation period of 5.16 years and a high variability between the medical education programs of the different universities (see Table 1). The criteria with the best evaluation were the graduate profile (M = 1.71), study plan (M = 1.63), academic staff (M = 1.5) and internal management (M = 1.63). The criteria with the worst evaluation included the results of the training process (M = 1.25), infrastructure (M = 1.21), self-regulation (M = 1.25), connection with the environment (M = 1.25) and professional productivity (M = 1.22). The observed variability underlines the need for a standardized approach to improve the quality of medical education in Chile.

Our analysis highlights the relevance of the academic component in medical programs, but also reveals administrative deficiencies within educational institutions. A clear and well-defined graduation profile is essential to guide both students and teachers in the training expectations, which allows for a precise alignment between curricular objectives and acquired competencies. This aspect also favors the development of structured study plans that ensure a logical and coherent sequence in the acquisition of knowledge and skills. The existence of a competent academic body is an essential pillar across the board in these programs. However, the areas for improvement identified cover critical aspects that require priority attention to guarantee comprehensive and high-quality medical training. In particular, the evaluation of the training process, infrastructure, self-regulation, connection with the environment, and professional productivity were pointed out as weak points that must be addressed.

The results of Cluster 1, which groups universities with 7 years of accreditation, show a direct correspondence with the literature on medical education. These institutions stand out for their solid management, clearly defined graduate profiles and coherent curricula (13). However, they face challenges in terms of innovation and management of workload (14). Curricular reforms integrating leadership and management skills, as well as global health competencies, have been partially implemented (15-17), which is reflected in the organization of their programs. The adoption of competency-based education is evident (18). Barriers such as faculty resistance, resource limitations both economic and structural, and competing curricular demands persist (14). It is crucial to align stakeholders, integrate education with clinical care and foster mutual accountability (18). In the future, curricula should focus on knowledge curation, artificial intelligence management, probabilistic reasoning and empathy (19).

The results of Cluster 2, which groups universities with 5-6 years of accreditation, reflect the implementation of longitudinal integrated curricula and extracurricular activities (20-22). These initiatives have improved student satisfaction, skills development, and community engagement. Accreditation processes ensure educational quality, although they can have positive and negative impacts (22, 23). Active student involvement in curriculum development has been beneficial for all (20). Participation in research during medical education is associated with increased scientific productivity (24). Advocacy programs in graduate medical education have improved knowledge and attitudes (24). However, these universities face challenges such as time and resource constraints and

competing curricular demands. They must continue to work to maximize the benefits of their accreditation and medical education programs.

The results of Cluster 3, which groups universities with 2-4 years of accreditation, underline the need to improve assessment mechanisms, strategic management, and quality assurance systems. The transition of accreditation processes from episodic external reviews to continuous quality improvement (CQI) approaches seeks to improve quality and educational outcomes (22, 25, 26). However, these universities face challenges in balancing accreditation requirements with long-term educational benefits (26). The impacts of accreditation should be measured by CQI-related markers (22). The evolution of accreditation standards towards more qualitative assessments aligned with international criteria, such as in Korea, could serve as a model (13). There is also a growing emphasis on social responsibility in medical education (27). These universities should develop robust mechanisms for internal management and assessment of academic progression, in addition to strengthening infrastructure and learning resources.

In summary, although they face significant challenges, the focus on continuous quality improvement and social responsibility is crucial to their long-term development and success in medical education.

This study presents three limitations. First, the reliance on accreditation data may introduce biases due to variability in processes and criteria across institutions. Furthermore, the analysis is based on a specific period (2016–2023), which may not reflect recent or future changes in accreditation policies. The lack of detailed explanations in the accreditation minutes limits the understanding of the reasons behind certain outcomes and decisions. Finally, the generalizability of the results to other international contexts may be limited due to differences in medical education systems and accreditation frameworks. Future studies should consider longitudinal approaches and mixed-method designs for a more comprehensive understanding.

5. Conclusions

- The study evaluated the accreditation process of medical programs in Chile, based on new criteria, revealing an average accreditation time of 5.16 years and high variability among the educational programs of medicine of the institutions. Strengths include a clear graduate profile, well-structured study plans and a competent academic staff. Areas for improvement include the evaluation of the training process, infrastructure, self-regulation, connection with the environment and professional productivity.l.

- The cluster analysis showed that universities in cluster 1 stand out for their consolidation and external linkage, while those in cluster 2 are in a phase of continuous improvement and those in cluster 3 need to strengthen their foundations. The observed variability highlights the need for a standardized approach to improve the quality of medical education in Chile.
- Despite progress, it is crucial to address underperforming areas to ensure continuous improvement, tailored to the needs of the health sector and aligned with international standards.

Funding: There has been no funding.

Declaration of conflict of interest: The authors declare that they have no conflict of interest.

Authors' contributions :Conceptualization: OMJY; Data curation: IRAF, ITC, DAAA, MML; Formal analysis: OMJY; Research: IRAF, ITC, DAAA, MML; Methodology: OMJY, IRAF, ITC, DAAA, MML; Project management: OMJY; Oversight: OMJY; Validation: OMJY; Writing - original draft: OMJY, IRAF, ITC, DAAA, MML; Writing - review and editing: OMJY, LABO.

References

1. San Martin de Porres University, Lima, Peru, Lizaraso Caparó F. Medical education and continuing medical education are not the same. Horiz Méd Lima. July 1, 2013 [cited July 4, 2024];13(3). Available in: https://www.horizontemedico.usmp.edu.pe/index.php/horizontemed/article/view/53
2. Gal B, Sánchez J, González-Soltero R, Learte A, Lesmes M. Medical education as a necessity for the training of future doctors. Educ Médica. 2021;22(2):111–8. https://www.elsevier.es/es-revista-educacion-medica-71-articulo-la-educacion-medica-como-necesidad-S1575181320301455
3. Rognoni Amrein G, Benet Bertran P, Castro Salomó A, Gomar Sancho C, Villalonga Vadell R, Zorrilla Riveiro J. Clinical simulation in medical education. Advantages and disadvantages of learning at the patient's side and in a simulated environment. Medicina Clínica Práctica. 2024;7(4):100459. Available at: https://linkinghub.elsevier.com/retrieve/pii/S260392492400034X
4. González-Flores P, Luna de la Luz V. The transformation of medical education in the last century: curricular and didactic innovations (part 1). Investig educ Médica. 2019 ;8(30):95–109. https://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S2007-50572019000200095
5. About - The World Federation for Medical Education. 2017 [cited 7 July 2024]. Available at: https://wfme.org/about-wfme/
6. Ahn D. Current trend of accreditation within medical education. J Educ Eval Health Prof 2020;17:30. https://doi.org/10.3352%2Fjeehp.2020.17.30
7. WFME-BME-Standards-2020.pdf. [cited 7 July 2024]. Available at: https://wfme.org/wp-content/uploads/2020/12/WFME-BME-Standards-2020.pdf
8. The recognition process of the CNA-Chile before the World Federation for Medical Education (WFME) continues. [cited July 7, 2024]. Available at: https://www.cnachile.cl/noticias/Paginas/ The CNA-Chile-recognition-process-before-the-World-Federation-for-Middle-Education-continues-to-advance C3%A9dica-(WFME).aspx
9. Cancino CV, Schmal S R. University Accreditation System in Chile: How much progress have we made? Valdivia Pedagogical Studies. 2014;40(1):41–60. http://dx.doi.org/10.4067/S0718-07052014000100003.
10. Fleet N, Pedraja-Rejas L. Institutional accreditation and university quality factors in Chile. 2014;39. https://dialnet.unirioja.es/servlet/articulo?codigo=5506868
11. National Accreditation Commission - CNA | Mineduc Help. [cited August 1, 2024]. https://www.ayudamineduc.cl/ficha/comision-nacional-de-acreditacion-cna-5
12. Molina Domingo G, Letelier Larrondo V. The quality assurance system of Chilean higher education: the organizational degradation of the educational institution. Atenea Concepc. 2020;25(522):171–88. http://dx.doi.org/10.29393/at522-102sagm20102
13. Yoo HH, Kim MK, Yoon YS, Lee KM, Lee JH, Hong SJ, et al. Changes in the accreditation standards of medical schools by the Korean Institute of Medical Education and Evaluation from 2000 to 2019. J Educ Eval Health Prof. 2020;17:2. https://doi.org/10.3352/jeehp.2020.17.2
14. Pock AR, Durning SJ, Gilliland WR, Pangaro LN. Post-Carnegie II curricular reform: a north American survey of emerging trends & challenges. BMC Med Educ. 2019;19(1):260. https://doi.org/10.1186/s12909-019-1680-1
15. Peake LK, Swanwick T. Tomorrow's Leaders, Today: leadership and management in the undergraduate curriculum. BMJ Leader 2018;2(1):10-1. https://doi.org/10.1136/leader-2018-000075
16. Jefferies R, Sheriff IHN, Matthews JH, Jagger O, Curtis S, Lees P, et al. Leadership and management in UK medical school curricula. JHOM. 2016;30(7):1081-104. https://doi.org/10.1108/jhom-03-2016-0042
17. Brouwer E, Driessen E, Mamat NH, Nadarajah VD, Somodi K, Frambach J. Educating universal professionals or global physicians? A multi-center study of international medical programs design. Medical Teacher 2020;42(2):221-7. https://doi.org/10.1080/0142159x.2019.1676885

18. Caverzagie KJ, Nousiainen MT, Ferguson PC, Ten Cate O, Ross S, Harris KA, et al. Overarching challenges to the implementation of competence-based medical education. Medical Teacher. 2017;39(6):588-93. https://doi.org/10.1080/0142159x.2017.1315075
19. Wartman SA. The Empirical Challenge of 21st-Century Medical Education. Academic Medicine. 2019;94(10):1412-5. https://doi.org/10.1097/acm.0000000000002866
20. Milles LS, Hitzblech T, Drees S, Wurl W, Arends P, Peters H. Student engagement in medical education: A mixed-method study on medical students as module co-directors in curriculum development. Medical Teacher 2019;41(10):1143-50.https://doi.org/10.1080/0142159x.2019.1623385
21. Hense H, Harst L, Küster D, Walther F, Schmitt J. Implementing longitudinal integrated curricula: Systematic review of barriers and facilitators. Medical Education 2021;55(5):558-73. https://doi.org/10.1111/medu.14401
22. Blouin D, Tekian A, Kamin C, Harris IB. The impact of accreditation on medical schools' processes. Med Educ. 2018;52(2):182-91. https://doi.org/10.1111/medu.13461
23. Choa G, Arfeen Z, Chan SCC, Rashid MA. Understanding impacts of accreditation on medical teachers and students: A systematic review and meta-ethnography. Medical Teacher 2022;44(1):63-70. https://doi.org/10.1080/0142159x.2021.1965976
24. Howell BA, Kristal RB, Whitmire LR, Gentry M, Rabin TL, Rosenbaum J. A Systematic Review of Advocacy Curricula in Graduate Medical Education. J G enI nternM ed 2019;34(11):2592-601. https://doi.org/10.1007/s11606-019-05184-3
25. Sandhu D. Postgraduate medical education – Challenges and innovative solutions. Medical Teacher 2018;40(6):607-9. https://doi.org/10.1080/0142159x.2018.1461997
26. Blouin D, Tekian A. Accreditation of Medical Education Programs: Moving From Student Outcomes to Continuous Quality Improvement Measures. Academic Medicine 2018;93(3):377-83. https://doi.org/10.1097/acm.0000000000001835
27. Blouin D. Quality improvement in medical schools: vision meets culture. Medical Education 2019;53(11):1100-10. https://doi.org/10.1111/medu.13926

© 2024 Universidad de Murcia. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 Spain (CC BY-NC-ND) license (http://creativecommons.org/licenses /by -nc-nd/4.0/).