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Artículos científicos

Seguimiento de egresados de la Licenciatura en Médico Cirujano como mecanismo de mejora continua

*Follow-up of graduates of the Licenciatura en Médico Cirujano, a
mechanism for continuous improvement*

*Acompanhamento dos formandos do Licenciatura en Médico Cirujano, um
mecanismo de aprimoramento contínuo*

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Resumen

El presente estudio aborda el seguimiento de egresados de la Licenciatura en Médico Cirujano de la Facultad de Medicina Humana, Campus II, de la Universidad Autónoma de Chiapas (UNACH), y destaca su relevancia para el fortalecimiento institucional. Se analizó la opinión de los egresados respecto a diversos aspectos, así como la evolución del Programa Institucional de Seguimiento de Egresados (PISE) de la Universidad. Esta información resulta fundamental para la evaluación curricular y la retroalimentación de los planes de estudio. Participaron 212 egresados, cuyos perfiles y condiciones laborales fueron documentados. Asimismo, se examinó el servicio social realizado por los estudiantes de

medicina en la UNACH, sugiriéndose mejoras en el plan de estudios y la incorporación de temas emergentes en el ámbito médico. La investigación concluye que el seguimiento a egresados es un mecanismo clave para valorar el impacto social del programa educativo y propiciar su mejora continua.

Palabras clave: Mecanismo de evaluación, mejora continua, seguimiento de egresados.

Abstract

This study examines the follow-up process of graduates from the Bachelor's Degree in Medicine at the Faculty of Human Medicine, Campus II, of the Autonomous University of Chiapas (UNACH), emphasizing its relevance for institutional development. It analyzes graduates' opinions on various key aspects, as well as the evolution of the University's Institutional Graduate Monitoring Program (PISE). This information is essential for curricular evaluation and for providing feedback to academic programs. The study involved 212 graduates and provides data on their professional profile and employment status. It also highlights the interest shown by students in the University's educational offerings. Furthermore, the social service component of medical students at UNACH was analyzed, suggesting improvements to the curriculum and the inclusion of emerging medical issues. The research concludes that monitoring graduates is a fundamental mechanism to assess their societal impact and to enhance the academic program.

Keywords: Evaluation mechanism, continuous improvement, follow-up of graduates.

Resumo

Este estudo trata do acompanhamento dos egressos do Bacharelado em Medicina da Faculdade de Medicina Humana, Campus II, da Universidade Autônoma de Chiapas (UNACH), destacando a relevância desse processo para o aprimoramento institucional. Foram analisadas as opiniões dos egressos sobre diversos aspectos relevantes, bem como a evolução do Programa Institucional de Acompanhamento de Egressos (PISE) da Universidade. Essas informações são essenciais para a avaliação curricular e a retroalimentação dos planos de estudo. O estudo contou com a participação de 212 egressos e apresenta dados sobre seu perfil e situação profissional. Destaca-se o interesse dos estudantes pelo programa educacional da universidade. Além disso, foi analisado o serviço social dos alunos de medicina da UNACH, sugerindo melhorias no currículo e a inclusão de temas emergentes em medicina. A pesquisa conclui que o acompanhamento de egressos é

um mecanismo essencial para avaliar seu impacto social e promover melhorias no programa educacional.

Palavras-chave: Mecanismo de avaliação, melhoria contínua, acompanhamento de graduados.

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Introduction

UNACH has set itself the challenge of ensuring the comprehensive education of its students and promoting the substantive functions of teaching, research, and outreach, in accordance with its mission, institutional vision, and Educational and Academic Model (Universidad Autónoma de Chiapas, 2020). To this end, it has established various self-assessment mechanisms for the scope of the professional training it offers, to inform continuous improvement strategies. One of these mechanisms is graduate monitoring, defined as "procedures, instruments, methodologies, information systems, responsibilities, and other specific arrangements required to carry out evaluation and continuous improvement" (Secretaría de Educación, 2024).

Graduate follow-up studies are defined as retrospective analyses conducted after the completion of the educational path (Hirose-López et al., 2023). Their results are useful because they provide information on professional performance in the workplace, the occupation of positions appropriate to the graduate's profile, the level of satisfaction with the curriculum, opinions on the services offered by the university, the values developed during their training, and the social impact of graduates, among other aspects (Aida et al., 2021; Urrutia-San Vicente et al., 2023).

In Mexico, educational policy promotes institutional self-assessment processes in Higher Education Institutions (HEIs), in accordance with the General Framework of the Higher Education Evaluation and Accreditation System (SEAES). From this perspective, the goal is to redefine evaluation as a formative experience. During this process, HEIs conduct a critical, participatory, and systematic analysis of the institutional context, as well as their expectations, achievements, impacts, and decisions aimed at ensuring excellence in their educational processes (National Council for the Coordination of Higher Education, 2023).

Since 2012, UNACH has implemented the PISE (Information and Evaluation System) as a mechanism for evaluating the professional training it offers its students (Universidad Autónoma de Chiapas, 2012). The PISE has evolved over time. Initially, the Graduate Monitoring Instrument proposed by the National Association of Universities and Higher

Education Institutions (ANUIES), considered a benchmark for the country's HEIs, was fully utilized. The initial studies required financial resources, time, and effort to generate and interpret the information. The survey was administered in printed format, and university staff recorded the data in spreadsheets. With the experience gained, UNACH designed the SISE (Information and Evaluation System), which allowed the process to be systematized and updated to optimize results and provide feedback to the educational program (Universidad Autónoma de Chiapas, 2024b).

The PISE includes two stages of implementation (Universidad Autónoma de Chiapas, 2024b). The first is a cross-sectional study of graduates, which is administered once in the second year of graduation for each cohort, without allowing for longitudinal comparisons. The second stage is the follow-up of graduates, which allows for comparisons over time both within the same generation and between different cohorts. This follow-up is conducted five years after graduation.

This article addresses the first stage, that is, the study of graduates, which constitutes a valuable source of information for HEIs in the process of curriculum evaluation and in updating their study plans and programs.

In the specific case of the Bachelor's Degree in Medicine and Surgery, since it belongs to the field of health knowledge, it requires requesting an Academic Technical Opinion (OTA) every five years (Nangullasmú & Morales, 2023, p. 3):

Requested by educational institutions when submitting new study plans and programs, by those institutions that have been evaluated and wish to extend their services to other locations, when they have a valid RVOE and are processing a change of address, or when changes to the study plan are proposed.

For the Bachelor's Degree in Medicine, the OTA application process must present the following evidence: "It shows criteria, procedures and instruments to monitor graduates regarding their insertion into the labor market within their area or in postgraduate studies (Secretaría de Salud & Dirección General de Calidad y Educación en Salud, 2020, p. 31)."

It is also important to consider that the indicators established for the accreditation of the medical educational program request evidence of the congruence of the follow-up of graduates with the mission and the professional profile, as well as verifying the professional performance of the graduates, taking as references both the curriculum and the resources and services that were used by the institution during the medical training process. In addition, it is necessary to present explicit evidence of the use of the results obtained in the follow-up of graduates for feedback on the curriculum, as well as the selection of students, the planning of

the teaching, learning processes and the support services provided to students (Consejo Mexicano para la Acreditación de la Educación Médica, 2018).

Aim

This research aims to understand the opinions of graduates of the Bachelor of Medicine and Surgery program at UNACH regarding their reasons for choosing the educational program, funding sources, the types and impact of community service, the possibility of studying and working simultaneously, as well as teaching performance and institutional services.

The aim is also to compare this information to assess its usefulness in curriculum evaluation processes, curriculum feedback, and its alignment with the indicators and cross-cutting axes established by the SEAES.

Materials and methods

A descriptive study was conducted, understood as one that "is limited to measuring the presence, characteristics, or distribution of a phenomenon in a population at a specific point in time" (Veiga et al., 2008, p. 81). Considering its spatiotemporal dimension, this was a cross-sectional study (Didou, 1991; Machaín Vega & Pineda Ozuna, 2023).

The sample consisted of 239 graduates of the Bachelor's Degree in Medicine and Surgery, corresponding to the 2013 Curriculum; of these, 119 belonged to the January-June 2022 cohort and 120 to the July-December cohort of the same year.

The sampling was non-probabilistic, for convenience. An instrument institutionally defined by the Autonomous University of Chiapas was used as a mechanism for conducting the alumni survey. A total of 212 alumni participated, representing 88.7% of the total.

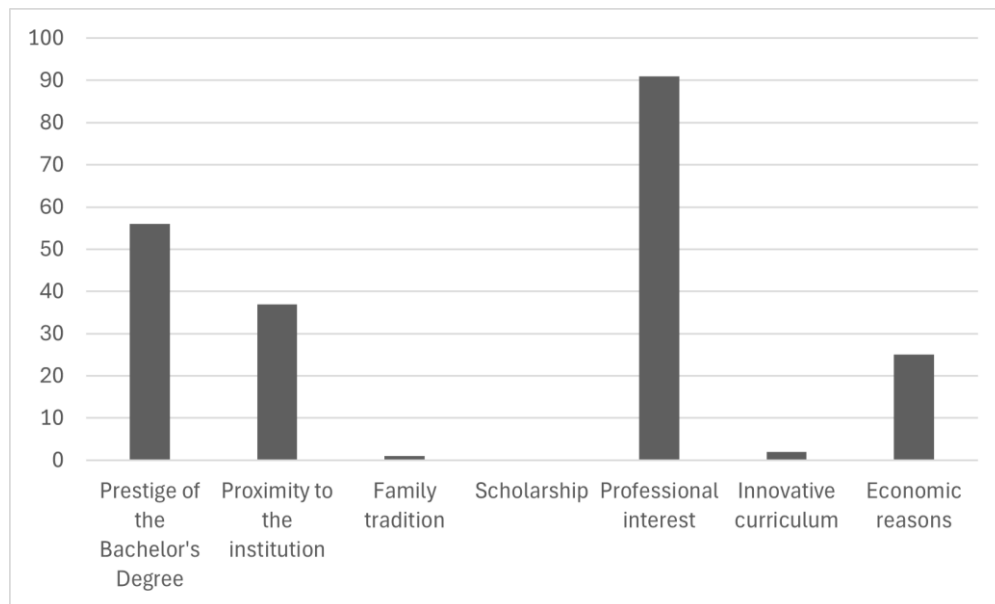
Results

As part of the evaluation process, a study of graduates from the 2013 Curriculum was conducted, in which 125 women and 87 men participated. Only one graduate identified themselves as belonging to an ethnic group.

In Figure 1, graduates expressed professional interest in the field of medicine, as well as recognition of UNACH's prestige. Although the evaluation mechanism focuses on graduates, it is pertinent to consider the regional interest in the educational program,

evidenced by the 2,943 applicants registered in 2023, of which 359 were admitted (12.19%) (Universidad Autónoma de Chiapas, 2024a).

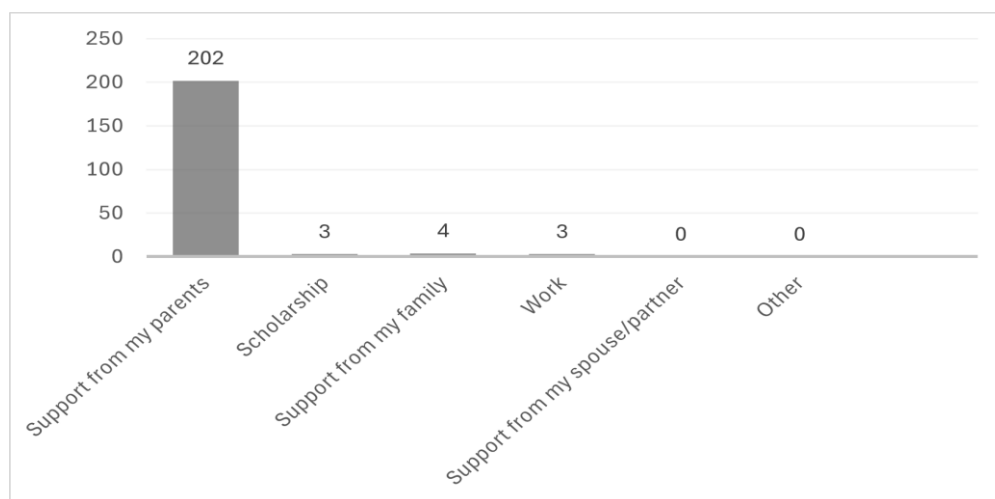
Figure 1 Reasons for choosing the educational program



Source: Information generated with support from UNACH's SISE, 2023.

Figure 2 shows that 202 graduates (95%) receive financial support from their parents, followed by support from other family members. To a lesser extent, some students received scholarships offered by federal authorities or the University, such as the Benito Juárez “Jóvenes Escribiendo el Futuro” (Youth Writing the Future) Welfare Scholarship and the institutional food scholarship.

Figure 2 sources of financing for graduates

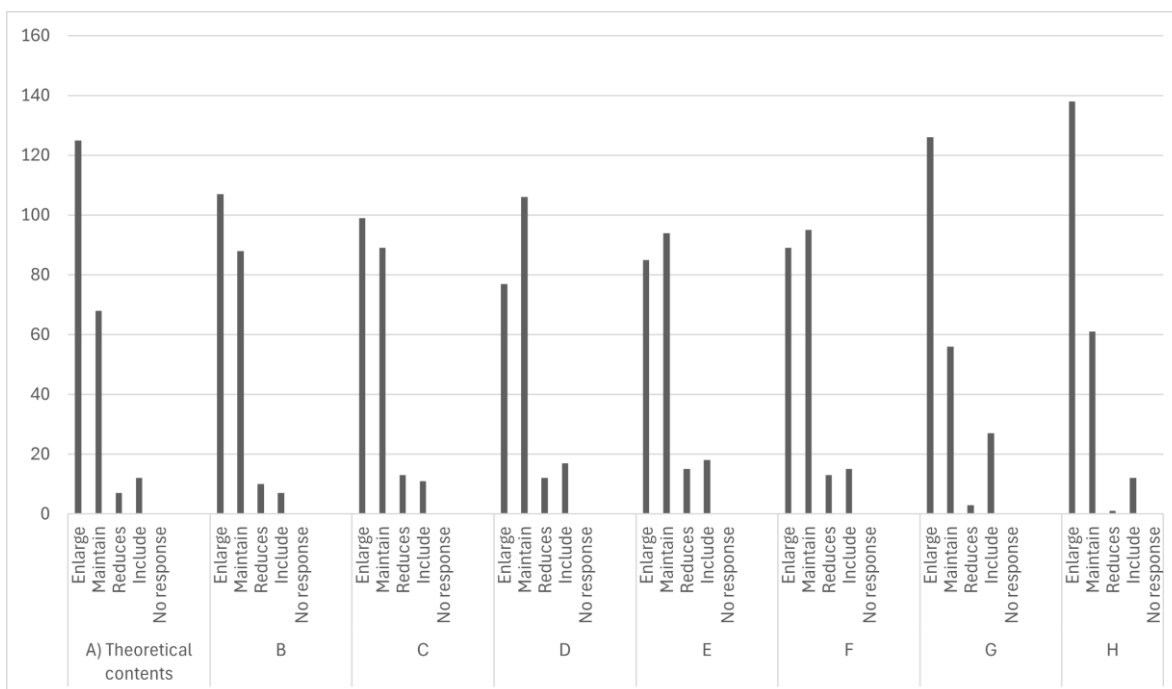


Source: Prepared by the authors, with information from UNACH's SISE, 2023.

Figures 3 and 4 present information related to graduates' opinions regarding the graduation profile, key information in the process of updating study plans and programs. The following information was obtained:

- A. 58.96% believe that theoretical content should be expanded, while 32% believe it should be maintained.
- B. 50.47% believe that methodological and technical content should be increased, and 41.51% mention the need to maintain it.
- C. 46.69% believe it is necessary to expand the attitudinal, values, and humanistic content, while 41.98% believe it should be maintained.
- D. 50% believe it is important to maintain knowledge that promotes mathematical reasoning, while 36.32% believe it should be expanded.
- E. 44.34% believe that content promoting sustainable development should be maintained, while 40.09% believe it should be expanded.
- F. 44.81% believe that content or activities on cultural diversity and multiculturalism should be maintained, while 41.98% believe they should be expanded.
- G. 59.43% believe that content promoting entrepreneurship and self-employment should be expanded, while 26.41% believe it should be maintained.
- H. 65% believe that theoretical and practical knowledge should be expanded in real-life situations through professional practice, while 28.77% believe that it should be maintained.

Figure 3 Graduation profile (first part)



Source: Prepared by the authors, with information from UNACH's SISE, 2023.

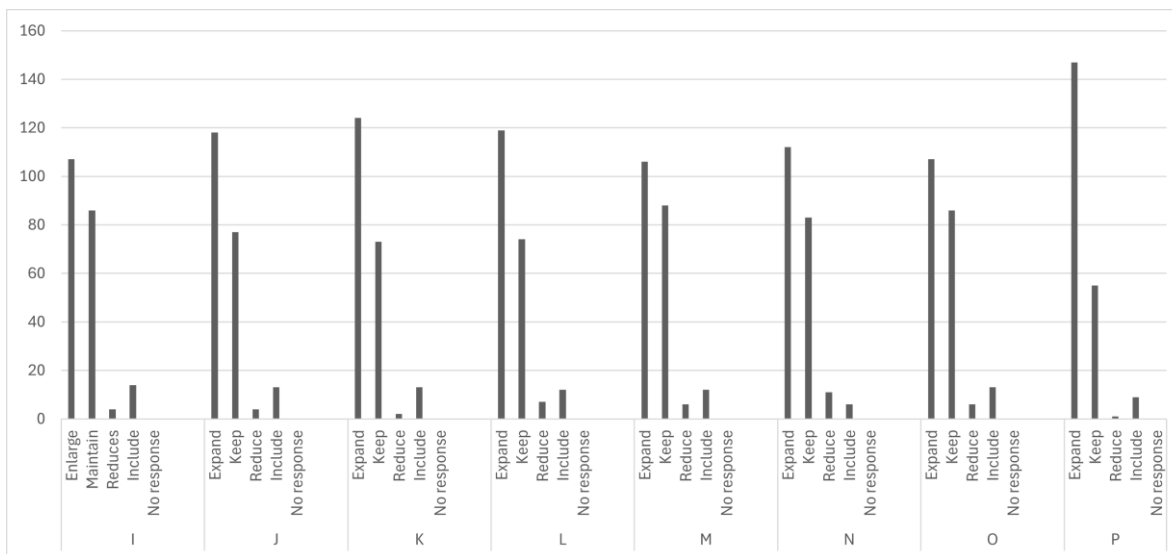
Figure four presents the second part of the information regarding the graduates' opinions regarding the graduation profile:

- I. 50.47% believe that personal development activities related to culture, sports, and the arts should be expanded. While 40.57% believe they should remain part of the curriculum.
- J. 55.66% believe that skills that allow students to manage their own learning should be expanded, while 36.32% believe they should be maintained in the graduate profile.
- K. 58.49% believe that problem-solving skills should be expanded, while 34.43% believe they should be maintained in the curriculum.
- L. 56.37% believe that the skills needed to reflect, understand, and actively and purposefully participate in society should be expanded, while 34.90% believe they should be maintained as part of the curriculum.
- M. Fifty percent believe that skills to identify and explain environmental issues in a systematic and methodological manner should be expanded, while 41.50% believe they should be maintained in the graduate profile.
- N. 52.83 % believe that skills for using information and communication technologies should be expanded, while 39.15% believe they should remain part of the curriculum.
- O. 50.47% believe that skills for establishing and maintaining cordial relationships or contact networks should be expanded, while 40.56% believe they should be

maintained.

- P. 69.33% believe that second language communication skills should be expanded, while 40.56% believe the levels required in the educational program should be maintained.

Figure 4 Graduation profile (second part)



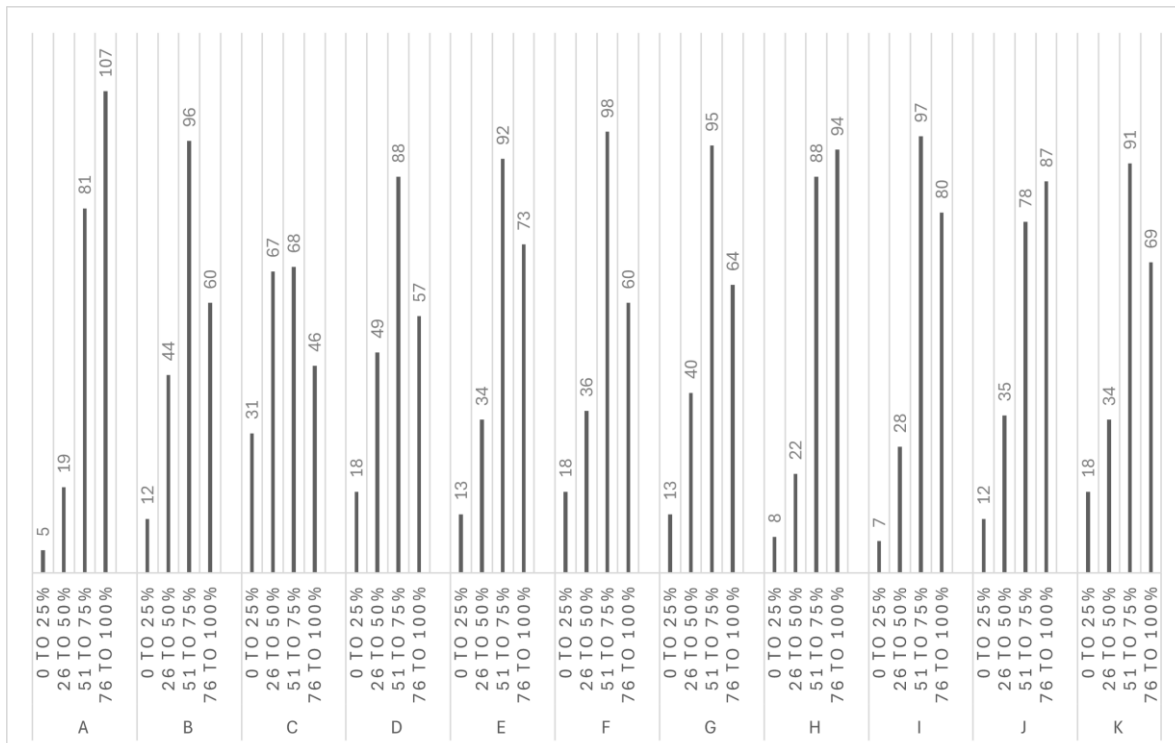
Source: Prepared by the authors, with information from UNACH's SISE, 2023.

When graduates were questioned about the teachers' performance, generally good comments were recorded (See Figure 5).

- A. 50.77% of graduates believe that between 76% and 100% of faculty members possess disciplinary proficiency in their subjects. 38.20% perceive this proficiency to be between 51% and 75% of faculty members.
- B. 45.28% of graduates believe that between 51% and 75% of teachers are able to express themselves and convey their ideas during classes. A further 28.30% perceive this proficiency to be between 76% and 100% of teachers.
- C. Thirty-two percent of graduates believe that between 51% and 75% of teachers provide support to their students outside of class. Another 31.60% perceive this level of support to be between 26% and 50% of teachers.
- D. 21.50% believe that between 51% and 75% of teachers use various theoretical and methodological approaches in the teaching-learning process. A further 26.88% perceive this characteristic to be between 76% and 100% of teachers.
- E. 43.39% of graduates believe that between 51% and 75% of teachers objectively evaluate written assignments and exams. 34.43% perceive this proficiency to be between 76% and 100% of teachers.

- F. 46.22% of graduates believe that between 51% and 75% of teachers motivated their students to acquire new knowledge. 28.30% perceive this mastery to be between 76% and 100% of teachers.
- G. Ninety-five percent of graduates believe that between 51% and 75% of teachers encourage student participation in class. Another 95% perceive this level of participation to be between 51% and 75% of teachers.
- H. 44.33% of graduates believe that between 76% and 100% of teachers show respect for students. 41.50% perceive this respect to be between 51% and 75% of teachers.
- I. 45.75% of graduates believe that between 51% and 75% of teachers attend classes scheduled during the semester. A further 37.73% perceive this level of attendance to be between 76% and 100% of teachers.
- J. 41.03% of graduates believe that between 76% and 100% of teachers attend classes punctually. 36.79% perceive this level of attendance to be between 51% and 75% of teachers.
- K. 42.92% of graduates believe that between 51% and 75% of teachers use Information and Communication Technologies (ICT) to promote their students' learning. Another 32.54% perceive this proficiency to be between 76% and 100% of teachers.

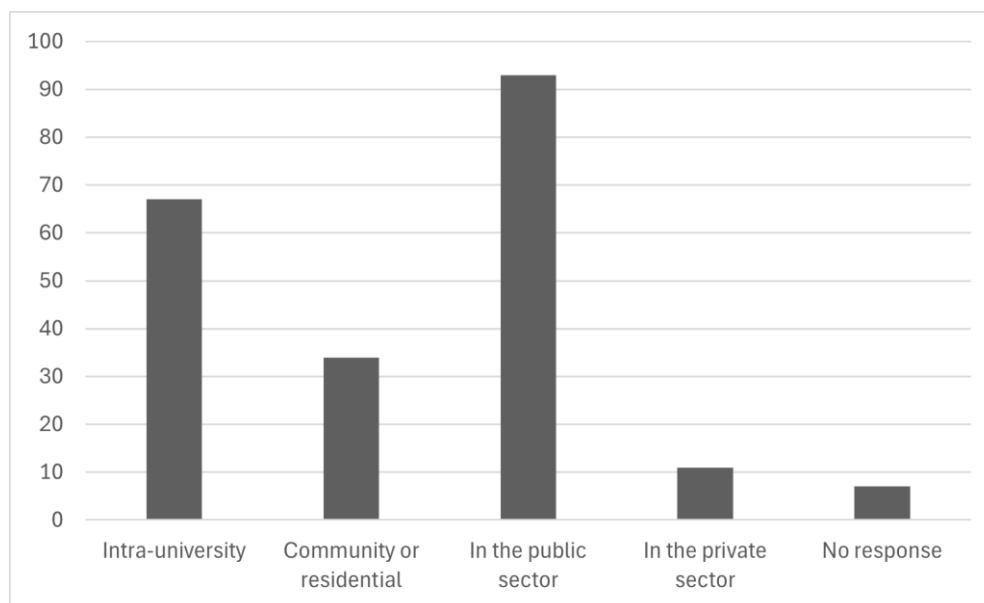
Figure 5 Teaching staff performance



Source: Prepared by the authors, with information from UNACH's SISE, 2023.

Students in the educational program must complete their community service after completing 100% of their credits, which lasts one year. The most frequently allocated program was the public sector (See Figure 6), particularly at clinical sites with which UNACH maintains agreements, such as hospital units of the SSA, IMSS, ISSSTE, and ISSTECH. Greater demand was also identified for the interuniversity program, especially during the COVID-19 pandemic, as a protection strategy for interns. The University currently offers the University Outpatient Clinic as its own site.

Figure 6 Modalities of social service

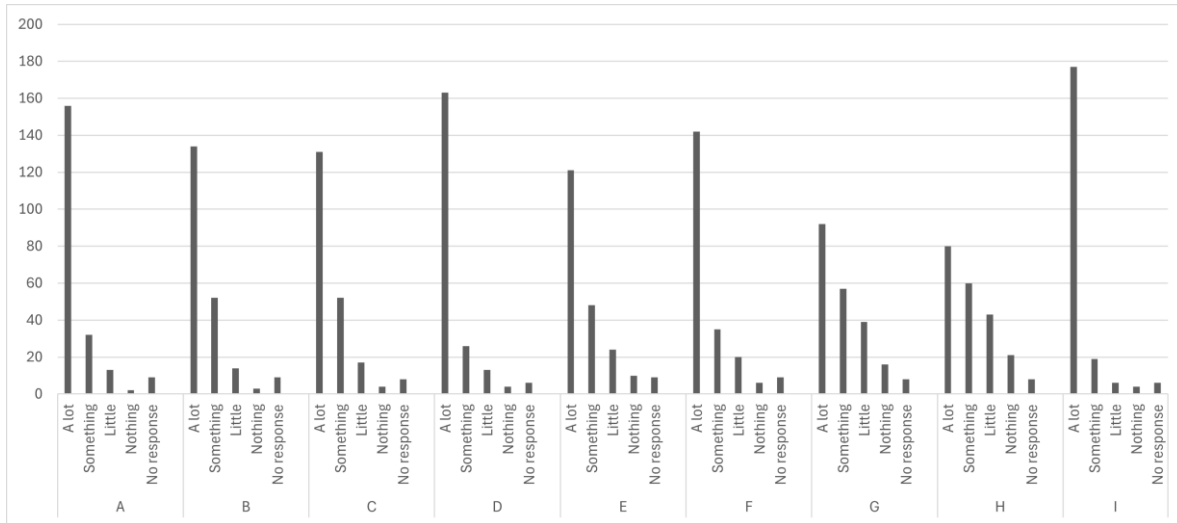


Source: Prepared by the authors with information from the SISE of UNACH, 2023.

Figure 7 shows that most graduates perceive a significant impact of social service on various aspects of their professional training, such as:

- A. Identification of real-life problems
- B. Understanding problems related to the degree
- C. Intervene in an interdisciplinary manner in the identified problems
- D. Sensitivity to social problems and needs
- E. Recognize the social commitment of a public university
- F. Working as a team
- G. Develop research skills
- H. Identify potential thesis topics
- I. Responsibility

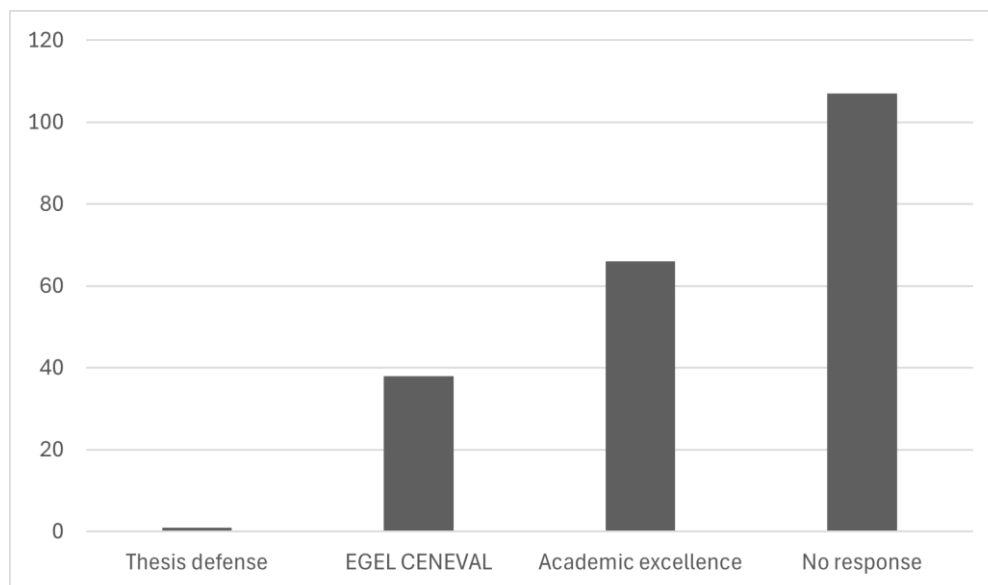
Figure 7 Impact of social service on the graduate's training



Source: Prepared by the authors, with information from UNACH's SISE, 2023.

Regarding the degree modality used, 50.47% of graduates did not respond. Of those who did, 31.13% opted for the academic excellence modality, available to those who achieved a minimum general average of 9.0 (Comprehensive Statute of the Autonomous University of Chiapas, 2022). This was followed by the evaluation option through the EGEL-CENEVAL Exam, with 17.92%, while only one graduate (0.47%) defended their thesis (See Figure 8).

Figure 8 Impact of social service on the graduate's training



Source: Prepared by the authors, with information from UNACH's SISE, 2023.

Discussion

The objective of this study was to apply the instrument institutionally designed by UNACH to generate input that contributes to curriculum evaluation and continuous improvement processes. The information obtained provided a general overview of the current status of the educational program. In the specific case of the Bachelor's Degree in Medicine and Surgery, questions related to the graduate profile and trends in the professional field were incorporated.

The results indicate that the majority of graduates do not identify as members of an ethnic group, despite the fact that Chiapas registered a total of 1,459,648 indigenous language speakers in 2020 (INEGI, 2020). SEAES guidelines require information with a focus on social and gender equity, including self-identification by sex and self-identification as indigenous, Afro-Mexican, migrant, or with another cultural identity, aspects that cannot yet be identified using the instrument applied.

The survey results show that several graduates have not yet earned their professional degrees. This situation is due to the design of the 2013 Curriculum and the timing of the instrument's administration, corresponding to the two years following the completion of 100% of the credits. As a result, many of the graduates were still in the process of community service. Among those who have managed to graduate, most did so through academic merit or the EGEL-CENEVAL exam.

Regarding the sources of funding used during their university studies, most graduates relied on financial support from their parents. This situation is related to the difficulty of finding employment due to the program's workload, which includes classroom, clinical, and community activities, in addition to assigned extracurricular tasks. It is recommended that, in the process of updating the curriculum, a balance be promoted between academic training and the student's overall development.

Graduates expressed interest in the medical field even before entering the program and recognize the prestige of the School of Human Medicine, Campus II. According to the SEAES (Spanish Society of Higher Education), graduate follow-up is a key mechanism for connecting the needs of the context with the professional training offered. It also allows for assessing compliance with the graduate profile, learning achievements, and the social impact of the program (National Council for the Coordination of Higher Education, 2023).

Most graduates completed their community service in public institutions in the health sector, through agreements established with the SSA, IMSS, ISSSTE, ISSTECH, among others. This training space allowed for the addressing of SEAES's cross-cutting criteria, such as social responsibility, equity, inclusion, social innovation, and interculturality (National Council for the Coordination of Higher Education, 2023).

In addition, the various units that host social workers, both in the clinical and community fields, allow for Primary Health Care (PHC) activities, strengthening the following processes in the intern (Secretaría de Salud & Instituto de Salud para el Bienestar, 2023):

- 1) Continuity and coordination of care
- 2) Approach centered on the person, family and communities
- 3) Population health needs
- 4) Population health management
- 5) Community participation
- 6) Territorialization
- 7) Proactive search for the population
- 8) Effective access and accessibility
- 9) Availability
- 10) Dignified treatment
- 11) Comprehensiveness
- 12) Health promotion and disease detection
- 13) Risk management, etc. (p.34).

Regarding continuing education, graduates expressed greater interest in disciplinary content. It is important to consider that there are emerging topics in the medical field not included in the 2013 Curriculum, which the Ministry of Health and the General Directorate of Quality and Health Education have recommended incorporating, such as noninvasive procedures, home care, telemedicine, nanotechnology, genomics, robotics, among others (Ministry of Health & General Directorate of Quality and Health Education, 2020, p. 8).

The majority of graduates expressed disagreement with the possibility of studying and working simultaneously during their training. This is related to the program's five-year duration and 5,000 total hours, including the undergraduate medical internship (Ministry of Health & General Directorate of Quality and Health Education, 2020, p. 19). Academic activities, clinical practices, and extracurricular activities take up approximately 40 hours per week, which limit employment opportunities during training.

The alumni survey is a valuable mechanism for generating useful information for the Curriculum Development Committee in its decision-making process for updating the curriculum and curricula. This work also allows for reflection on the structure of the questionnaire, which must be aligned with the needs of the educational program, the SEAES guidelines, the COMAEM regulations, and the requirements for applying for the OTA. In this sense, the alumni survey and follow-up are recognized as one of the most relevant mechanisms for self-assessing the social impact of educational programs.

Conclusions

The Medical and Surgical program at UNACH Campus II has a fifty-year history, during which ninety-one generations have graduated. The most recent curriculum was approved in 2013, and as part of its curricular update process in 2023, various evaluation and continuous improvement mechanisms were implemented. Among these, the results of the graduate survey for the January–June and July–December 2022 cohorts were considered essential input.

The findings obtained allowed for the integration of the *Institutional Report on Graduate Studies*, strengthening the curriculum evaluation process, and supporting the graduate monitoring section. The latter contributed to compliance with the essential criteria established by the Interinstitutional Commission for the Training of Human Resources for Health (CIFRHS) within the framework of the OTA management, which was approved in August 2023. Likewise, this evidence was incorporated into the educational program's accreditation process before the Mexican Council for the Accreditation of Medical Education (COMAEM).

The evaluation and monitoring of graduates constitutes an evaluation mechanism that has been continuously implemented at UNACH. The current challenge is to generate, through this mechanism, information that allows for assessing the institutional adoption of the cross-cutting criteria established by the Higher Education Evaluation and Accreditation System (SEAES).

Future lines of research

This document presents information derived from the alumni study; therefore, it is essential to follow up with the participating generational cohorts, through the appropriate institutional mechanism, five years after their graduation.

Likewise, it is recommended to develop academic products that document the experience of integration between the graduate studies, the curriculum evaluation processes, and the OTA application to the CIFRHS. Finally, it is pertinent to assess this study as an evaluation mechanism in accordance with the SEAES guidelines.

Acknowledgments

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