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*Artículos científicos*

## **Evaluación de la licenciatura en Medicina del CUALTOS desde el modelo GRANA**

*Evaluation of the CUALTOS Degree in Medicine from the GRANA Model*

*Avaliação da licenciatura CUALTOS em Medicina pelo modelo GRANA*

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## Resumen

El artículo se sustenta en una evaluación académico-administrativa de la licenciatura en Medicina del Centro Universitario de Los Altos (CUALTOS), de la Universidad de Guadalajara, localizado en la ciudad de Tepatitlán de Morelos, Jalisco, México. El modelo utilizado se denomina GRANA, y su metodología se basa en un sistema decimal de evaluación cualitativa y cuantitativa compuesto por 10 rubros o dimensiones, 100 ítems y 1000 indicadores cualitativos. Uno de los 10 rubros se denomina *Impacto social de la formación*, es decir, la pertinencia y la calidad con la que se forman los estudiantes de esta según la región circunvecina. En tres momentos se realizó la indagación: evaluación interna, evaluación externa y constatación de evidencias. Como medio para la integración de los procesos se empleó la plataforma informática Sievas, la cual sirve como facilitadora de todo el proceso y permite la interacción entre evaluadores. Las herramientas que esta tiene para agilizar la evaluación son las siguientes: significados, contextos, referencias bibliográficas, glosario, escala decimal para calificar niveles de calidad, campos para integrar las fortalezas, las debilidades, el plan de mejora permanente y formatos para integrar las estadísticas en retrospectiva y prospectiva. El sistema de evaluación facilita la disponibilidad informática para incorporar documentos probatorios y sitios web que ayudan al proceso de evaluación. También cuenta con gráficos que se construyen automáticamente conforme se incorpora la evaluación a la plataforma. La evaluación interna fue realizada por un comité del CUALTOS compuesto por tres profesores, dos directivos y un estudiante; además se vincularon a este proceso egresados y empleadores asociados a la licenciatura. Los evaluadores externos participantes fueron de Venezuela, Brasil y España, con especialidad en la disciplina evaluada y con experiencia en procesos de evaluación en el ámbito de la disciplina.

**Palabras claves:** calidad, evaluación externa, evaluación interna, GRANA, Sievas.

## Abstract

The article is based on an academic-administrative evaluation of the Bachelor of Medicine of the Los Altos University Center (CUALTOS) of the University of Guadalajara, located in the city of Tepatlán de Morelos, Jalisco, Mexico. The model used is called GRANA and its methodology is based on a decimal qualitative and quantitative evaluation system composed of 10 items or dimensions, 100 items and 1000 qualitative indicators. One of the 10 items is called: "Social impact of training", that is, the relevance and quality with which the students of this career associated with the surrounding region are trained. There are three moments in which the evaluation was carried out: The internal evaluation, the external evaluation and the verification of evidence. The means used for the integration of the processes was with the use of the SIEVAS computer platform, which means: online evaluation and monitoring system as a facilitator of the entire process of its stages and allows interaction between evaluators. The tools it has to facilitate the evaluation are: meanings, contexts, bibliographic references, glossary, decimal scale to qualify quality levels, fields to integrate strengths, weaknesses, the permanent improvement plan and formats to integrate statistics in retrospect and prospective. The evaluation system facilitates the computer availability to incorporate supporting documents and websites that help the evaluation process. It also has charts that are built automatically as the evaluation is incorporated into the platform. The internal evaluation was carried out by a CUALTOS committee made up of: three professors, two managers and a student, linking graduates and employers associated with the degree to this process. The participating external evaluators were from: Venezuela, Brazil and Spain with a specialty in the evaluated discipline and with experience in evaluation processes in the field of the discipline.

**Keywords:** quality, external evaluation, internal evaluation, GRANA, SIEVAS.



## Resumo

O artigo se baseia na avaliação acadêmico-administrativa do curso de graduação em Medicina do Centro Universitário de Los Altos (CUALTOS), da Universidade de Guadalajara, localizada na cidade de Tepatlán de Morelos, Jalisco, México. O modelo utilizado é denominado GRANA, e sua metodologia é baseada em um sistema decimal de avaliação qualitativa e quantitativa composto por 10 itens ou dimensões, 100 itens e 1000 indicadores qualitativos. Um dos 10 itens é denominado Impacto social do treinamento, ou seja, a relevância e a qualidade com que os alunos são treinados de acordo com a região do entorno. Em três momentos a investigação foi realizada: avaliação interna, avaliação externa e verificação de evidências. A plataforma informática Sievas foi utilizada como meio de integração dos processos, que funciona como um facilitador de todo o processo e permite a interação entre os avaliadores. As ferramentas de que dispõe para agilizar a avaliação são as seguintes: significados, contextos, referências bibliográficas, glossário, escala decimal para qualificar níveis de qualidade, campos para integrar pontos fortes, pontos fracos, plano de melhoria permanente e formatos para integrar estatísticas em retrospectiva e em perspectiva. O sistema de avaliação facilita a disponibilidade de computador para incorporar documentos de suporte e sites que auxiliam no processo de avaliação. Também possui gráficos que são construídos automaticamente conforme a avaliação é incorporada à plataforma. A avaliação interna foi realizada por uma comissão do Qualtos composta por três professores, dois diretores e um aluno; Além disso, graduados e empregadores vinculados à graduação estiveram vinculados a esse processo. Os avaliadores externos participantes eram da Venezuela, Brasil e Espanha, com especialização na disciplina avaliada e com experiência em processos de avaliação na área da disciplina.

**Palavras-chave:** qualidade, avaliação externa, avaliação interna, GRANA, Sievas.

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## Introduction

The present work describes the external and internal processes of the evaluation of the degree in Medicine of the University Center of Los Altos (CUALTOS<sup>1</sup>) from the University of Guadalajara (U de G). The research focuses mainly on how the institutional evaluation of the degree for its international accreditation was carried out and what was the applied methodology. As will be seen, the career has the positive evaluation of the most important research agencies in Mexico, so the theoretical corpus of medicine is not discussed, since the theoretical choices that any house of studies linked to that science are respected select according to your criteria.

In addition to this, it should be pointed out that any evaluation process will always be incomplete, since not all the variables involved can be assessed, hence there is always some factor overlooked, even for the best examiners. For this reason, the categories evaluated in this work (such as the social impact of the discipline), although they have been the object of study of various inquiries, surely some aspect may be left out, since there is no single criterion to define the impact construct Social. In fact, if a single variable were estimated for this purpose, there would be the risk of being reductionist when comparing any evaluated process. Furthermore, it should not be forgotten that the social impact in one society is different from that of another.

The University of Guadalajara is an educational institution recognized within the thirty best universities in Latin America, and it is the second most important house of studies in Mexico. Specifically, the educational program of Bachelor of Medicine or Surgeon and Midwife of the university network is considered within the top ten for its quality in education at the national level, while at the local level it is in the first place of medical schools for their prestige, program and quality (Sepúlveda, 2015). The study plan is relevant compared to other national and international programs both in the name of the degree, the years of study, the curriculum map and the graduate profile.

The academic program has a significant presence in the state of Jalisco because it is taught in a thematic center and in four regional centers, which facilitates the entry of students not only of regional origin, but also national. The academic program has been recognized by

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<sup>1</sup> <http://www.cualtos.udg.mx/>.

the Secretariat of Public Education (SEP) of Mexico as a quality program (SEP, 2020). The graduate can obtain the recognition of their studies by the SEP of Mexico by taking the certification exam of the General Examination for the Exit of the Degree (EGEL) of the National Center of Evaluation for Higher Education A.C. (Ceneval<sup>2</sup>), in accordance with the legal framework of Mexico. The trend of admission of U of G supporters is slightly increasing from 2009 to 2014, and occupies second place in average and number of admitted (National Examination for Aspirants to Medical Residences [Enarm], 2017) —if we consider more than 1000 supporters—, which places the U of G in a very adequate position at the national level. The program has defined an educational project coherent with the institutional project, in which the objectives, the basic guidelines of the curriculum, the development goals, the planning and evaluation policies and strategies, and the quality assurance system are indicated. All the aforementioned information is integrated into the Evaluation and Monitoring System (Sievas<sup>3</sup>) and it was corroborated during the visits and interviews made to CUALTOS by the external evaluators. The participation of graduates in the improvement of training were the steps applied for this assessment: it began with the internal evaluation, then with the external evaluation of peer experts in the discipline and finally the results were delivered. We worked with the GRANA methodology<sup>4</sup> through the Sievas computer platform. The external evaluators were from three countries and observers from Canada and Colombia participated, as well as a general coordinator of the process.

## Methodology

The evaluation model used (GRANA) is based on Unesco's philosophical and conceptual vision for higher education and the Bologna agreements, as well as on more than a thousand international referents of higher education (this set of criteria is called evaluative referents). In order to carry out this work, it was necessary to analyze the processes and results obtained in the evaluation of the undergraduate degree (that is, analysis of the internal evaluation, analysis of the external evaluation, verification of evidential documentation and behavioral statistics in a five-year retrospective). The internal evaluation was carried out by an internal

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<sup>2</sup> [https://www.respuestaceneval.com/ceneval\\_egel/?gclid=CO61m7uPwc0CFZeEaQod8LYI5A#allCeneval](https://www.respuestaceneval.com/ceneval_egel/?gclid=CO61m7uPwc0CFZeEaQod8LYI5A#allCeneval)

<sup>3</sup> <http://certification-grana.org/sievas>

<sup>4</sup> <https://www.certification-grana.org/>

evaluation committee (CEI) made up of professors, managers, students, graduates and employers associated with the degree. The external evaluation committee was made up of academics from universities in Spain, Brazil and Venezuela. The Sievas computer platform was used as a means to facilitate the evaluation phases with the following roles:

**System administrator:** Has access to the full functionality of the system, in addition to being in charge of entering the information corresponding to the parameterization, the creation of users, programs and institutions to be evaluated.

**Internal evaluator:** He is the one who must give an account of the quality of the evaluated program or institution; For this, it responds to each of the items, identifying the strengths, weaknesses, improvement actions, supporting documents for the information entered, and presents the statistical information in the formats provided.

**External evaluator:** Evaluation made by external peers taking as a reference the results obtained in the internal evaluation.

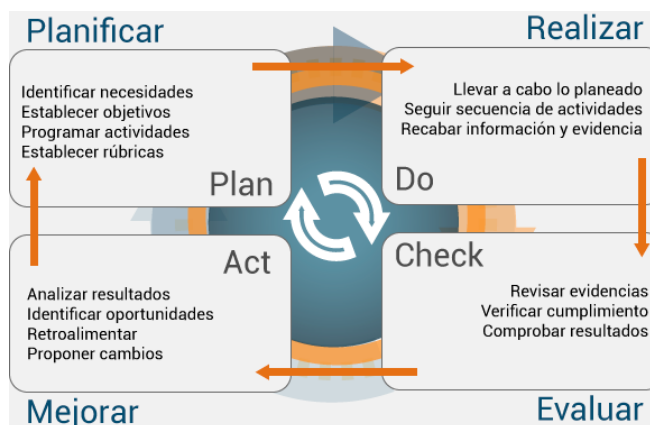
**Expert:** It consists of keeping a record of the experience of experts in the different areas of knowledge to have a reference according to the topics of interest, accessing a forum that is ranked by areas and nuclei of knowledge.

**Consultant:** It is the user who identifies the information entered into the Sievas system, although only as a query.

**Decimal quality system:** To facilitate the GRANA evaluation processes, a decimal metric system was created to measure quality; This consists of 10 dimension items, 100 items (10 items per 1 dimension item), 1000 second and third generation indicators (10 indicators per item). The quality scale is decimal 0-10 (where 0 is zero quality and 10 is excellent). There are 10 processes that are carried out and 100 procedures throughout the evaluation. The average duration of the entire process is 100 days. There are 10 tables or formats for the statistical elaboration of the evaluation.

**Circular and cyclical evaluation model:** GRANA's evaluation model is permanently updated under a circular and cyclical scheme, as shown in figure 1. This model is applied in turn in the PMP permanent improvement processes of the evaluated entities of educational institutions and academic programs.

**Figura 1.** Modelo de evaluación GRANA, cíclico y circular



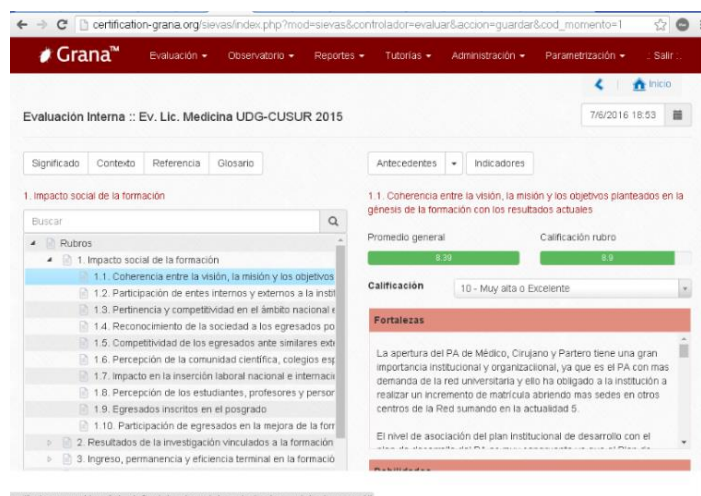
Fuente: Elaboración propia

Internal evaluation (EI): The EI begins with the integration and systematization of the information referred to the unit under evaluation. The internal evaluation committee (CEI) will integrate the EI information into Sievas, through the observations, opinions and evaluations generated throughout the process. This evaluation consists of the CEI building punctually and objectively the:

- Integration of the SWOT of the academic program (PA).
- Integration of PA Statistical Information.
- Construction of the permanent improvement plan (PMP) of the PA.
- Integration of SWOT evidence documents and PA statistical data. All this information is integrated into Sievas, as shown in figure 2.



**Figura 2.** Vista de la plataforma SIEVAS



Fuente: Elaboración propia

Selection of external evaluators (EE): Required profiles of outstanding academics in the discipline to be evaluated, with knowledge and experience in academic evaluation, are analyzed. The EEs will be from different continents.

External evaluation online: Through the Sievas platform, external evaluation processes are carried out; it reflects the coincidences and differences of the analysis, prior to the on-site visit to the evaluated institution.

Visit of the external evaluation committee: It is carried out to verify the information and carry out interviews with the main people involved in the evaluation; A three-day visit is made to the facilities of the evaluated institution.

Delivery of predictions to the institution: At the end of the visit, a pre-report is delivered to the evaluated institution. Report-opinion of the evaluation results and permanent improvement plan. After the visit to the institution and within a period of no more than 30 days, the external evaluators deliver the report-opinion on the evaluation process. This report describes the recommendations for the permanent improvement of the evaluated PA.

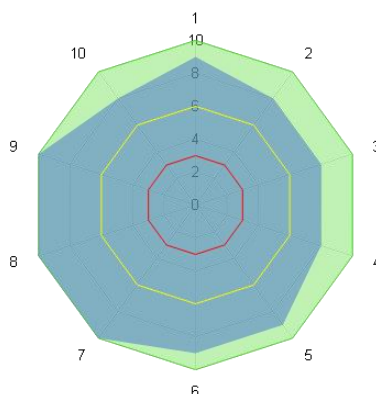
Meta-evaluation of the process: The process is also evaluated by the institution evaluated for the improvement of the GRANA Sievas model and system.

GRANA and Sievas evaluation criteria: The measurement scale is qualitative and quantitative, and refers to levels of capacity, competitiveness, relevance, coverage and innovation of the degree in Medicine; It establishes the quality values associated with the

value judgment given to each item and the quality result obtained once the evaluation is completed. The defined scale is as follows: 0 = null, 1 = very scarce, 2 = scarce, 3 = moderately scarce, 4 = little incipient, 5 = moderately incipient, 6 = incipient, 7 = incipiently high, 8 = moderately high, 9 = high, 10 = very high or excellent.

Dynamic graphs: Sievas allows to visualize online and in real time the level of quality with which the internal and external evaluations of the degree are being developed, as shown in the graph in figure 3. The central red circle represents the level low in quality, the central yellow circle the medium quality level and the last green circle the high quality level. The blue section represents the strengths of the degree, while the area not covered in blue are opportunities to attend.

**Figura 3.** La calidad en gráfico del modelo GRANA



Fuente: Elaboración propia

## Results

The items of the social impact category of the GRANA model applied were the following:

1. Coherence between the vision, the mission and the objectives set in the genesis of the training with the current results;
2. Participation of entities internal and external to the institution in planning;
3. Relevance and competitiveness at the national and international level;
4. Recognition of the society to the graduates for their performance;
5. Competitiveness of graduates before external peers;
6. Perception of the scientific community, specialized schools, graduates and employers;
7. Impact on national and international labor insertion;
8. Perception of students, teachers and administrative staff;
9. Graduates enrolled in graduate

school; 10. Participation of graduates in improving training. The results of the internal evaluation were:

1. Coherence between the vision and the objectives set in the genesis of the training with the results of the degree in Medicine

**Strengths:** The institution has a clearly formulated mission and vision that correspond to its nature, which is in the public domain. The mission is expressed in the objectives, the academic and administrative processes and the achievements of each program. It explains the institutional commitment to quality and universal references in higher education. In addition, it reflects the integral formation of the students as conscious, professionally competent, morally upright people and projected towards continuous human, professional and social improvement, under the auspices of an optimal scientific and technological preparation. The link and relationship between the 2014-2030 Institutional Development Plan (PDI 2014-2030) and the CUALTOS Development Plan and the Medicine degree is evident.

**Weaknesses:** According to the interviews, during the visit to CUALTOS, internal evaluators reported that among the sectors of society that have participated in the development of the development plan are teachers, graduates, employers, professional and administrative associations, students and users; however, they argue that until now the participation of sectors of society in the preparation of the PDP has not been so active. In the interviews, they were asked which sectors did not participate and they stated that they considered that a greater number of people from the social sector should participate.

**Improvement plan:** It coincides with the internal evaluators, since the U of G has clearly defined in the Institutional Development Plan 2014-2030 and in the CUALTOS Development Plan 2014-2030 the objectives and strategies with indicators to direct the efforts and resources in order to account for the progress or setbacks in meeting the projected goals, especially those related to the thematic axis of teaching and learning.

On the other hand, a greater participation of the different sectors of society linked to the health area is recommended, as suggested by internal evaluators, since the degree is the one in greatest demand at CUALTOS.

**Rating:** 10 = very high or excellent.

## 2. Participation of entities internal and external to the institution in planning

**Strengths:** A broad participation of the university community and society was evidenced in the planning of the improvement of the degree and it was carried out through an open methodology, a situation that was corroborated during the visits to CUALTOS; In this sense, the internal evaluation committee referred that the institution contemplates in its development plan the training of its personnel in order to achieve pertinent management to contribute to the fulfillment of the institutional objectives and goals and to strengthen the design of the management plan of the Educational programs.

**Weaknesses:** During the interviews, the internal evaluation committee raised the lack of internationalization of the graduates.

**Improvement plan:** The internal appraisal committee suggested a review of the undergraduate curricular design every 10 years (observation in which we agree), since it should be considered that the improvement plan should be aimed fundamentally at increasing the participation of external experts in the planning and evaluation of the degree

**Score:** 9 = high.

## 3. Relevance and competitiveness at the national and international level

**Strengths:** The degree has a strong presence in the Los Altos de Jalisco region, which offers the possibility of entry for students not only of regional origin, but also national. The degree has been recognized by the Secretariat of Public Education (SEP) of Mexico as a quality program. The graduate can obtain recognition of their studies by the SEP by taking the EGEL-Ceneval certification exam, in accordance with the legal framework of Mexico. This degree is among the nine universities that belong to the register of High Academic Performance Degree Programs-EGEL.

The publication of university rankings has become an important reference in the social assessment of the performance of higher education institutions. The National Examination for Applicants to Medical Residencies (ENARM) is an instrument for measuring knowledge of general medicine. The trend of admission of supporters of this degree was found slightly increasing between the years 2009-2014, and ranks second in terms of average and number of admitted in ENARM 2014 in the environment of the U of G (if we consider more than 1000 supporters), which places it in a very adequate position at the

national level. It is important to note that both in 2014 and 2015 the highest average at the national level was obtained by a bachelor's degree graduate.

The bachelor's degree is academically relevant and responds to local, regional, national and international needs. The program has defined an educational project coherent with the institutional project, in which the objectives, the basic guidelines of the curriculum, the development goals, the planning and evaluation policies and strategies, and the quality assurance system are indicated. The program is in the public domain. All the aforementioned information was corroborated during the visits and interviews carried out.

On the other hand, it is important to note that Mexico has ratified and adhered to the so-called Hague Apostille, which is an agreement for the Elimination of the Requirement of "Legalization for Foreign Public Documents or Hague Convention". This recognizes the legal effectiveness of a public document issued in another signatory country.

The Apostille Procedure consists of placing an apostille on the public document itself that will internationally certify the authenticity of the signature of the issued public documents, thereby empowering a professional to practice in another signatory country.

**Weaknesses:** The internal evaluators referred to the little growth in international mobility of students and academics, and the need for expansion of academic research bodies in the international arena. However, during the visit and the interviews with students and teachers it was learned that this year more than 120 foreign students carried out academic activity in the Medicine Network degree in Medicine, and a smaller number of students from the University of G in which the CUALTOS is included.

**Improvement Plan:** Weaknesses can be overcome through the objectives set in the internationalization of the Development Plan 2014-2030, which considers the consolidation of internationalization in the substantive functions of the U of G. In addition, it is recommended to maintain and increase international mobility of students and academics, as stated in the development plan.

**Rating:** 10 = very high or excellent.

4. Recognition of the society to the graduates for their performance

**Strengths:** The CUALTOS development plan includes a strategic plan to use the information obtained through the graduate follow-up programs to generate mechanisms for

academic feedback and link with the labor market to consolidate the social recognition of the graduate from the national dimensions and international.

At the national level, the bachelor's degree is evaluated based on the results that students and graduates have in the General Exit Exam and in the National Exam of Medical Residencies, which have been favorable. Based on them, the degree is located within the first fifteen medical schools in the country (ranking reported in El Universal, a national media).

Graduates and undergraduates have achieved recognition in local health institutions due to their good performance (no evidence is presented). At an international level, the students have achieved honorable mentions for the quality of their performance in Spain.

**Weaknesses:** No systematic studies have been started on the recognition or social impact that graduates have at the local, national and international levels.

Improvement plan: Begin the systematic studies planned about the graduate. Grade: 8 = moderately high.

#### 5. Competitiveness of graduates before external peers

**Strengths:** The CUALTOS development plan includes a strategic plan to consolidate the competitiveness of the graduate from the national and international dimensions.

Some students and graduates have received recognition in the hospitals where they attend clinical fields, and some students who have performed clinical hospital practice in other countries have received honorable mention.

At the local level, teaching heads and assigned physicians prefer students and graduates of the Los Altos University Center because they have shown to have better skills and abilities than students and graduates of other medical schools.

In the national medical residency exam, there is a 28.3% income percentage, with high scores.

Graduates of the university center have stood out for having leadership and even occupy positions as heads of residents, coordinators or heads of teaching.

**Weaknesses:** There is no instrument that allows studies and analysis on the competitiveness of graduates.

**Improvement plan:** Carry out systematic studies to monitor graduates, including the aspect of competitiveness. Establish mechanisms (updating courses, conferences, diplomas) for permanent links with graduates.

**Score:** 8 = moderately high.

6. Perception of the scientific community, specialized schools, graduates and employers

**Strengths:** Graduates of the U of G university network program are recognized for the quality of the training they receive and stand out for their performance in the discipline, a condition that was evidenced in the perception of employers, which was corroborated by graduates during visits and interviews. In addition, in the ENARM, graduates of the U of G ranked second in average and number of admitted in 2014 (if we consider more than 1000 applicants), which represents a national recognition. It is important to note that an interesting link is maintained between the graduates and the academic institution, which is reflected in its legal framework.

**Weaknesses:** We agree with those referred by internal evaluators, that is, to follow up with graduates to know their achievements. In addition, establish national agreements that facilitate the insertion of a certain number of graduates into the labor field.

**Improvement plan:** We consider that the strategies of internal evaluators are adequate to overcome weaknesses, among which are having a more systematic monitoring program for graduates, maintaining more direct contact with employers and professional associations.

**Score:** 9 = high.

7. Impact on national and international labor insertion

**Strengths:** The insertion to the labor field on the part of the graduates of the degree is high. In addition, a significant percentage of graduates of this degree manage to access a medical specialty, which further opens up the opportunity for them to be inserted in public or private work spaces. Another field of work to which the graduate has access is the academic one (teaching and research).

**Weaknesses:** The weaknesses referred to by the internal evaluation are shared, that is, there is no weighty strategic plan with actions that strengthen the labor insertion of graduates of the bachelor's degree in the medicine network. Additionally, there is a lack of systematic monitoring of graduates, which would allow identifying the level of insertion into the local, national and international labor field. In other words, there is a lack of a computerized feedback system with graduates.

**Improvement plan:** It agrees with the proposals of the internal evaluation, ratified during the interviews, on the need to develop a concrete, ponderable strategic plan with actions to

strengthen the labor insertion of graduates of the medicine network; in addition, identify strategies and take actions to strengthen job placement and the monitoring of graduates at the local, national and international levels.

**Score:** 9 = high.

#### 8. Perception of students, teachers and administrative staff

**Strengths:** In general, the academic community of the university center has a positive perception of the quality and relevance of the study plan, although it is the students who show the greatest satisfaction with the career in which they have been trained; In particular, they recognize the opportunities that are obtained by attending professional internships and the prestige of the U de G.

**Weaknesses:** There is no evidence from the survey of the perception of the majority of students, teachers, managers and administrators.

**Improvement plan:** Carry out systematic surveys with a large number of participants about the perception that students, teachers, managers and administrators have of the degree in dimensions at the local, national and international level.

**Score:** 8 = moderately high.

#### 9. Graduates enrolled in postgraduate

**Strengths:** The National Examination of Medical Residences in 2013 and 2014 approved, respectively, about 30% of the applicants, with the highest approval being 73% at the Universidad Panamericana, and the average national income from 27% to 30 % of students per school.

Graduates of postgraduate degrees have stood out for their leadership and competitiveness, which has led them to occupy positions of chief residents and managerial positions in hospitals and health institutions at the national and local levels. In addition, the graduates have participated in the organization of relevant scientific events of an international nature. There are graduates doing master's degrees.

**Weaknesses:** Lack of systematic studies about graduates; therefore, it is not possible to know quantitative and qualitative results on PA graduates in postgraduate courses related to the discipline.

**Improvement plan:** Create a plan to monitor graduates.

**Score:** 8 = moderately high.





#### 10. Participation of graduates in improving training

**Strengths:** Graduates of the medicine network degree are recognized for the quality of the training they receive and they stand out in their professional practice; This is evident from the performance of graduates in public and private management positions in the areas of health, undergraduate and graduate education, and at the level of professional associations. It should be noted that some are part of the teaching staff of the degree, and some have a notable performance in the field of health at the international level, a condition that was confirmed by the internal evaluation committee during visits and interviews.

**Weaknesses:** As in previous items, we coincide with the weaknesses referred to by the internal evaluation committee during its assessments in the internal evaluation and while conducting the interviews. They argue, in a general way, that there is a deficiency in the follow-up of graduates due to not having an interactive computer tool, which would allow control of the work and academic destiny of each one of them. In addition, the possibility is not offered for graduates to participate in the degree improvement processes through distance forums.

**Improvement plan:** We consider that the internal evaluation strategies are adequate to overcome weaknesses when they propose to generate a follow-up program for graduates.

**Score:** 9 = high.

### Analysis of results

After analyzing the internal evaluation, the opening of the institutional process, the documentation presented, the visits and interviews carried out, the external evaluation committee reached the following results:

### Observed strengths

It shows a great commitment on the part of the institution for excellence, which includes the rectory, academic authorities and the teaching, administrative and support staff. The sense of belonging of the students with the university and the degree is also verified. There is an institutional will to carry out the program, consolidate it, and seek its internationalization.

The visit was framed in an attitude of openness, generosity and transparency, thanks to which the diagnosis and dialogue work by the external evaluation committee with the university community was fully carried out. This is a reflection of the institutional commitment to quality. It was found that the U of G has a broad and complete regulatory framework that is limited to effectively and pertinently regulate the various substantive functions of the institution. There is a clearly formulated mission and vision that corresponds to the nature of the institution and is in the public domain. A coherence was observed between the mission and institutional vision of the degree and responds to the needs of the context.

At the institutional level, a commitment and strategies consistent with the institutional identity are denoted to favor internationalization from a thematic axis of the Development Plan I 2014-2030. The axis contemplates the curricular transformation to train global citizens and professionals with the capacity to perform at an international level; promote the development of a critical mass through international mobility that contributes to improving academic inbreeding; strengthen research and the generation of external cooperation resources; develop collaboration agreements for shared programs and attract high-level international talent. The link between the Institutional Development Plan of the University of G 2014-2030 and the CUALTOS Development Plan 2014-2030 was evidenced, which set the guidelines for the development of the degree with the support of the postgraduate development plan, between those who are undergraduate. The degree was accredited for five years by the Mexican Council for the Accreditation of Medical Education (COMAEM<sup>5</sup>) as of July 18, 2012.

It was verified that CUALTOS has adequate infrastructure and material resources and the construction of new classrooms was observed to satisfy the needs of enrollment growth in the last semesters. The program applies the admission and permanence policies established at the institutional level, and effectively achieves the completion of the students in the scheduled times, revealing excellent terminal efficiency. The counseling and tutorials offered by the program are reflected in the low dropout rates recorded in the program. Graduates have obtained good results in the National Exam for Medical Residences, with 35% approval (it is ranked 17th out of 93 national universities) and ninth in the national ranking. The strategic location of the CUALTOS headquarters allows the integration of students from rural

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<sup>5</sup> [http://www.comaem.org.mx/?page\\_id=76](http://www.comaem.org.mx/?page_id=76)

areas and surrounding localities, which allows women from these places access to higher education. This demonstrates the effort to maintain gender equity in student income.

Regarding the development of research, the effort and production of full-time teachers is remarkable, who lead the formulation of projects throughout the first semesters together with the students, which is evidenced by the presentation of works in the research sessions that are held twice a year, taking them until their publication in a digital format that has the ISBN registration. In addition, the results of research related to training by teachers and the publications of teachers in nationally and internationally recognized journals are presented. The institution has a high-quality faculty committed to undergraduate degrees and the development of substantive functions. The degree registers an important dynamic of participation of its professors as assistants and speakers in international events organized by prestigious institutions, in research stays and in pedagogical and disciplinary updating courses.

The degree welcomes the institutional academic model with a semi-flexible structure of the study plan, which is organized into learning units that seek to establish professional competencies. By virtue of the implementation of the new study plan that is incorporated as of the 2014 calendar, there is congruence in the curricular design of the study plan with the objectives, the organization of the subjects and their contents, the progressive transition and grouping of these, by disciplinary axes, and the associated self-management activities in the study plan. The undergraduate study plans include learning units for basic, preventive, clinical and research training. In addition, the students during their training carry out practices in the community where they develop skills. Given the local characteristics, this activity is of extraordinary benefit and high impact for both students and residents. The realization of professional practices of the students of the career is carried out during their training in primary health care units and hospitals, with the coordination of a teacher and the supervision of doctors who work in these centers.

During the training process of the students of this degree and following the academic guidelines indicated in the development plans of the U de G, CUALTOS and the Degree in Medicine, skills are developed so that the graduate establishes a close relationship with society, You are also given the opportunity to meet the needs of your environment and

globalization policies so that you can join and develop your knowledge for the benefit of the national and international community.

CUALTOS has an infrastructure of classrooms, laboratories, libraries, an auditorium, a food center, sports areas and a student health care center. The physical and technological infrastructure of the university center is considered, in general terms, relevant and covers most of the basic training needs of students. The effort of the institution and the program to modernize the infrastructure and staff is recognized. The library has a wide range of specialized books and dice bases, especially in medicine. During the visit, it was possible to verify the good endowment of laboratories for carrying out the practices, including activities on anatomy with cadavers and surgical clinics.

There is provision of services to the community of teachers and students on a continuous basis, both in education, prevention and treatment activities through community brigades with mobile units that carry out interdisciplinary health fairs and caravans. The U of G and CUALTOS have signed agreements with several of the health institutions at the national and international level.

Regarding the undergraduate internship, the students have a good organization and supervision by the employers, with room activities, guards and theoretical classes that they must strictly comply with and guided by the adjunct doctors of the hospital center.

It should be noted that employers have a very favorable concept and opinion about the training, work capacity and proactivity of the graduates of CUALTOS and the U of G. During the visit it was found that some students of the bachelor's program have participated in academic events of an international nature, such as summers of scientific research and international congresses held in the country. The program registers an increase in international academic mobility in recent years, with financial support from the Scholarship Unit and the dissemination of opportunities by the General Coordination of Cooperation and Internationalization. This is the case of internships in other countries, as well as support for learning a second language.

### **Detected weaknesses**

Most of the teachers are part-time, work in hospitals, and have little participation in evaluation activities. On the other hand, some of them are not trained in the area of teaching. In terms of tutoring, there are few full-time teachers to attend the groups, which are numerous. Some students do not give due importance to the tutoring program. The posts are mostly from full-time professors. Part-time teachers are not very involved in this area.

The program only has six professors who are members of the national system of researchers (SNI) out of the total number of professors (who are 59). The admission process only takes into account an aptitude test, which is added to the high school average, but does not consider other qualitative aspects such as abilities, skills and vocation in the health sciences. On the other hand, the current income system does not take into account special situations such as vulnerable groups, ethnic minorities and people with disabilities. There is no clear feedback from the evaluations made by the teachers of the clinical area or in the social service with the coordinators of the degree, in order to verify compliance with the competencies. In view of the fact that pupils performing social service are in distant health centers, there is not frequent supervision.

Teachers and students dedicate more time to the teaching-learning process related to the basic core and the clinical area, than to the research area, and there is little link between basic and clinical subjects with research in health and education. One in three students pass the National Exam for Medical Residences, which is a low percentage despite good standing.

There is no formal monitoring of graduates in postgraduate courses or in the labor field.

### **Improvement proposals**

In order for the PA to strengthen its international recognition in the future, it is suggested to integrate the basic areas with the clinics, as well as the knowledge of the different departments and thus achieve transversality, verticality and horizontality so that the desired competencies are achieved for the profile of egress. In addition, that opportunities be sought for the integration of the various health areas and with other sectors to achieve competencies that allow the approach of complexity from an interdisciplinary and team perspective. The existence of a Department of Family Medicine could facilitate the

integration process described in item 1. The importance of adopting an internationally applicable credit allocation and transfer system is highlighted. Rather than conducting multiple investigations, it is suggested to define a few lines of investigation that may have continuity over time.

In order to strengthen research and to allow teaching in smaller groups, it is suggested to increase the staff of full-time teachers. To guarantee ethnic equity and attention to other vulnerable groups, it is suggested to consider some quotas under this modality. Encourage new students to formulate research projects and work, which, through the tutoring of teachers, culminate in a product of applicability and dissemination in high-impact conferences and magazines. Systematize the participation of the student in hospital centers, with adequate supervision where the graduate or employer dedicated to this task receives recognition from the U of G. Systematize the monitoring of graduates nationally and internationally, the purposes of assessing the fulfillment of the objectives and competences of the degree in medicine. Promote the international mobilization of students and teachers to attract equally students, teachers and researchers from other countries in the world.

## Discussion

The evaluation model for higher education (called GRANA) is based on three fundamental elements: first, the theoretical-scientific bases as referents of educational quality of international institutions such as Unesco, the OECD, the World Bank; second, the internal evaluation as an academic-administrative and financial diagnosis of the academic program in a self-evaluation scheme; third, the external evaluation of experts considers the two previous fundamental elements and the perception of them according to the sociocultural, economic and geopolitical environment in which the experts live and the environment in which the evaluated program is immersed.

To measure these elements, 10 dimensions or items of the social impact of training were built; research results associated with training; teachers linked to training; the relevance of the curriculum, the methodological strategies used in the learning process; entry, promotion and terminal efficiency in training, infrastructure, equipment, and technology and literature used in training; international recognition of training; the extension, the connection

and the diffusion in the formation; to regulations, administration and finances as facilitators in the formation of elements.

The ranges as a quality criterion go from 0 to 10, where 0 means null and 10 excellent. This allows comparisons between the perceptions of the fundamental elements.

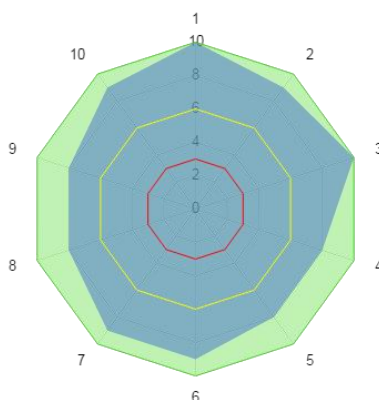
The evaluations of the fundamental elements are carried out under a computer platform called Sievas, which facilitates the measurement of perception among them, allowing to propose improvements in the search for the quality of the evaluated program, as described in the development of this article.

The final results allow to know in the evaluated program the improvement perspectives from a concrete reality of its local and national context to the linking of the experiences of the external evaluators in their country and continent.

## Conclusions

According to the GRANA model, the external evaluation process considers that the social impact obtained from the academic program of the degree in Medicine has a score of 8.5858 on the Sievas scale, whose maximum level is 10 points (Figure 4). Therefore, it is considered first level, as its quality is located within a high sublevel. It is worth mentioning that this evaluation was carried out based on the 10 items already mentioned.

**Figura 4.** Resultados de la evaluación externa del impacto social de la licenciatura en Medicina



Fuente: Elaboración extraída del Sievas

The GRANA model, in short, facilitates continuous improvement processes, since the Sievas platform is designed to update the diagnosis of the Bachelor of Medicine to again promote external evaluation, once this process is known through the permanent improvement plan.

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