
Estudio diagnóstico de la evaluación del impacto de las especialidades médicas en la función docente

Diagnostic study of the evaluation of the impact of medical specialties on the teaching function

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Resumen: Se presenta la concepción y resultados de un estudio diagnóstico para determinar el estado actual de la evaluación del impacto de las especialidades médicas en la función docente de los egresados. La recogida y procesamiento de datos para producir la información esperada se efectuó mediante el análisis documental, entrevistas a académicos y expertos en evaluación, el análisis de contenido cualitativo, la triangulación, el análisis-síntesis, la inducción-deducción el Software UCINET y el programa Atlas.ti. Se hizo evidente que la evaluación del impacto de ese objeto es una práctica eventual, no sistemática e inorgánicamente incorporada al sistema de gestión de calidad.

Palabras clave: Educación médica; Especialidades médicas; Estudio diagnóstico; Evaluación de impacto; Función docente.

Abstract: The conception and results of a diagnostic study are presented to determine the current status of the impact assessment of medical specialties on the teaching role of graduates. Data collection and processing to produce the desired information were carried out through documentary analysis, interviews with academics and assessment experts, qualitative content analysis, triangulation, analysis-synthesis, induction-deduction, UCINET software, and Atlas.ti. It became evident that the impact assessment of this subject is a temporary, unsystematic practice, and inorganically incorporated into the quality management system.

Keywords: Medical education; Medical specialties; Diagnostic studies; Impact assessment; Teaching function

Introduction

Postgraduate specialties in the Cuban health system, guided by specific regulations (MINSAP, 2004; MES, 2019), constitute a phase of training for professionals in the sector in which they develop specialized skills in a particular area within the health sciences, after completing their undergraduate studies. The classification of those currently being developed comprises eight groups of specialties: a) basic, b) clinical, c) surgical, d) diagnostic, e) public health, f) biomedical, g) stomatological, and h) non-medical. (MINSAP, 2000, p.1)

In the specific case of medical specialties, the general objective of the study plans is to train competent specialists who are able to understand, assess, and transform the health status of the population, with a scientific approach to the health-disease process and its bio-psycho-social nature. The aim is to prepare professionals with healthcare, research, teaching, and administrative profiles that enable them to perform in their workplace and continue to develop. (MINSAP, 2024)

Preparation for teaching is a dimension of medical education that is recognized in both the international and Cuban contexts. In this regard, the Edinburgh Declaration (1988) recommends, "Training teachers as educators, not just experts in content, rewarding educational excellence as much as excellence in biomedical research or clinical practice" (Doctutor, 2018). In the same vein, Torres-Álvarez and Álvarez-Escobar (2021) warn: "Simply linking a health professional to a university hospital is not enough to turn them into a teacher. Complex skills are required for professionalization in teaching in medical training" (p. 69). Consequently, training institutions must foster an educational environment that encourages innovation and excellence in teaching and establish as a practice the conduct of "...periodic evaluations to see results and seek continuous improvement in medical education." (Nervi-Condori et al., 2020, p. 53)

This implies the need to institute the evaluation of medical specialties in the teaching function of their graduates, which can be understood as "...a systematic, intentionally and technically designed process of collecting rigorous information—valuable, valid, and reliable—aimed at assessing the quality and achievements of a program, as a basis for subsequent decision-making for improvement, both the program and the personnel involved and, indirectly, the social body in which it is immersed" (Pérez-Juste, 2000, p. 272). Likewise, evaluating the teaching role of medical specialty graduates involves assessing their impact, which Rossi and Freeman (1993, as cited in Tiana, 1999)

include as a particular type of evaluation of educational programs that is oriented toward assessing their effectiveness and efficiency.

As part of doctoral research associated with the problem “Inadequacies in the evaluation of graduates' performance in teaching limit the improvement of the training process in medical specialties,” which aims to “Develop a theoretical-methodological concept and a procedure for managing the evaluation of the impact of medical specialties on the teaching role of graduates,” a systematization process was carried out that included the study of training for this role in medical education. The investigation revealed a broad theoretical development that includes proposals and significant results related to its content, associated roles, training for teaching practice (García-Romero, 2017; Harden & Crosby, 2000; Spanish Society of Medical Education [SEDEM], 2023), as well as the requirements, competencies, and evaluation of their performance (Mexican Association of Medical Schools and Faculties [AMFEM], 2012; Del Puerto Horta, et al., 2022; Espinoza et al., 2024; Pérez-Recio, 2023; Suárez-Conejero et al., 2023; Triviño et al., 2024).

Similarly, numerous works by classic and more recent authors, both Cuban and foreign, were reviewed, as well as regulatory documents, which allowed for an approach to categories (objectives, content, methodology, among others) related to the main concepts associated with the evaluation of the impact of training programs and their application in medical education (evaluation, educational evaluation, impact, impact evaluation, impact evaluation of training programs) and proposals that shape its management, which made it possible to identify trends and perspectives present in its theoretical development (Borges, 2014; Carrera-Morales, et al., 2022; Díaz-Leyva and Marrero-Fornaris, 2021; Díaz-Rojas, 2015; Kirkpatrick, 1996; Parra-Robledo and Ruiz-Bueno, 2020; Network of Professional Training Institutions, 2011; Scriven, 1967; Travieso and Bandera, 2020; and Valiente and Zaldívar, 2008).

Based on the theoretical and methodological assumptions derived from the systematization developed, the evaluation of the impact of medical specialties on the teaching function of their graduates is assumed a retrospective action, relevant to quality management, whose strategic objective is improvement, based on decisions made using the characterizing and evaluative information it produces. Its implementation involves the application of a non-exclusive

methodological approach, which involves the combined use of quantitative and qualitative methods, the widest possible diversity in the selection of information sources, and the determination of evaluation criteria as a sine qua non requirement for the quality of the evaluative judgments issued.

This article presents the methodological concept and the results of a diagnostic study (part of the aforementioned doctoral research) aimed at determining, from an empirical point of view, the current state of the evaluation of the impact of medical specialties on the teaching function of graduates, which confirmed the scientific nature of the research problem identified.

Depending on the objective set, the general variable of the diagnosis (evaluation of the impact of medical specialties on the teaching function of graduates) was operationalized into five indicators: 1) Existence of a methodology, strategy, procedure, or other resource to evaluate the impact of training. Importance given to this evaluation; 2) Indicators considered to evaluate the impact of training on graduate performance; 3) Specific indicators used to obtain information on the impact of training on the teaching role of graduates; 4) Sources, methods, and instruments used to collect data on the impact of training in general and on the teaching role; and 5) Use of the information produced by the evaluation in decision-making aimed at improving the training process for the teaching role.

Data collection to produce relevant information on the above indicators was based on document analysis, which covered 35 reports submitted for external evaluation (with a view to accreditation) of 19 specialties offered by medical science universities in nine provinces of the country (Havana, Matanzas, Villa Clara, Sancti Spíritus, Ciego de Ávila, Camagüey, Holguín, Granma, and Santiago de Cuba), and interviews with 40 members of academic committees of medical specialty programs at medical science universities in Havana (2), Sancti Spíritus (2), Las Tunas (2), Santiago de Cuba (2), and Holguín (32) and 40 experts (peer reviewers) from the National Accreditation Board (JAN) with experience in the evaluation of medical specialties, from six provinces: Havana (3), Sancti Spíritus (1), Las Tunas (3), Granma (2), Santiago de Cuba (4), and Holguín (27). The sample was intentionally selected for convenience (Battaglia (2008, as cited in Hernández-Sampieri and Mendoza, 2018).

Data processing to produce the required information was carried out using theoretical methods (analysis-synthesis, induction-deduction), as well as qualitative content analysis, triangulation (of data and sources) and ICT-supported statistical procedures such as UCINET software and the Atlas.ti program.

Development

Based on the triangulation of information gathered from the analysis of each instrument, a characterization of the current state of evaluating the impact of medical specialties on the teaching performance of graduates was obtained.

Indicator 1. Existence of a methodology, strategy, procedure, or other resource to evaluate the impact of training. Recognized importance of this evaluation.

The document review and the statements made by members of the academic committees and expert evaluators from the JAN (National Board of Health) interviewed confirm that it is common practice to use resources established by the programs to evaluate, in some way, the impact of the training offered by medical specialties on the performance of graduates. Likewise, these sources acknowledge the importance of evaluating the impact of training, which is confirmed by processing the responses provided by both groups of interviewees using Atlas.ti (Figure 1).

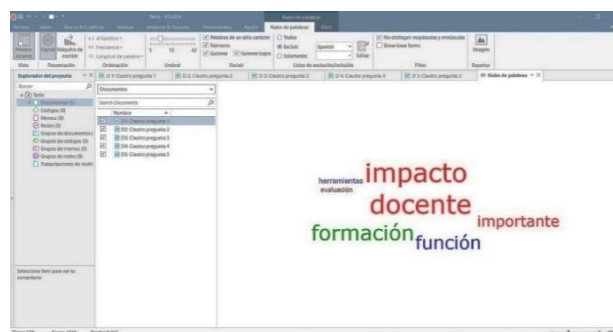


Figure 1: Atlas.ti Analysis of Interviews with Members of Academic Committees in Medical Specialties

Source: Author's own elaboration

In this regard, 29 (82.9%) of the reports submitted for external evaluation for accreditation purposes by the JAN declare the existence of some methodological resource (methodologies in 57.1% of cases) for this purpose.

Similarly, 36 (90%) of the members of academic committees of medical specialty programs interviewed stated that the reports submitted for external evaluation declare the existence of some methodological resource for evaluating the impact of the specialty on graduates.

The members of academic committees interviewed (30, or 75%) offered arguments about the importance of this type of evaluation, among which the need to verify how expectations regarding the role of the specialist are met stands out. The expert evaluators interviewed stated that 100% of the reports they have received present information on the existence of some methodological resource for evaluating the impact of the specialty on graduates; 70% provided other elements and mentioned indicators used for such purposes.

Although the use of methodological resources to evaluate the impact of the training offered by specialty programs appears to be an established practice, it can be inferred that this practice is occasional, not systematic, and is not incorporated into the programming, work system, and quality management system of medical specialty programs.

Indicator 2. Indicators considered when evaluating the impact of training on graduate performance.

The members of academic committees for medical specialty programs interviewed raised 90 elements that refer to indicators considered when evaluating the impact of training on graduates, and the JAN expert evaluators mentioned 97 related elements.

Categories	Academic Committee		JAN Experts	
	Number	Percent	Number	Percent
Acquisition and promotion to teaching categories	1	1.1	6	6,2
Performance of administrative	3	3.3	3	3,1

functions				
Performance of clinical functions	9	10 (4°)	10	10,3 (4°)
Performance of teaching functions	8	8.9 (5°)	13	13,4 (3°)
Performance of research functions (includes publications, events, and scientific societies)	16	17.8 (2°)	15	15,5 (2°)
Suitability	1	1.1		
Scientific impact	5	5.6	4	4,1
Impact of clinical work	1	1.1	4	4,1
Impact of teaching work	1	1.1		
Economic impact	3	3.3		
Social impact	23	25.6 (1°)	25	25,8 (1°)
Technological impact	2	2.2		
Participation in continuing education activities (professional development, training)	14	15.6 (3°)	9	9,3 (5°)
Tenure in the position for which trained	2	2.2	7	7,2
Relevance of final projects	1	1.1	1	1,0
Total	90	100	97	100

Table 1. Categories grouping the aspects referred to by the members of academic committees and JAN experts interviewed (Indicator 2)

Source: Own elaboration

Using qualitative content analysis, 15 categories (general indicators) were defined in which these elements were classified (Table 1). In both segments of interviewees, the five most frequent categories are “Performance of the care function,” “Performance of the teaching function,” “Performance of the research function,” “Social impact,” and “Incorporation into continuing education activities,” which account for 77.8% of the elements listed by academic committee members and 74.2% of those listed by JAN expert evaluators. (Table 1)

Specifically, the category “teaching performance” ranked fifth and third, respectively, with a frequency of 8.9% and 13.4% among academic committee members and JAN experts interviewed. In both cases, the category ranked below the category “Research performance” and, according to the academic committee members, below the category “Support performance.” (Table 1)

Of the remaining categories established that are most closely related to the teaching function, the category “Incorporation into continuing education activities (improvement, training)” was the third most frequently mentioned by members of academic committees (13.4%) and the fifth most frequently mentioned by JAN experts (8.9%).

The data obtained also show that 26.6% (24) of the elements contributed by the members of the academic committees are grouped into the four categories (“Acquisition and promotion to teaching categories,” “Teaching performance,” “Impact of teaching work,” and “Incorporation into continuing education activities (improvement, training)”) that are most closely related to the teaching function. In the case of the elements provided by the JAN expert evaluators, the 28 grouped into these categories represent 28.9%. The above was confirmed by the findings of the analysis carried out with the UCINET software. In this regard, with the aim of detecting the variables that show the greatest significance in the evaluation of the impact of medical specialties on graduates, the aforementioned program was provided with information containing the elements that suggest indicators used in that evaluation process, extracted from 29 of the reports submitted to the external evaluation by medical specialty, which were used as documentary sources for this diagnosis.

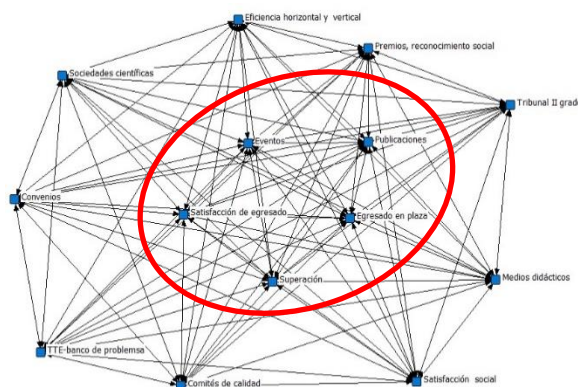


Figure 2. Variables associated with the impact assessment on medical specialty graduates.

Source: Prepared by the authors.

As shown in the figure, which represents the relationship between the variables presented, the following are considered highly significant: a) the specialist's permanence in the position for which they were trained, b) participation in events, c) publications (in any group), d) further training (participating in or teaching postgraduate courses), and e) graduate satisfaction (with the faculty and setting where they were trained).

The variables a) the specialist's permanence in the position for which they were trained, b) participation in events, c) publications (in any group), coincide with two of the categories (general indicators) identified through qualitative content analysis of the responses provided in interviews by members of academic committees and JAN experts, referring to "performance of the research function (including publications, events, and scientific societies), the "specialist's permanence in the position for which they were trained," and "participation in continuing education activities (improvement, training)."

From the analysis carried out, based on the triangulation of the information obtained, it is concluded that the main indicators considered to evaluate the impact of medical specialty training on the performance of graduates are related to their performance in the research function and, to a lesser extent, those associated with the teaching function and their performance.

Indicator 3. Specific indicators used to obtain information on the impact of training on the teaching role of graduates.

When asked about specific indicators used to obtain information on the impact of training on graduates' teaching performance, the academic committee members interviewed listed 45 elements that suggest possible indicators, and the JAN expert evaluators contributed 13. Similarly, using qualitative content analysis, these elements were grouped into eight categories (general indicators) (Table 2).

Categories	Academic Committee		JAN Experts	
	Number	Percent	Number	Percent
Acquisition and promotion to teaching categories	14	31.2 (1°)	6	26,1 (2°)
Knowledge of the undergraduate curriculum model	2	4.4		
Teaching performance in work-based learning	11	24.5 (2°)	11	47,8 (1°)
Teaching performance in other forms of teaching and learning organization in medical education	7	15.6 (3°)	2	8,7
Performance in postgraduate training activities	5	11.1	4	17,4 (3°)
Language proficiency	2	4.4		
ICT proficiency	2	4.4		
Participation and performance in extracurricular activities	1	2.2		
Other	1	2.2		
Total	45	100	23	100

Table 2. Categories grouping the aspects referred to by the members of academic committees and JAN experts interviewed (Indicator 3)

Source: Own elaboration

Both segments of respondents mainly referred to elements that were grouped into the categories “Acquisition and promotion to teaching categories” (31.2% of academic committee members and

26.1% of JAN expert evaluators) and “Teaching performance in workplace education” (24.5% of academic committee members and 47.8% of JAN expert evaluators). Thirdly, academic committee members contributed elements related to “Teaching performance in other forms of PEA organization in medical education” (15.6%), and JAN expert evaluators contributed elements related to “Performance in postgraduate training activities” (17.4%). (Table 2).

Although the elements associated with the category “Acquisition and promotion to teaching categories” are important for better teaching performance and should be considered when evaluating the impact of medical specialties on this function, it is striking that more elements have been contributed to this category than to the categories “Teaching performance in other forms of PEA organization in medical education” and “Performance in postgraduate training activities,” which have greater implications for evaluating the impact on this function.

From the above analysis, it can be concluded that, for the evaluation of the impact of medical specialties on the teaching function of graduates, “Teaching performance in on-the-job education” is recognized as the most important dimension.

Indicator 4. Sources, methods, and instruments used to collect data on the impact of training in general and on teaching.

The interviewees (members of academic committees [AC] and expert evaluators [EE] from the JAN) recognize the following as the main personal sources of information for evaluating the impact of medical specialties on the teaching role of graduates, in the order in which they appear below: the graduates themselves (AC:8 and EE:10); employers (AC:6 and EE:8); residents (AC:6); professors in specialty programs (AC:3 and EE:4); and the general population, patients, and family members (AC:5 and EE:1). Among non-personal sources, they cited activities (AC: 9), such as meetings with various stakeholders, and documentary sources (AC: 6 and EE: 3), such as work results and academic committee minutes.

Among the most commonly, used methods for interacting with these sources were interviews (including group interviews), surveys, and document reviews.

The analysis carried out allows us to infer that in the limited practice of evaluating the impact of medical specialties on the teaching role of graduates, relevant sources, methods, and instruments are used for data collection, although the absence of observation as a method for obtaining data on performance in this role is notable.

Indicator 5. Use of information produced by the evaluation in decision-making aimed at improving the training process for the teaching profession.

During the exchange on the use of the information produced by the evaluation in decision-making aimed at improving the training process for teaching (question 2), the majority of the members of the academic committees and expert evaluators of the JAN interviewed (28 for 70%, and 31 for 77.5%, respectively) believed that the information derived from occasional (non-systematic) actions carried out to evaluate the impact of medical specialty programs is insufficiently used to improve the management of these programs, in processes such as curriculum redesign, methodological work, research, scheduling and organization of their operation, and faculty training, among others

Conclusions

The diagnostic study on the current state of the assessment of the impact of medical specialties on the teaching role of graduates provided new arguments that confirmed the relevance of the ongoing doctoral research and lent scientific credibility to the identified research problem. In this regard:

The empirical investigation revealed that, although the importance of evaluating the impact of medical specialties as a mechanism for qualitative improvement is recognized, the practice that has been established in this regard is sporadic, unsystematic, not organically incorporated into the quality management system, and the information derived from it is insufficiently used. Similarly, it became clear that the evaluation of the impact of medical specialties on the teaching role of graduates is carried out within the framework of global experiences and does not yet constitute a specific practice. Consequently, the design of the evaluation content gives lower priority to indicators associated with the teaching role and its performance, and the methodological design does not take advantage of the possibilities of observing the performance of graduates.

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