# Chapter 08 / Capítulo 08

*Health 4.0: management, technology, and transformation of the healthcare sector in Latin America (English version)*
**ISBN:** 978-9915-704-35-7
**DOI:** 10.62486/978-9915-704-35-7.ch08
**Pages:** 118-130

©2025 The authors. This is an open access article distributed under the terms of the Creative Commons Attribution (CC BY) 4.0 License.

# The teledermatology and the professional tasks for their integral administration

## La teledermatología y las tareas profesionales para su gestión integral

Evelyn González Betancourt[1], Yasser García Baró[2]

[1]Hospital Provincial Clínico Quirúrgico Docente "Faustino Pérez", Servicio de Dermatología, Matanzas, Cuba.
[2]Universidad de Matanzas, CUM Jovellanos, Matanzas, Cuba.

**Corresponding author:** Evelyn González Betancourt

**ABSTRACT**

**Introduction:** comprehensive teledermatology management is the result of a set of professional tasks in the health sector, which respond to healthcare, teaching-educational, research, and managerial functions.
**Objective:** to reveal some theoretical and methodological aspects for the development of teledermatology, with an emphasis on the professional tasks related to its comprehensive management in the health sector.
**Method:** qualitative research, which considered the application of theoretical methods such as analysis and synthesis, historical-logical analysis, and systematization. Empirically, document review was used and a focus group was formed, using WhatsApp as a communication tool, to obtain evaluative criteria on the relevance of the study results.
**Results:** trends and potentialities were identified for the curricular treatment of teledermatology in specialized postgraduate training. The need for a special legal framework for its comprehensive management was confirmed, and a set of theoretical-methodological aspects was declared, with an emphasis on professional tasks.
**Discussion:** the significance of the results was assessed and a correspondence with previous studies was revealed regarding the need to optimize the healthcare, educational, research, and management tasks of health professionals in teledermatology.
**Conclusions:** based on the evaluation criteria of the focus group members, the relevance of the theoretical and methodological aspects for the development of teledermatology from an integrative perspective of professional functions and tasks in the health sector was demonstrated, confirming the achievement of the proposed objective.

**Keywords:** Teledermatology; Telemedicine; Professional Tasks; Comprehensive Management.

**RESUMEN**

**Introducción:** la gestión integral de la teledermatología es resultado de un conjunto de tareas profesionales del sector salud, que responden a funciones asistenciales, docente-educativas, investigativas y gerenciales
**Objetivo:** revelar algunos aspectos teórico-metodológicos para el desarrollo de la teledermatología con énfasis en las tareas profesionales vinculadas a su gestión integral en el sector salud.
**Método:** investigación cualitativa, que consideró la aplicación de métodos teóricos como el análisis y síntesis, el histórico-lógico y la sistematización. En el orden empírico se empleó la revisión de documentos y se conformó un grupo focal, mediante WhatsApp como herramienta

comunicacional, para obtener criterios valorativos sobre la pertinencia de los resultados del estudio.
**Resultados:** fueron identificadas tendencias y potencialidades para el tratamiento curricular de la teledermatología en la formación especializada de posgrado. Se constató la necesidad de un marco legal especial para su gestión integral y se declararon un conjunto de aspectos teórico-metodológicos con énfasis en las tareas profesionales.
**Discusión:** se valoró la significación del resultado y se reveló una correspondencia con estudios precedentes, respecto a la necesidad de optimizar en la teledermatología tareas asistenciales, educativas, investigativas y gerenciales de los profesionales de la salud.
**Conclusiones:** mediante los criterios valorativos de los integrantes del grupo focal, se evidenció la pertinencia de los aspectos teórico-metodológicos para el desarrollo de la teledermatología desde un posicionamiento integrador de las funciones y tareas profesionales en el sector salud, constatándose el cumplimiento del objetivo propuesto.

**Palabras clave:** Teledermatología; Telemedicina; Tareas Profesionales; Gestión Integral.

## INTRODUCTION

The international community of researchers and health professionals cannot ignore the need to develop scientific products and work tools to optimize information and communication technologies (ICT) from an integrative perspective of professional functions and tasks in the sector. This is even more important in the current global context, marked by complex epidemiological situations, emerging and reemerging infectious diseases, challenges with medical coverage, and limited access to health services in rural and remote areas.

Teledermatology is also influenced by socioeconomic characteristics, the legal framework, health paradigms, and traditional ways of conceiving the doctor-patient relationship in each society.[1,2,3,4,5] It is understood as "one of the applications of telemedicine, for the remote exchange of medical information using audiovisual and data communication," based on the use of "ICT for the treatment of skin diseases."[6,7] It should also be noted that this is a highly innovative telematic alternative, complementary or supplementary in certain situations to some face-to-face dermatological procedures and actions, with an integrative scope of healthcare, educational, research, and management functions.

However, it is striking that, even after the rapid scientific production on teledermatology generated by COVID-19, few studies address the subject from a theoretical-methodological perspective oriented towards integrating professional functions and tasks.[8,9,10,11] In this regard, Hasbún et al.[10] understand the healthcare and educational significance of teledermatology, while Gómez et al.[3] highlight managerial aspects with an organizational, ethical, and legal projection.) Hence, the need to promote a comprehensive understanding that articulates healthcare, educational, research, and management tasks for the sustainable development of teledermatology.[12]

In Cuba, there is also a marked interest in the subject. In this regard, several scientific papers have been published documenting research related to the use of telematic resources in the healthcare and teaching-educational process, such as mobile telephony, discussion forums on digital platforms, instant messaging, interactive electronic questionnaires, video calls, and synchronous and asynchronous communication via WhatsApp for the optimization of teledermatology.[2,6,12,13] These types of resources comprise a combination of IT solutions,

linked to communications technologies and network use, to support secure and effective interconnection.

However, most previous studies, both foreign and domestic, report on practical experiences in dermatological services, and it is pertinent to delve deeper into their theoretical and methodological significance.[1,5,6,8] In this regard, the present study, which is part of a broad open-access academic dissemination strategy, aims to identify theoretical and methodological aspects for the development of teledermatology, with an emphasis on the professional tasks involved in its comprehensive management in the health sector.

## METHOD

Qualitative research conducted between March 2024 and December 2024, with the participation of professionals linked to various higher education centers such as the University of Medical Sciences of Havana (3 senior researchers), the University of Information Sciences (2 senior professors), the University of Medical Sciences of Guantánamo (two senior researchers and one assistant professor), and the Complutense University of Spain (one senior researcher). The selection criteria were as follows: 1) consent to be included in the study, 2) research or teaching experience related to the topic, and 3) teaching and/or scientific status equal to or higher than assistant professor.

The methods were selected from a dialectical-materialist standpoint, which considered analysis and synthesis, historical-logical and systematization, in theoretical terms; they are valid and serve the epistemological structuring of the proposed theoretical-methodological aspects. At the empirical level, document review was used to identify regulatory, ethical, curricular, and methodological aspects. The Postgraduate Medical Specialty Program in Dermatology, Law 165 on Public Health, Resolution 71/2021 on Remote Work and Teleworking, as well as several foreign and national research reports, were reviewed.

A focus group composed of nine professionals from different higher education centers was organized via WhatsApp to obtain evaluative criteria on the relevance of the study's results. A five-point rating scale was used (*Very appropriate, Quite appropriate, Appropriate, Not very relevant, and Not applicable*), and the following indicators were considered: 1) Theoretical significance, 2) Methodological value, 3) Practical application, 4) Integrative nature, and 5) Correspondence with international trends.

The methodology for the collaborative management of the focus group in the design of professional tasks went through three fundamental stages:

- Initial task design: The leading managers (authors) of the research presented the first version of the tasks resulting from the systematization of theoretical-methodological and practical references related to the topic.
- Socialization and collaborative redesign of the tasks: A WhatsApp group was formed to disseminate and analyze the tasks, with content tailored to each professional function. Subsequently, a new version was created based on the group members' suggestions.
- Group assessment of the tasks: Once the new version of the professional tasks was completed, it was presented to the focus group for the asynchronous evaluation, taking into account the proposed indicators and scale.

## RESULTS

In the curriculum design of the Postgraduate Medical Specialty Program in Dermatology, no

system of knowledge, skills, or values oriented toward teledermatology was identified in any of the modules. However, the program's structure allowed us to verify its potential as a curricular tool for introducing teledermatology as teaching content into the teaching-learning process and into the organizational forms of education at work.

In this regard, the program's rationale provides for the establishment of interdisciplinary relationships with Immunology, Physiology, Microbiology, Anatomy, Internal Medicine, Hygiene and Epidemiology, Oncology, Psychiatry, and Sports Medicine, which would be enhanced through the use of telematic elements. A methodological positioning was also identified in the professional profile, indicating attention to integrating healthcare, educational, research, and management functions in the training of professionals.[14]

The characterization of the graduate and the program's research function establishes the use of ICT for professional development and scientific research in dermatology. However, no guidelines were found related to the use of ICT for the development of the care function or in the so-called special functions associated with "exceptional situations: disasters, wartime, and others," which could attribute greater significance to teledermatology.

A review of Law 165 on Public Health revealed that, in Article 7, the Cuban legislature provided for a continuous process of innovation in health services by establishing, among the foundations of Cuban public health, "the permanent application of scientific advances and innovation in services." However, no specific provisions for the legal regulation of teledermatology were identified. This highlights the need for special regulation, through subsequent legal instruments, of the procedures for the comprehensive management of teledermatology in Cuban health institutions.

The results of the review of Resolution 71/2021 Regulations on remote working and teleworking revealed a legal framework that provides for forms of regulation for the organization of work, communication, and the exchange of information in accordance with IT security standards, as well as the obligations of the employer as the guarantor of technological resources and the party responsible for the training process. It also establishes the obligations of employees and the general terms of employment contracts, including:

a) powers and obligations based on the definition and organization of the tasks to be performed,
b) control of the quality and quantity of work,
c) mechanisms or channels for delivering work results, and
d) information on the use of technological infrastructure.

A study of the legal provisions of the regulations revealed general legal bases for the management of teledermatology, with an express definition of telematic elements such as email, social networks, and instant messaging. However, it was found that there is a need to regulate organizational forms and specialized procedures that take into account the purpose, specific nature, level of specialization, and complexity of teledermatology as a branch of telemedicine.

Once the document review was completed, an integrative approach to professional functions for the design and development of teledermatology was formulated through a synthesis of theoretical and methodological references. The following figure graphically represents the essential elements of the formulated holistic understanding.

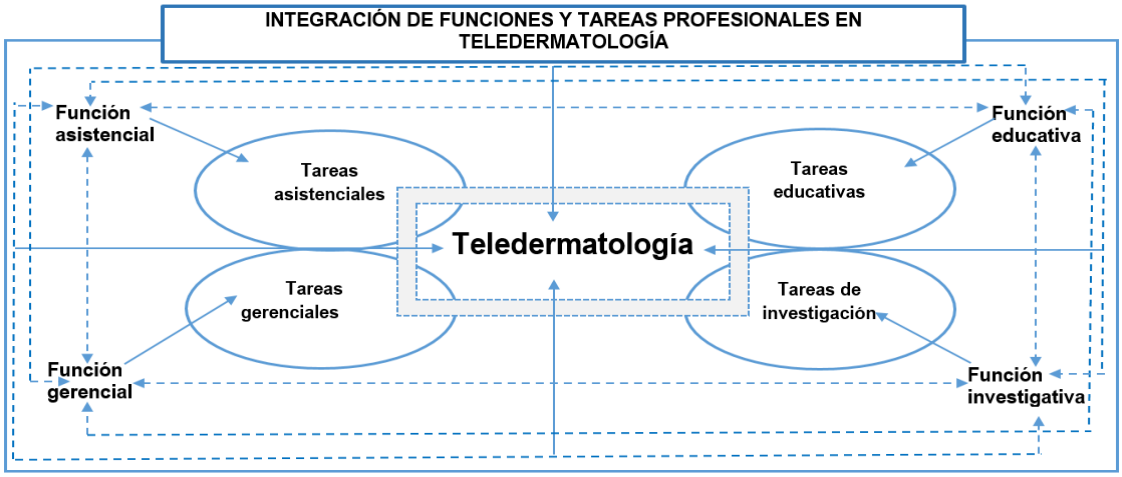


**Figure 8.1.** Graphical representation of the integration of professional functions in teledermatology

Professional functions are inherent to the profession's purpose, in accordance with its socially established mandate, and are specified in work tasks aimed at problem-solving that require professional performance. These types of functions are integrative, as they complement and articulate within work activities to form a holistic model of action that responds to the complexity and multiplicity of relationships inherent in professional practice. Their integration is a requirement for the sustainable improvement of health services.

The tasks within a given professional function acquire a professional nature due to their complexity and specialization. The design, implementation, and systematic control of this type of task are essential for achieving the proposed objectives and the sustainability of efficiency indicators in the comprehensive management of teledermatology. In this sense, professional tasks represent the instrumental core of any organizational architecture.

Note, for example, how the educational function is mediated by the care, research, and management functions. It is in the care process, understood as the orderly sequence of stages and tasks linked to health promotion, disease prevention, diagnosis, treatment, and rehabilitation, that the teaching-educational process takes shape in its fundamental forms of organization. This is linked to the research process, which begins and ends in scientific knowledge, under regulation, systematic control, and managerial supervision.

Following the same analytical perspective of integration, it should be noted that the tasks of the healthcare function are also the object of the management process. Hence, there is a need to promote professional performance in decision-making, resource management, quality control, indicator evaluation, adherence to ethical precepts, and compliance with legal regulations associated with patient safety and medical protocols.

This study also revealed the professional tasks related to the optimization of healthcare, educational, research, and management processes, which are creatively integrated into teledermatology. Tables 8.1, 8.2, 8.3, and 8.4 below detail the structural content of the professional tasks for the comprehensive management of teledermatology.

**Table 8.1.** Selection of tasks related to the care function

| Care tasks |
|---|
| 1. Prepares a digital dermatological medical history, stating the initial diagnosis, classification, and staging. |
| 2. Prescribe complementary laboratory and imaging tests and techniques specific to the specialty for dermatology patients, using telematic resources such as a dermatoscope connected to a digital medium and instant messaging. |
| 3. Reports the results of complementary laboratory and imaging tests and techniques specific to the specialty to dermatology patients, using telematic resources such as text messaging, mobile telephony, and real-time or asynchronous digital communication tools such as WhatsApp. |
| 4. Makes therapeutic decisions and prescribes curative and/or palliative treatments according to different dermatological diseases, with a collaborative, multi- and interdisciplinary approach, using telematic resources. |
| 5. Determines admission, consultation, and discharge criteria based on available telematic resources and the type of dermatological disease. |
| 6. Monitors home admissions of patients with dermatological diseases using mobile phones and/or communication tools such as WhatsApp. |
| 7. Uses telematic resources to promote health and prevent dermatological diseases among patients and community groups. |
| 8. Provides psychological support to patients and their families, with greater opportunity in cases of psychosomatic dermatosis, genodermatosis, chronic dermatosis, dermatosis in infants, older adults, and pregnant women, through the use of virtual environments. |
| 9. Recommends rehabilitation strategies for patients with dermatological diseases, using telematic resources such as infographics, electronic posters, podcasts, and voice-over presentations, among others. |
| 10. Establishes the frequency and other characteristics of follow-up for patients with dermatological diseases, using telematic resources. |
| 11. Participates in multidisciplinary medical care groups for patients with dermatological diseases at different levels of care within the national health system, through access to digital platforms. |

**Table 8.2.** Selection of tasks related to the educational function

| Educational tasks |
|---|
| 1. Identifies learning needs to update knowledge and optimize professional performance in teledermatology. |
| 2. Designs self-improvement strategies in line with knowledge and professional performance needs in the field of teledermatology. |
| 3. Independently manage the individual professional improvement plan through virtual environments in workplace education. |
| 4. Plan educational activities for the family and community through the use of websites, electronic newsletters, podcasts, as well as Facebook, Twitter, YouTube, Instagram, WhatsApp, Todus, and other groups. |
| 5. Teaches virtual classes in different modalities and educational levels (undergraduate and graduate). |
| 6. Designs professional development programs with an interdisciplinary and telematic approach. |
| 7. Coordinate professional training activities for the development of digital skills. |
| 8. Promotes education at work as a fundamental organizational form of the teaching-learning process through the use of teledermatology. |
| 9. Develops work tools such as strategies, teaching methods, programs, dosages, lesson plans, and assessment instruments through the use of ICT. |
| 10. Monitor the discipline of the personal components of the teaching-learning process and compliance with programs, plans, and dosages through interaction on digital platforms. |
| 11. Systematically evaluates the results of the teaching-learning process on digital platforms and other virtual environments through self-evaluation, peer evaluation, and co-evaluation. |

| **Table 8.3.** Selection of tasks related to the research function |
|---|
| **Research tasks** |
| 1. Applies the scientific research method to solve professional problems related to teledermatology. |
| 2. Designs scientific research projects for the use of telematic resources in dermatology services. |
| 3. Participates in scientific research tasks using telematic resources. |
| 4. Designs methodologies for consulting experts and other specialists using digital platforms. |
| 5. Form collaborative research groups using Twitter, YouTube, Instagram, WhatsApp, Todus, and Picta, among other communication tools. |
| 6. Develops digital support techniques for gathering information in the scientific research process. |
| 7. Uses virtual environments (digital platforms, websites, scientific journals, databases, social networks) for knowledge management and socialization in the field of dermatology. |
| 8. Apply research methods and techniques in the field of dermatology through virtual environments. |
| 9. Systematizes theoretical and methodological elements related to the development of teledermatology, based on the integration of healthcare, educational, research, and management functions. |
| 10. Uses telematic resources for the development of interdisciplinary research related to dermatology. |
| 11. Innovatively generalize scientific and technical results related to teledermatology. |

| **Table 8.4.** Selection of tasks related to the managerial function |
|---|
| **Management tasks** |
| 1. Plan teleworking activities and sessions in teledermatology services to ensure patient satisfaction and the labor rights of healthcare professionals. |
| 2. Develops collaborative agreements, integrated work plans, interdisciplinary strategies, and interprofessional programs for the development of teledermatology. |
| 3. Systematize legal provisions in the legal system regarding computer security, material responsibility, public health, teleworking, and labor discipline, among others. |
| 4. Directs professional practice based on the procedures, protocols, and regulations applicable to teledermatology services for the acquisition, processing, storage, protection, and transmission of patient information. |
| 5. Optimizes the dynamics of the doctor-patient-family relationship, defining communication guidelines and teleworking rules. |
| 6. Develops or proposes, at the appropriate level, rules and procedures to legally regulate professional performance and patient safety in teledermatology services. |
| 7. Executes control actions in teledermatology services over computer resources (hardware and software) and other devices that make up the technical-material base. |
| 8. Carries out self-monitoring actions to verify compliance with internal control standards associated with teledermatology, with an emphasis on patient safety. |
| 9. Assesses the level of satisfaction of dermatology patients in teledermatology services. |
| 10. Audits compliance with protocols and legal provisions related to teledermatology. |
| 11. Evaluates quality indicators associated with teledermatology in healthcare, educational, research, and management processes. |

Among the assessments of the focus group members, the methodological and practical significance attributed to the tasks, as a level of specificity of professional functions, stands out, with emphasis also placed on their integrative nature in terms of care, educational, research, and management performance related to teledermatology. The participants also indicated that the number of tasks in each function should be standardized, with the express suggestion that tasks related to health promotion and disease prevention be included in the healthcare function.

There was notable consensus on the need to progressively establish a theoretical-

methodological and legal basis for the development of teledermatology in Cuba, grounded in an integrative approach to professional functions. Coinciding criteria were also identified regarding the presence of technological barriers to connectivity and access to telematic devices.

In the assessments of the correspondence with international trends, there was also agreement on the need for further studies to explore the interrelationships and ethical implications of artificial intelligence and teledermatology. Table 8.5 below shows the overall results of the focus group's assessment criteria.

**Table 8.5.** Focus group results

| Evaluation criteria of the focus group members (n=9) | | | | | |
|---|---|---|---|---|---|
| **Indicators** | **Very adequate** | **Quite adequate** | **Adequate** | **Not very suitable** | **Not suitable** |
| 1) Theoretical significance. | 4 (44,4 %) | 5 (55,6 %) | 0 (0 %) | 0 (0 %) | 0 (0 %) |
| 2) Methodological value. | 6 (66,7 %) | 2 (22,2 %) | 1 (11,1 %) | 0 (0 %) | 0 (0 %) |
| 3) Practical projection. | 7 (77,8 %) | 2 (22,2 %) | 0 (0 %) | 0 (0 %) | 0 (0 %) |
| 4) Integrative nature. | 8 (88,9 %) | 1 (11,1 %) | 0 (0 %) | 0 (0 %) | 0 (0 %) |
| 5) Correspondence with international trends. | 3 (33,3 %) | 5 (55,6 %) | 1 (11,1 %) | 0 (0 %) | 0 (0 %) |

## DISCUSSION

The systematization of previous studies on teledermatology made it possible to document, from multiple theoretical and methodological perspectives, its potential for the clinical evaluation of skin lesions, the review of complementary tests, remote diagnosis and treatment, as well as for the dermatological education of patients and health professionals, with a marked influence on the development of research projects and decision-making in health policy.[1,4,6,11,13]

A study by Esqueff reports that "in Cuba, in recent years, many skin diseases have been diagnosed, treated, and monitored through photos or video calls."[13] The progressive acceptance of telematic resources by Cuban professionals involved in dermatological care is commendable. Hence, the relevance of gradually introducing teledermatology as an integrative node of healthcare, educational, research, and management functions in the curriculum design of undergraduate and graduate programs in professional dermatological training.

In this regard, we agree with Camero et al.[17], who, at the conclusion of a critical review of the Dermatology program for the Medicine degree, state that "its objectives, content, and evaluation are in line with the model of the professional it aims to train; however, it is susceptible to improvement."

In this regard, the authors of this article consider it feasible to include in the methodological guidelines of the program above the curricular treatment of teledermatology based on the establishment of interdisciplinary relationships that consider—from an integrative perspective of professional functions—the potential of curricular strategies linked to pedagogical training, research methodology, medico-legal practice, and medical informatics.[18] A didactic projection of this type of orientation is documented in the study conducted by Tellez et al.[19], which explored the potential of the computer version of the Dermatin 1.0 software for performing

dermatoneurological examinations.

On another level of analysis, it is reported that the results of the review of the Postgraduate Medical Specialty Program in Dermatology did not reveal any epistemological elements of teledermatology in the didactic structure of the content; However, potential for its gradual introduction was identified, based on an integrative approach to professional functions and an interdisciplinary approach to innovative treatment using ICTs in professional training, in accordance with the scientific and technical development needs and socioeconomic conditions of the country.

For its part, the systematization of experiences regarding the background and projections of the curriculum design of postgraduate programs in Dermatology does not reveal any methodological or practical references in the field of teledermatology.[20] This contrasts with current healthcare trends and curriculum designs prevailing globally.[1,3,4,8,9]

In this sense, professional development must focus on updating knowledge and optimizing performance to meet needs in terms of determining high-resolution and high-quality photographic image indicators, the photographability of lesions, the feasibility of storage devices, tools for synchronous and asynchronous communication, the portability of the image and video system, organizational costs, data transmission and IT security, data recovery and visualization, the right to digital disconnection, and mastery of the legal framework applicable to teledermatology, among others.[7,13,21]

Incidentally, the documentary review of various legal provisions of the Cuban legal system indicates that the issue is currently a matter of legislative development. It is classified among the pillars of public health, which promote the quality of services through technological innovation, as provided for in current legislation.[15]

The innovative understanding of teledermatology as an integrative node of professional functions in the health sector resulted from a review of several studies that reinforced the objective advantages of teledermatology from an interdisciplinary approach.[1,2,3,6,11] However, there is correspondence with Esqueff›s criteria, who recognizes that «in some patients with certain skin diseases, it is difficult to establish positive diagnoses using this technique, and nothing can replace the classic dermatological examination, through questioning, observation, and palpation of the skin and its appendages.”[13]

In the academic debate on the limitations of teledermatology, particular significance is attached to the issue of dependence on image quality and the lack of physical interaction with the patient. There is undoubtedly a notable tendency to focus on the presentation of the lesion, rather than considering the patient as a whole as a biopsychosocial unit.[13] Hence, the conceptual emphasis of this article is on teledermatology as a complementary alternative of a supplementary nature under certain conditions. This implies assessing, in a relevant and context-specific manner, the risks and benefits of using telematic resources in dermatology patient care.

It also highlights the theoretical and methodological value of the results and their proactive nature, typical of science, as they go beyond Cuba’s economic and social development limitations to project a transformative understanding of teledermatology across the organizational, legal, and curricular spheres, with an emphasis on professional tasks.

## CONCLUSIONS

In conclusion, the study of teledermatology is a novel research topic with significant potential as an integrator of professional functions and tasks. It was evident that there are practical limitations to the development of teledermatology, including technological barriers to connectivity and access to telematic devices, as well as the need to address professional training to update knowledge and optimize performance in healthcare, educational, research, and management tasks related to teledermatology.

Based on the assessments in this study, introducing curricular modifications that incorporate teledermatology and its integrating nodes as teaching content in undergraduate and graduate programs is a fundamental avenue for improving professional dermatological training.

The evaluation criteria of the focus group members demonstrated the relevance of theoretical and methodological aspects for the development of teledermatology, from an integrative perspective of professional tasks in the health sector, confirming the achievement of the proposed objective.

## BIBLIOGRAPHICAL REFERENCES

1. Aribel Talamantes A, Socorro Álvarez Villaseñor A, Ibarra Urzua H, García Valdez R. Beneficios obtenidos con la consulta de teledermatología en Guerrero Negro, Baja California Sur. Horiz Sanit. 2022;21(1):105–12. http://dx.doi.org/10.19136/hs.a21n1.4531

2. Expósito Lara A, Sánchez Chávez RF, Feria Díaz GE, Huaraca Morocho BC. La telemedicina, entre la legalidad y la ética. Rev Cubana Reumatol. 2023;25(4):e1238.

3. Gómez Arias PJ, Abad Arenas E, Arias Blanco MC, Redondo Sánchez J, Galán Gutiérrez M, Vélez García Nieto AJ. Aspectos medicolegales de la práctica de la teledermatología en España. Actas Dermosifiliogr. 2021;112:127–33. https://doi.org/10.1016/j.ad.2020.09.003

4. Insuasty P, Jaramillo F, Arnoby Chacón J. Sistematización del programa de teledermatología de la Universidad de Caldas, departamento de Caldas, 2002–2010. Rev Asoc Colomb Dermatol. 2020;28(3):226–39. https://doi.org/10.29176/2590843X.1532

5. Vivo Ocaña A, Bermejo P, Tárraga López PJ. Baja implantación de la teledermatología. JONNPR. 2020;5(3):259–94. https://doi.org/10.19230/jonnpr.3222

6. García Leyva Y, González González K, de la Rosa Pérez L, Céspedes García D, Leyva Hernández K. Impacto de la teledermatología en pacientes con cáncer cutáneo durante la COVID-19. Rev Finlay. 2021;11(4):101–21.

7. Arimany Manso J, Pujol RM, García Patos V, Saigí U, Martin Fumadó C. Aspectos médico-legales de la teledermatología. Actas Dermosifiliogr. 2020;111(10):815–21. https://doi.org/10.1016/j.ad.2020.08.008

8. Seijo Cortés JA, Ramos Garibay JA, Valdéz Velasco JJ, Meneses Delgadillo LE, Ángeles Alcántara JL. La pandemia por COVID-19: crecimiento de la telemedicina y la teledermatología. Dermatol CMQ. 2023;21(2):148–67.

9. Pasquali P, Romero Aguilera G, Moreno Ramírez D. Teledermatología en tiempo de pandemia: el antes, el durante y el después. Actas Dermosifiliogr. 2021;112:324–9. https://doi.

org/10.1016/j.ad.2020.11.008

10. Hasbún Zegpi C, Rojas Lechuga MJ, Contador González J, Curi Tuma M, Sandoval M. Teledermatología asincrónica a través de WhatsApp®: experiencia en la Pontificia Universidad Católica de Chile. Rev Med Chil. 2020;148(9):1289–94.

11. Santa Vélez C, Acosta Madiedo de Hart AC, Pérez Madrid C, Galeano Piedrahita E, Morales Restrepo D, Laasch Restrepo M. Estado del arte de la teledermatología. Rev CES Med. 2020;34(3):198–206. http://dx.doi.org/10.21615/cesmedicina.34.3.3

12. García Leyva Y. Uso de las tecnologías de la información y las comunicaciones en el proceso docente en dermatología. En: XV Jornada de Aprendizaje en Red, Universidad Virtual de la Salud; 2022.

13. Esqueff Díaz N. Teledermatología: tipos, ventajas y desventajas. Medimay. 2023;30(3):404–6.

14. Ministerio de Salud Pública (CU). Programa de la especialidad Dermatología. Dirección Nacional de Docencia Médica; 2015.

15. Asamblea Nacional del Poder Popular (CU). Ley 165 de la Salud Pública. Segundo periodo ordinario de sesiones de la X Legislatura; 2023.

16. Ministerio de Trabajo y Seguridad Social (CU). Resolución 71/2021: reglamento sobre el trabajo a distancia y el teletrabajo; 2021.

17. Camero Machín JC, Jiménez Valladares J, Giniebra Marín GM, Anuy Echevarría K. Análisis curricular del programa de la asignatura Dermatología en la carrera de Medicina. Edumecentro. 2022;14:e1940.

18. Giniebra Marín GM, Camero Machín JC, Rivera Rivadulla R. Análisis del programa de la asignatura Dermatología de la carrera de Medicina. Folia Dermatol Cubana. 2022;16(3):e249.

19. Téllez Céspedes N, Torres Candebat R, Rojas Meriño O. Método didáctico para la enseñanza del examen dermatoneurológico. Folia Dermatol Cubana. 2020;14(1):e196.

20. Sotolongo Díaz D, Diéguez Batista R, García Pérez RP, Leiva Pérez A, Montes de Oca Álvarez M, García Martín D. Antecedentes y concepciones actuales del proceso de formación del especialista en dermatología. Educ Med Sup. 2024;38:e4031.

21. Bósquez Remache JD, Campaña Muñoz LC, Chica López LN. El derecho a la desconexión digital en el contexto del teletrabajo. Rev Conrado. 2022;18(Suppl 2):477–88.

**FUNDING**

None.

**CONFLICT OF INTEREST**

None.

## AUTHOR CONTRIBUTION

*Conceptualization:* Evelyn González Betancourt, Yasser García Baró.
*Formal analysis:* Evelyn González Betancourt, Yasser García Baró.
*Research:* Evelyn González Betancourt, Yasser García Baró.
*Methodology:* Evelyn González Betancourt, Yasser García Baró.
*Writing – original draft:* Evelyn González Betancourt, Yasser García Baró.
*Writing – revision and editing:* Evelyn González Betancourt, Yasser García Baró.