Continuous Professional Development Centered on Learning Needs

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ABSTRACT

Introduction: for some time now, the Family and Community Medicine Service (F&CM) of our institute has offered continuing medical education activities to its physicians, but these were never formally evaluated. We set out to assess the current academic program and redesign the educational proposal based on the participants' learning needs (LN).

Development: in 2021, we assessed satisfaction with the current academic program and explored LN using three gathering methods: a survey, focus groups, and a questionnaire. With this data, we designed a new continuing professional development (CPD) proposal that we implemented in 2022 and evaluated at the end of 2022 using a new survey.

Results: in 2021, 90 out of 148 physicians (61%) completed a survey; 16 responded to the questionnaire, and 73 participated in focus groups. Participants mentioned several areas where they would like to receive training and the fundamental skills that make up the family physician's practice. Some activities in the current program were valued and responded well to the LNs, but others received criticism for lack of usefulness and relevance to practice. With this information, for 2022, we designed a new educational proposal suggesting 12 thematic axes with didactic, practice-oriented activities, where each participant chose what to train in. At the end of 2022, 58 out of 148 physicians (39%) responded to the evaluation survey. Most of them found the activities helpful and were motivated to participate by interest in the subject and time availability. There was good participation in the activities, although the workload of the teaching teams also increased as the number of activities increased.

Conclusion: the new proposal provided greater flexibility, accessibility, and autonomy in continuing education and was well-rated. The next challenge is to continue to evaluate how we can maintain the satisfaction and quality of the program without overloading the teaching teams and how to complement the program with other strategies that promote changes in practice.

Key words: Continuous professional development, curriculum design, evaluation, learning needs.

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Desarrollo profesional continuo centrado en las necesidades de aprendizaje

RESUMEN

Introducción: hace tiempo que el Servicio de Medicina Familiar y Comunitaria (SMFyC) de nuestra institución ofrece actividades de educación médica continua a sus médicos, pero hasta el momento nunca habían sido evaluadas formalmente. Nos propusimos evaluar el programa académico actual y rediseñar la propuesta educativa basándonos en las necesidades de aprendizaje (NA) de los participantes.

Desarrollo: en 2021 evaluamos la satisfacción con el programa académico vigente y exploramos NA utilizando tres métodos de recolección: encuesta, grupos focales y un cuestionario. Con esta información diseñamos una nueva propuesta de desarrollo profesional continuo (DPC) que implementamos en 2022 y evaluamos a fines de ese mismo año mediante una nueva encuesta.

Resultados: durante 2021, 90 de un total de 148 médicos (61%) respondieron la encuesta, 16 respondieron el cuestionario y 73 participaron de grupos focales. Los participantes mencionaron diversas áreas en las que les gustaría formarse y habilidades fundamentales que hacen a la práctica del médico de familia. Algunas actividades del programa actual eran valoradas y respondían bien a las NA, pero otras eran criticadas por la poca utilidad y relevancia para la práctica. Con esta información diseñamos una nueva propuesta educativa para 2022, proponiendo 12 ejes temáticos con actividades didácticas, orientadas a la práctica, donde cada participante elegía en qué formarse. A fines de 2022, 58 de 148 médicos (39%) respondieron la encuesta de evaluación. La mayoría consideró que las actividades les resultaron útiles y estuvieron motivados para participar por el interés en el tema y la disponibilidad horaria. Hubo buena participación en las actividades, aunque también aumentó la carga de trabajo de los equipos docentes al aumentar la oferta.

Conclusión: la nueva propuesta brinda mayor flexibilidad, accesibilidad y autonomía en la formación continua y fue bien valorada. El próximo desafío es seguir evaluando cómo podemos mantener la satisfacción y calidad del programa sin sobrecargar a los equipos docentes y cómo complementar con otras estrategias para generar cambios en la práctica.

Palabras clave: desarrollo profesional continuo, diseño curricular, evaluación, necesidades de aprendizaje

INTRODUCTION

Background

Currently, medical knowledge is advancing rapidly. It is a challenge for health professionals to keep up to date[1]. Continuous Professional Development (CPD) comprises a series of activities that healthcare professionals undertake to maintain, develop, and enhance the knowledge, skills, professional performance, and relationships they utilize to provide care to patients, the community, and the profession. This strategy emphasizes autonomous learning and reflection in practice and includes Continuing Medical Education (CME) activities focused on updating professionals to improve patient health outcomes. It also addresses clinical mastery and other professional practice abilities such as communication, collaboration, and professionalism.

To ensure that educational strategies result in change, we should design them around the participants' learning needs (LNs)2,7. The LNs can be defined as a gap in knowledge or skills and can be classified as felt (identified or perceived by the individual), expressed (observed), normative (established by experts), and comparative (through comparison of groups). They can identified through experience, personal reflection, performance reports, and peer feedback. They may also act as triggers for learning.

Context

Our institution is a University Hospital with Pre-paid Health Insurance providing health services to 164,034 affiliates. It has a Family and Community Medicine Service (FCMS), which has 148 doctors who, for the past 32 years, have been responsible for acting as family doctors for affiliated patients. Within the FCMS, there are different Continuing Medical Education (CME) activities to ensure the updating and training of the physicians in the Service. Participation in these activities falls within the standards of the medical care quality program. These activities include 1) weekly case presentations where Service physicians take turns presenting clinical cases, 2) weekly meetings in groups of 15-20 people where doubts about practice are discussed more informally (called UDA for Unidad Docente Asistencial or Teaching and Assistance Units), and 3) biweekly case discussions or activities with varied themes (synthesis of a topic with

a review of evidence or update on the management of frequent issues in outpatient medicine).

Problem

Recently, a new team has been developed within the FCMS aimed at reviewing CME activities and implementing a more comprehensive program based on the CPD model. Our objective was to conduct a situational diagnosis by evaluating satisfaction with current academic activities and the LN of professionals. This initiative is novel in our environment, as until now, there was no formal evaluation data of the educational strategy beyond the percentage of attendance to academic activities collected by the medical care quality program.

DESARROLLO

Realizamos un estudio descriptivo, analítico, con enfoque mixto: cualicuantitativo. El estudio se llevó a cabo en el SMFyC durante los años 2021 y 2022. Seleccionamos a médicos de familia asociados y de planta de dicho Servicio que atienden consultorio como médicos de cabecera.

Theoretical Framework

The evaluation of an educational program consists of gathering information from a part or the entirety of it to judge its merit and identify aspects or objectives for improvement. To evaluate the current training program, we rely on Moore's theoretical framework, which includes six levels of evaluation: 1) Participation, 2) Satisfaction, 3) Learning, 4) Performance, 5) Patient Health, and 6) Community Health. We focus on the first two levels: participation and satisfaction. Satisfaction means the degree to which the program meets participants' expectations about the setting, content, and activity delivery, whether they feel it is conducive to learning, and whether the individual components are valuable. To design the curriculum of the new training proposal, we relied on Kern's model, which proposes six steps: 1) Identify the problem, 2) Assess learning needs, 3) Establish goals and objectives, 4) Select educational strategies, 5) Implement, 6) Evaluate and provide feedback on the program.

Satisfaction Evaluation

To assess participants' satisfaction with the current academic program and later with the new program, we conducted two anonymous self-administered surveys in 2021 and 2022, respectively. These surveys were created using Google Forms® and mailed to the institution's SMFyC physicians. They used closed multiple-choice or Likert scale questionnaires and open-ended questions to evaluate their reactions to the program developments, strengths, and weaknesses (Annex 1).

Learning Needs

To assess learning needs, we utilized three data collection methods. Firstly, we included open-ended questions in the mentioned self-administered anonymous survey to gather felt learning needs (those identified or perceived by themselves). Subsequently, we conducted focus groups to delve deeper into the aspects identified in the survey. We selected a convenience sample from the groups within the UDA, leveraging the already established trust and protected time of this activity, with prior consent from the participants.

Two researchers worked with each focus group using a question guide (Annex 2) that explored felt, expressed, and normative learning needs. That is, we not only inquired about the gaps in knowledge and skills that participants perceived in themselves (felt) but also what they had observed or heard from colleagues (expressed) and what they considered to be basic concepts that every family doctor should know (normative). The researchers conducting the focus groups did not have a hierarchical relationship in the workplace with the other participants. We conducted a separate focus group with the coordinators of the UDAs to encourage participants to express themselves freely without the coordinator's presence. We recorded the meetings and then transcribed them verbatim for later analysis, preserving the anonymity of the participants.

Finally, we conducted an open-ended questionnaire with individuals we couldn't reach through the UDA, as out of the total of 148 physicians, approximately 120 enrolled in the UDAs, but effectively, attendance is lower. We conducted a quota sampling of physicians who had not participated in the focus groups, attempting to represent those who devote less or more than 40 hours per year to academic activities. We sent the questionnaire via email and reminders until reaching the necessary quota in each group. The sample size used depended on the theoretical data saturation.

To design the questionnaire, we relied on the critical incident method (Annex 3), previously used to evaluate medical education strategies and learning needs. With this technique, we explored felt learning needs by asking individuals to identify and record an incident in which they think they should have performed better or in which they performed well. We analyzed the incident based on its environment, what precisely happened, the outcome, and why this was or was not effective. In our context, the "critical" component highlighted how well or poorly they performed their roles as family doctors within their clinical, communication, managerial/administrative, health promotion, self-directed learning, collaborative, and professional framework.

Analysis

We conducted a quantitative statistical analysis of the closed-ended survey questions and a thematic analysis of the open-ended survey questions, the critical incident questionnaire, and the audio of the focus groups transcribed verbatim16. Two researchers identified codes separately that were then compared and discussed with the rest of the team to reach a consensus on the analysis.

Subsequently, these codes were grouped into sub-themes and themes to produce the final report.

Ethical Aspects

The entire study was run according to the regulatory standards for human health research at the national level, based on the Ministerial Resolution No. 1480/2011, good clinical practice guidelines, the Helsinki Declaration and its amendments. The protocol obtained the approval of our institution's Ethics Committee for University Research Protocols under number 0027-21.

EXPERIENCE ANALYSIS

Diagnosis of Situation and Exploration of Learning Needs in 2021

At the end of 2021, we sent the satisfaction evaluation survey with the current program to the 148 family doctors comprising the Service, of which 90 responded (61%). Of the physicians attending the UDA, we had 73 doctors participate, divided into seven focus groups to explore learning needs. To complement the exploration of learning needs, we also sent the critical incident questionnaire to the physicians who did not attend the UDA and had not taken part in the focus groups until reaching theoretical data saturation after competencies (as an expert, 16 responses (Table 1). Most participants attended academic activities and had ten or more years of training and membership in the FCMS (including residency).

A. Satisfaction

a. Strengths

The most highly rated activities were the UDA and one of the biweekly evidence synthesis sessions because they were well-designed spaces that participants found of use for staying updated and resolving doubts in their everyday practice. "It's a very well-designed space that has a great deal of planning behind it. The brief presentations of evidence, followed by the exchange with specialists and discussion, are very enriching." Participant N29 -

Survey

The most valued characteristics of the academic activities were the ability to choose according to needs/interests, the virtual format facilitating access, the didactic nature of the activities, their orientation towards clinical practice with the application of concrete resources, and their encouragement of exchange with colleagues, creating a space for meeting and collegiality to stay updated.

b. Weaknesses

The least valued activity was the weekly athenaeum. Participants often expressed that the activity's design no longer seemed appealing to them, that the objectives were not clear enough, that the subjects kept repeating themselves, and that they frequently did not find them relevant to their practice. "I'm finding them boring, it's difficult to know what to present since presenting 'rare cases' is frowned upon, the theme gets repeated a lot, sometimes when a guest comes, what they say may not sit well, there are few guests." Participant N39 - Survey.

Other disadvantages highlighted were their not knowing in advance the topic of the athenaeums and the schedule of this space, which was at the end of the workday. Lack of time emerged recurrently as a limitation for participation in general, but especially when discussing the weekly athenaeum.

"I feel that the activities are a bit of a surprise and you don't know what topic there will be. And maybe you just prepared

Table 1. Characteristics of the participants

	Survey (90)	IC (16)	GF (73)
Years as medical doctor n (%)			
<5	3 (3.3)	0 (0)	-
5-9	15 (16.7)	1 (6.3)	-
10-19	32 (35.6)	7 (43.8)	-
>20	40 (44.4)	8 (50)	-
Years of FCMS service (%)			
<5	11 (12.2)	0 (0)	
5-9	15 (16.7)	1 (6.3)	
10-19	39 (43.3)	12 (75)	
>20	27 (27.8)	3 (18.8)	
Participates in the activities			
Yes	82 (91.1)	12 (75)	73 (100)

FCMS Family and Community Medicine Service

yourself, and it was a topic that personally didn't serve you as much as the one for the following week that you couldn't make space for." (FG N2).

Some individuals also mentioned that the learning atmosphere was not always free from criticism or judgmental values, and sometimes presenters did not enjoy presenting a clinical case because they felt exposed and pressured to please the audience.

"The atmosphere of the activity does not always seem appropriate to me because sometimes there is very harsh criticism from other participants towards the people who present or participate, which is counterproductive to participation." Participant N75 - Survey.

B. Learning Needs

We grouped the learning needs into two main themes: "Clinical Expertise" and "Doctor-Patient Relationship". A third theme related to contextual factors that impact DPC beyond academic activities also emerged.

a. Clinical Expertise

This includes competencies related to clinical expertise. The topics of interest were highly varied and related to years since graduation, changes in patient caseload, and the types of consultations received. "I have very complex patients, in my caseload (...) which was completely different from what I experienced in my initial training (...)" (FG N3) "Acute pathologies in which we have lost practice due to seeing patients in the office..." (Participant N6 - IC)

b. Doctor-Patient Relationship

Participants highlighted the importance and necessity of developing competencies related to communication with patients and other professionals. Topics such as shared decision-making, motivational or family interviewing, and the importance of interdisciplinarity and collaboration with colleagues to provide better care emerged.

"To know how to communicate, when it is appropriate to have some knowledge of shared decision-making (...) And not only with patients but with the rest of the healthcare system." (FG N2)

c. Contextual Factors

Factors that facilitate continuing education beyond the content of academic activities were mentioned. For example, they mentioned having updated and summarized information on clinical topics, patient recommendations, information on hospital resources, institutional positioning, and medical association stances on various issues. Participants emphasized that these resources should be centralized and easily accessible online since they were often found in several repositories or required different user credentials to get access. "I consider content related to the how/where/when/who important." (Participant N34 - Survey) Some individuals also mentioned the importance of having funding for courses, as this is often a barrier to continuing education.

Design and implementation of the new training proposal in 2022

We managed to identify areas of the training proposal that were functioning well and others that needed improvement to meet the needs of our professionals.

Flexibility and autonomy in deciding what to train in were among the most recurring aspects. With this in mind, we designed an innovative educational proposal consisting of 12 training axes (selected based on the collected information), where each professional could choose the area to train in during an academic year (Fig. 1 and Table 2). The new academic proposal, to be implemented in 2022, was discussed with the teaching teams referring to FCMS and was defined at the beginning of the year so that professionals knew the topics of each activity in advance. Each axis had a similar hourly load and number of academic credits. In addition, professionals could attend other activities they were interested in apart from the axis chosen at the beginning of the year or even attend without selecting any particular axis. However, the idea was to encourage commitment and focus on one aspect of their training.

We modified the design and development of activities, especially the weekly Wednesday sessions, which were the most criticized. We reduced the quantity (biweekly frequency instead of weekly) and increased the quality of Wednesday activities, which became considered core or "nucleus" meetings for family doctors' training (see below). These activities became coordinated and designed by teaching references from the Service with support and advice from the DPC team, forming part of the academic offering of each training axis.

Additionally, we worked with the healthcare quality program, which is closely related to continuous education, as attending a certain number of academic activities is part of the program's standards. We prioritized quality over quantity, reducing the number of teaching hours required to fulfill the program, providing more options, and encouraging the selection and commitment to an axis aligned with each individual's learning needs and motivations.

Another notable aspect of the situational analysis was the accessibility provided by virtuality. Upon exiting the COVID-19 pandemic, where the virtual format was the only option, we decided to maintain some activities in this format while others returned to in-person. In this way, we sought a balance that facilitated access while also fostering socialization, peer interaction with colleagues (both within and outside the learning environment), and ensuring that the format of activities was defined based on the best strategy to achieve learning objectives.

Interdisciplinary, Service positioning or institutional meetings and other activities considered central to the training of family doctors or the functioning of the

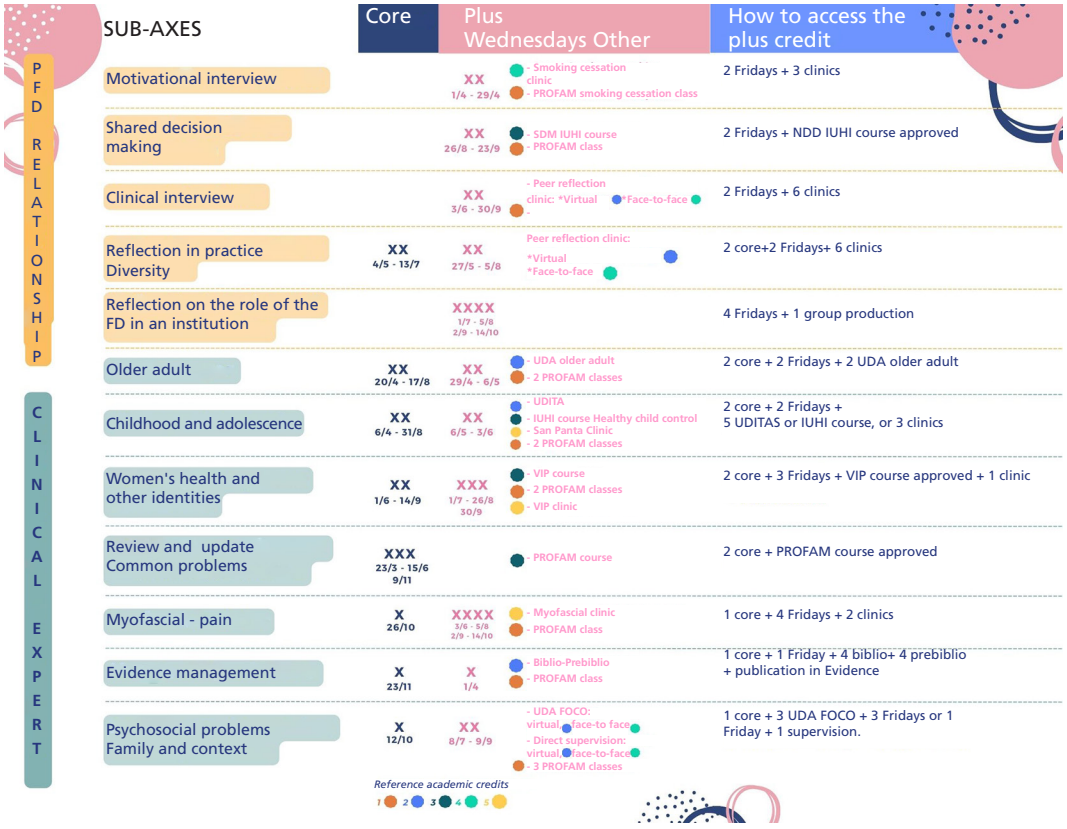

Figure 1. Infographic of the academic proposal.
This infographic was distributed among family doctors at the beginning of the year as an overview of the educational proposal so they could choose which area to specialize in. On the left are the twelve training axes (or sub-axes), and on the right are the proposed activities for each one and what was rewarded by the quality of the medical care program ("credit plus"). MPF: Physician-Patient-Family. PROFAM: Program of Continuous Education in Family, Ambulatory, and Community Health. SDM: Shared Decision Making. IUHI: Italian Hospital University Institute. UDA: Teaching Assistance Unit. UDITA: UDA focused on children and adolescents' issues. San Panta: San Pantaleón Community Health Center.

FCMF remained in a face-to-face format (biweekly "core" meetings). However, half of the UDAs and a significant portion of Friday meetings took place virtually unless the activity's objective warranted an in-person meeting (for example, to acquire practical skills).

Lastly, we also developed summaries of evidence or practical information for the clinic that arose from the activities in collaboration with the responsible teachers. This way, we assembled a repository on our institutional website.

Evaluation of the new training proposal at the end of 2022

We sent the survey to evaluate satisfaction with the new academic program again to all 148 family doctors and obtained 58 responses (39% response rate). Of all the respondents, 55 (95%) chose an axis for training at the beginning of the year, and 36 (62%) participated in activities outside the selected axis.

Of the 12 axes offered, one was closed due to no enrollment, and five others had five registrants or fewer. However, the activities within these latter axes had good attendance, similar to axes with more registrants. That is, they were equally appealing to physicians enrolled in other axes.

Most participants considered that the learning objectives set in the activities were achieved and found them helpful for their practice. The main motivations for participation were interest in training on the topic and schedule compatibility with the activities. Many agreed on the proposal being diverse, sufficient, and relevant to family doctors' practice. Some proposed new subjects and improvement suggestions that we considered for the academic offering in 2023.

Table 2. Examples of Continuing Education Axes

Axis	Objetives	Continuing education strategies	Sample topic/detail
Older adult	To constitute a space for sharing clinical situations related to the elderly. To develop practical and specific skills for managing frequent consultations in older adults. To develop a communication and consultation channel for the older adult".	Core meeting: Discussion with experts on the topic	Tools for the pharmacological and non-pharmacological approach to chronic pain in older adults.
		Activity plus: Discussion with expert and presentation of cases	Initial assessment and diagnosis of cognitive complaint, cognitive impairment, and dementia.
		UDA: small group discussion	Spontaneous cases and doubts on various topics related to the care of the elderly brought by the participants.
		Course in Medicine and Ambulatory Practice (PROFAM)	Class: Urinary incontinence in the elderly
		Spontaneous consultation with coordinating referents of the axis	Phone or email consultation channel for addressing specific and spontaneous doubts regarding patient management.
Children and adolescents	Acquire the tools and skills for managing consultations with pubertal and adolescent patients in the family doctor's office.	Core Meeting: Presentation of cases	At-risk adolescents. Evaluation of suicidal risk and addictions
		Activity plus: Role playing and interchange with experts.	Interview with the adolescent. Triangulation, Confidentiality Right to information. Autonomy. Current laws.
		UDA: Small group discussion	Spontaneous cases and doubts on different topics regarding children and adolescents brought by participants.
		Supervised Clinic	Joint attention in the consulting room supervised by experts
		Virtual course	Healthy child check-ups at the primary care level.
Women's health and other identities	"Enumerating indications, access methods, coverage, and implementation in the hospital of contraceptive methods. Reviewing real postpartum issues and their approach. Acquiring tools for the placement of subdermal contraceptive implants. Defining the legal framework and management within the hospital for voluntary termination."	Core meeting: Playful activity coordinated by experts	Contraception in FD practice: indications of the contraceptive methods, coverage, and form of access at the hospital.
		Plus activity: reflection from clinical cases	"Puerperium of real people": to review the problems of real puerperium and their approach, taking into account context of each case
		Simulation workshop	Placement of a contraceptive sub-dermal implant.
		Classroom course and clinic rotation	Voluntary Interruption of Pregnancy.
Clinical interview	"To reflect on the clinical interview in family medicine through the implementation of a theoretical framework. To increase versatility as interviewers. Reflect on the practice of the FD as part of a health care delivery system. "	Plus activity: Small group discussion	"Theoretical framework for the construction and analysis of clinical interviews in family medicine based on the cases presented by the participants (oral presentations, recorded audio, or video - with patient authorization)."
		Peer reflection consultations	On three occasions, one observes how the colleague attends (observer), and on another three occasions, roles are switched, and they observe one's own performance (observed). After each observation, they have to share their observations and reflections."
		Course on Ambulatory Medicine and Practice (PROFAM)	Clinical interview class
Reflection on the role of the FD in an institution	"Analyze the role of the FD in a private health care delivery system. Propose recommendations for FD practice in these systems."	Activity plus: reflection workshop	Presentations of FD practice situations in the private health care system, bibliographical research of different resources and the elaboration of recommendations from the individual and Service point of view.
Management of the evidence	"Acquire bibliographic search skills to resolve clinical questions. Apply the tools of critical reading of research articles. Analyze how the results can be applied to clinical practice."	Core Meeting: Plenary	Presentation of the Service's research lines.
		Bibliographic athenaeum (biblio-prebiblio): discussion of articles	Presentation of an article that is analyzed from the methodological point of view and its possible application in practice.
		Activity plus: writing workshop	POE (Patient Oriented Evidence) summary writing workshop and publication in the journal Evidencia. Search and critical reading of evidence class
		Ambulatory Medicine and Practice Course (PROFAM)	

UDA: Unidad Docente Usistencial (Teaching Asistance Unit); FD: Family Doctor

Regarding the publications (summaries containing the most relevant information discussed in the activities), most found them useful and liked having a "repository" for consultation if needed, mainly because many expressed not having time to read all the material produced. A weakness that emerged regarding this issue was the difficulty in accessing the web platform where all these publications were located, which required logging in with a user key.

Scope, Achievements, and Challenges

After more than a year and a half of implementing this new proposal, we reflect on what we have done: the scope, achievements, limitations, and challenges ahead.

We have achieved a more flexible academic proposal based on the needs of our physicians (never formally explored before), providing them with autonomy in their learning. We have improved the quality of academic activities, striving to make them more didactical and practice-oriented, fostering interdisciplinary collaboration, discussion, and reflection among colleagues. We have also provided new tools that facilitate practice, such as summaries and publications, which are currently freely accessible (do not require access keys). All this was highly appreciated by the participants, who have not only joined the activities of the axis of their choice but also others.

As a disadvantage, we observed that higher quality and quantity of activities and publications came with a heavier workload, from being more distributed among all FCMF physicians to being more centralized and under the responsibility of teaching teams. Additionally, we noticed that we offered more axis options than people eventually chose. As a remedy, in 2023, we reduced the offer and decided that the publications material would be produced by the members of each axis themselves.

That allowed us to optimize the team's working time while promoting interpretation and integration of knowledge among participants.

As limitations of the evaluation strategy used (both for the previous program and the current one) and the exploration of learning needs to redesign the training proposal, we have little representation from those professionals who participate little or not at all in the activities. We are unaware of their training needs and how we can promote continuous professional development in them. Additionally, we did not explore how the financial incentive of the healthcare quality program affects participation in activities but only explored intrinsic motivations.

On the other hand, we only focus on the initial levels of evaluation of training programs (participation and satisfaction), and we are unaware of the effects of the strategy on other levels, such as knowledge acquisition and application, and whether this effectively improves the health of our patients. These are more difficult results to measure, and we know that education alone is insufficient for generating a change in practice. This is why, along with the healthcare quality section of the FCMS, we are working to conduct a situational analysis that complements what has been explored about learning needs, using other strategies (for example, measuring performance to explore expressed needs) and focusing on other contextual factors that may hinder the application of knowledge to practice but are not related to lack of training or knowledge. With this information, we plan to develop multidomain interventions and measure their impact on practice in the future.

CONCLUSIONS

We successfully formally evaluated the academic proposal of the SMFyC and designed a new CPD program that addressed the learning needs of its participants. This novel proposal had good participation, acceptance, and enthusiasm. Our challenges for the future are to continue periodically evaluating the training proposal to ascertain how we can maintain those levels of satisfaction and participation over time without overburdening the teaching teams and how to complement the CPD strategy with other strategies to bring about a change in practice.

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