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**LINE SERVICE FOR COVID-19 INFORMATION/TECHNICAL GUIDANCE:
EXPERIENCE REPORT**

**LINHA DE ATENDIMENTO PARA INFORMAÇÃO/ORIENTAÇÃO TÉCNICA
COVID-19:
RELATO DE UMA EXPERIÊNCIA**

**LÍNEA DE SERVICIO PARA INFORMACIÓN/ORIENTACIÓN
TÉCNICA COVID-19:
INFORME DE UNA EXPERIENCIA**

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ABSTRACT

Introduction: In the context of the COVID-19 pandemic, health professionals were faced with the need to manage a lot of information published by competent authorities. The Centro Hospitalar Universitário de Lisboa Central, as a reference for the treatment/follow-up of COVID-19 patients, has developed an innovative strategy, providing a line service for professionals' technical guidance.

Objectives: To describe the creating and implementing process of an innovation strategy designed to improve communication and information management.

Method: Experience report of producing and implementation process of the line service for COVID-19 Information and Technical Guidance.

This line' implementation process had as assumption the development of an informatic platform for the contacts registration and guidance requests, as well as a creation of a manual of frequently asked questions and other information about COVID-19.

Results: Since its conception, the Line received 166 requests for guidance, performed by different professional groups. The most frequent users were nurses (60%) and doctors (15%). The platform created for the contacts' registration, contact reason and follow-up, allowed that a content analysis have been carried out which originated the information' categorization in 10 dimensions. Occupational and surveillance health (30%), patient circuit (29%) and professional circuit (23%) were the most frequent dimensions.

Conclusion: This line has facilitated access to relevant and current information, allowing professionals to solve problems in a timely manner, aiming at the best care in the pandemic context. This strategy has been allowing to enable find creative and innovative solutions that go beyond the immediate needs, having driven local and transversal initiatives across the institution.

Keywords: Communication; Covid-19; Information Systems; Organizational Innovation; Pandemics; Projects; Quality Management.

RESUMO

Introdução: No âmbito da pandemia por COVID-19, os profissionais de saúde foram confrontados com a necessidade de gerir um manancial de informação publicada pelas entidades competentes. O Centro Hospitalar Universitário de Lisboa Central, sendo referência para o tratamento/acompanhamento de doentes com COVID-19, desenvolveu uma estratégia inovadora, disponibilizando uma linha de atendimento para orientação técnica aos profissionais.

Objetivos: Descrever o processo de criação e implementação de uma estratégia de inovação desenvolvida para melhorar a comunicação e a gestão da informação.

Método: Relato de experiência do processo de criação e implementação da Linha de Atendimento para Informação e Orientação Técnica COVID-19.

A implementação desta linha pressupôs a criação de uma plataforma informática para o registo dos pedidos de orientação e a construção de um manual com perguntas frequentes e outras informações sobre a COVID-19.

Resultados: Desde a sua conceção, a Linha recebeu 166 pedidos de orientação, realizados por diferentes grupos profissionais. Os utilizadores mais frequentes são os enfermeiros (60%) e os médicos (15%). A plataforma criada para o registo dos contactos, motivo e acompanhamento realizado, permitiu uma análise de conteúdo para a categorização da informação em 10 dimensões. A saúde/vigilância do trabalhador (30%), circuito do doente (29%) e circuito do profissional (23%) foram as dimensões mais frequentes.

Conclusão: Esta linha tem facilitado o acesso a informação relevante e atual, permitindo aos profissionais resolver problemas em tempo útil, visando os melhores cuidados no contexto pandémico. Esta estratégia tem possibilitado encontrar soluções criativas e inovadoras, que vão para além das necessidades imediatas, impulsionando iniciativas locais e transversais a toda a instituição.

Palavras-chave: Comunicação; COVID-19; Gestão da Qualidade; Inovação Organizacional; Pandemias; Projetos; Sistemas de Informação.

RESUMEN

Introducción: En el contexto de la pandemia de COVID-19, los profesionales de la salud se enfrentaron a la necesidad de gestionar una gran cantidad de información publicada por las entidades competentes. El Centro Hospitalario Universitario Lisboa Central, definido como un hospital de referencia para el tratamiento/seguimiento de pacientes con COVID-19, desarrolló una estrategia innovadora, proporcionando una línea de servicio para orientación técnica a profesionales.

Objetivos: Describir el proceso de creación e implementación de una estrategia de innovación diseñada para mejorar la comunicación y la gestión de la información.

Métodos: Informe de experiencia del proceso de creación e implementación de la Línea Directa de Información Técnica y Orientación COVID-19.

La implementación de esta línea presupuso la creación de una plataforma informática para el registro de solicitudes de orientación y la construcción de un manual con preguntas frecuentes y otra información sobre COVID-19.

Resultados: Desde su concepción, la Línea ha recibido 166 solicitudes de orientación, realizadas por diferentes grupos profesionales. Los usuarios más frecuentes son las enfermeras (99) y los médicos (25). La plataforma creada para el registro de contactos, motivo y seguimiento realizado, permitió un análisis de contenido para categorizar la información en 10 dimensiones. La salud/vigilancia ocupacional (30%), el circuito del paciente (29%) y el circuito profesional (23%) fueron las dimensiones más frecuentes.

Conclusión: Esta línea ha facilitado el acceso a información relevante y actual, permitiendo a los profesionales resolver problemas de manera oportuna, con el objetivo de brindar la mejor atención en el contexto de la pandemia. Esta estrategia ha permitido encontrar soluciones creativas e innovadoras que van más allá de las necesidades inmediatas, impulsando iniciativas locales y transversales en toda la institución.

Descriptores: Comunicación; COVID-19; Gestión de la Calidad; Innovación Organizacional; Sistemas de Información; Pandemias; Proyectos.

INTRODUCTION

In December 2019, an outbreak of coronavirus disease (COVID-19) was recorded in the Chinese municipality of Wuhan. In January 2020, cases were detected in some EU Member States. In Portugal, the first cases of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) were announced on March 2nd, 2020. The exponential increase in the number of cases led the World Health Organization (WHO) to March 11th 2020, declare COVID-19 as a worldwide pandemic⁽¹⁻²⁾.

Considering the rapid epidemiological evolution, a set of legislative and political-sanitary measures was defined, at national level, according to international recommendations, to face the pandemic. The complex and rapid variability in the dynamics of health care, resulting from the context of the pandemic by COVID-19, required an update of the interpretative dynamics of the evidence related to professional practice. Health institutions and their professionals were faced with the need to manage a wealth of information published daily by WHO and the Directorate-General of Health (DGS)⁽³⁻⁴⁾.

The Centro Hospitalar Universitário de Lisboa Central (CHULC), defined as a reference hospital for the treatment and follow-up of patients with this pathology, accompanied this whole process of high dynamism, producing documentation in order to adapt the national and international recommendations to the institutional reality. In this way, among other measures taken, the (re) organization of clinical units and (re) definition of patient circuits stand out, in order to separate the suspected/infected from the rest. The face-to-face assistance activity was reorganized, giving greater expression to telehealth. Visiting restrictions were implemented, even though exceptional situations were considered (pediatrics; end-of-life patients). Procedures related to the use of personal protective equipment (PPE) and other safety recommendations were also defined, in order to minimize the exposure of professionals and patients with SARS-CoV-2. Another measure was the definition of procedures that allowed the early identification of symptoms, implying the definition of circuits for suspected/infected professionals.

The colossal volume of information, as well as the diversity and constant need to update and implement technical standards/guidelines in work contexts, made evident the need to develop strategies to support professionals⁽⁵⁾.

This article describes the experience of implementing an innovative strategy developed to support CHULC professionals in the management of the recommendations issued; facilitate their accessibility and adaptation to the institutional context and care practices, for an adequate and timely response.

METHOD

Experience report on the process of creating and implementing the Line Service for Information and Technical Guidance (*Linha de Atendimento para Informação e Orientação Técnica* – LAIOT) in COVID-19 at CHULC.

Context

Aware of the imperative need to support professionals, both in managing the massive information emanating and in improving communication⁽⁶⁻⁷⁾, the Board of Directors (BD) of CHULC approved the creation of LAIOT, aimed at all its employees, regardless of the professional group or link with the institution.

It was defined that the request for support, which can be made through email or telephone contact, would be available daily, for a total of 74 hours per week, with LAIOT's management carried out by a team of professionals, experts in the area of quality and safety.

Objectives of LAIOT

The main objectives defined for this service line were:

- To provide updated information in the scope of documentation produced by CHULC and DGS, as well as other national and international reference sources;
- To provide technical support to professionals and teams in the implementation of current guidelines and guidelines;
- To clarify doubts, to identify difficulties and suggestions for improvement processes;
- To ensure proximity to professionals while maintaining a safe distance.

Team constitution

Currently, the line is run by a total of 12 professionals, belonging to Technical Support structures within the scope of Quality and Safety, who reconcile their usual activity with the activity of LAIOT. LAIOT is managed by the Patient Safety Office (*Gabinete de Segurança do Doente* – GSD) and the Quality Program Management Office (*Gabinete de Gestão de Programas da Qualidade* – GGPO).

The constitution of the team by elements that integrate the listed institutional structures was implicit and natural. Before the existence of this line, it was customary to seek technical support from these elements, by different professionals. On the other hand, the previous work experience of these teams, with knowledge of the work contexts, practices and multidisciplinary teams, with a transversal perspective of the institution, as well as the skill in the management of the documentation, made the choice of these elements as a resource obvious of support.

Manual of Frequently Asked Questions

Once the team was formed, there was a need to create the work tools. In the first stage, a manual was prepared that integrates a set of frequently asked questions, with answers based on studies, standards, and guidelines on COVID-19. This manual was fundamental as a unifying matrix of contents.

The frequently asked questions initially compiled resulted from previous research work⁽⁸⁾, as well as contacts previously received by the team members.

However, the systematic change of the national and international reality, of the information and of the felt needs, quickly outdated the questions initially contemplated in the manual, making it rare that the real question already had an elaborated answer. This observation, at an early stage of the process, triggered the need to carry out an intense research on the latest guidelines/standards and scientific articles daily, with consequent updates of this instrument.

IT Platform

The continuous updating, the growing number of contacts and the need for quick access to the contents of the manual, led to the creation of a computer platform. When it is created with support from the Information Systems and Technologies Management Area (*Área de Gestão dos Sistemas e Tecnologias de Informação – AGSTI*), it makes it possible to record the contacts received and the type of guidance/referral made. It also provides quick access to information material considered essential and frequently consulted by the team, as well as a list of contacts most required in the management and treatment of situations. This platform has become a basic tool for the team's activity, enabling the quantitative and qualitative analysis of the recorded information, which is fundamental to the improvement process.

Note the respect for the ethical principles recommended in the Declaration of Helsinki, with the opinion of the ethics committee being waived, since there was no direct investigation with human beings. However, it is important to clarify that the information registered on the platform is anonymized.

Divulcation

The divulgation of this service line as a resource has been disseminated in various ways at the institution. The formalization of its existence was published in an internal information circular on March 25, 2020. It also included weekly messages sent by the Chairman of the Board to all professionals, with the weekly status of the CHULC's response to the evolving epidemiological context.

A publicity video was also prepared, which is available on the intranet, as well as on the CHULC website⁽⁹⁾. However, the public presentation of LAIOT took place for the first time, within the scope of the celebrations of the International Nurses Day 2020, promoted by the Scientific Association of Nurses. This initiative enabled a wider dissemination of its existence⁽¹⁰⁾.

RESULTS

In the first four months of its existence, this service line received 166 requests for support/guidance, requested by employees from different professional groups, as shown in Fig. 1.

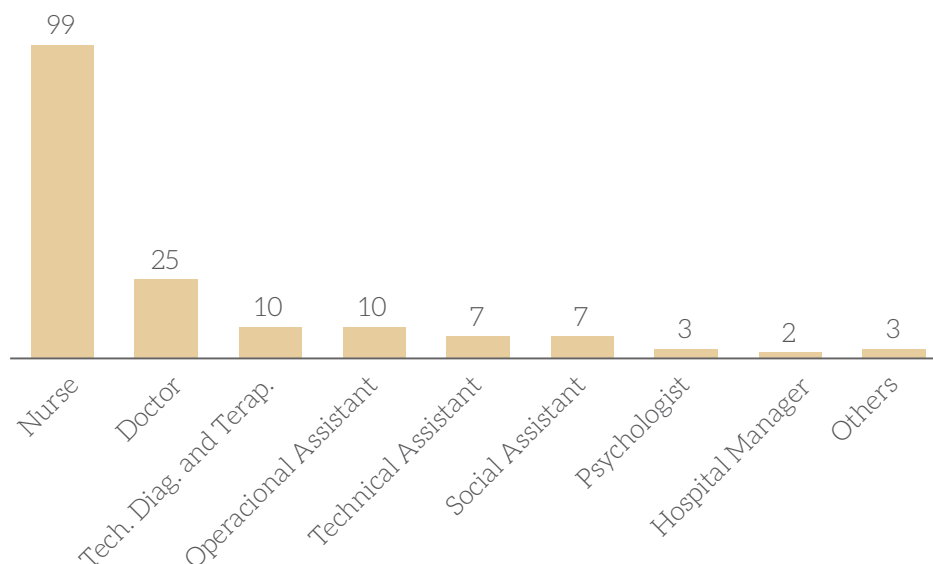


Figure 1 – Distribution of requests for support/guidance by professional group.

From the analysis of the graph, it appears that the most frequent users are nurses (60%) and doctors (15%), followed by Technicians of Diagnose and Therapeutics (6%) and Operational Assistants (6%).

To facilitate and to standardize the contact register, dimensions were created in order to group the questions asked. As a result of the content analysis of the questions and the review that was periodically carried out by the Line's coordination, this classification has undergone changes. In the last month, it was found that about 1/3 of the contacts were "Unclassified", mainly due to new issues arising from the progressive resumption of activities at CHULC. This finding led to the need to reformulate or create new dimensions.

There are currently 10 dimensions, with the questions distributed as shown in table 1.

Table 1 – Distribution of requests for support/guidance by dimension.

Dimension	No. of request of support/guidance	%
Worker's Health/Surveillance	49	30
Patient Circuit	48	29
Professional Circuit	38	23
Use of PPE	8	5
Information Access/sharing	6	4
Equipment/technical procedures	5	3
Worker's Rights	4	2
Computer Records	4	2
Risk of Infection Transmission	2	1
Patients/Caregiver Rights	2	1
Total	166	100

From the analysis of the data presented, it appears that the most frequent dimensions are: worker's health/surveillance (30%), patient circuit (29%) and professional circuit (23%).

Dimensions description

1. Worker's Health/Surveillance

Surveillance of workers' health in this context of a pandemic was one of the most addressed themes in the contacts received by LAIOT, as a result of concern about possible contacts with infected/suspected people. The questions raised included doubts regarding the need to perform a test by contact with colleagues and/or patients or by cohabitation with infected/suspected cohabitants.

Example of question:

A patient with a positive COVID-19 test was detected. Is there a need for the whole team to be tested? What procedures should we follow?

Most of these contacts were clarified using national or internal guidelines on the topic and/or forwarded to Occupational Health (OH).

2. Patient Circuit

The questions raised in this dimension are related to doubts related to the process of hospitalization and transfer of patients and measures to be taken, namely whether to carry out a test.

Example of question:

1) Patient with no suspicion of COVID-19 who needs to be tested at another hospital. Is it necessary to repeat the test?

2) Patient who will be transferred from another hospital center and who has an inconclusive test result for COVID-19. Can I accept the transfer under these circumstances?

Most of these contacts were answered using national or internal guidelines on the topic, some of which involved articulation with different structures, namely the infectious disease units and/or with the Local Coordination Group – Program for the Prevention and Control of Infection and Antimicrobial Resistance (Grupo Coordenação Local – Programa de Prevenção e Controlo de Infecção e Resistência aos Antimicrobianos – GCL-PPCIRA).

3. Professional Circuit

This dimension encompassed issues related mainly to the lack of knowledge or doubts in the circuit established in the CHULC, defined in accordance with the guidelines of the DGS.

Example of question:

Is there a specific circuit for professionals with symptoms suggestive of COVID 19? What are the procedures to follow until testing is performed? Until we have the result, can we work or should we remain in isolation?

Since the beginning of the pandemic, CHULC has defined, in an internal contingency plan, the circuits, isolation sites and procedures to be followed by professionals. In this dimension, LAIOT's support was mainly aimed at guiding professionals to the procedures already defined.

4. Use of PPE

In this dimension, all the questions encompassed about the definition and use of PPE in different contexts and situations of care provision were included.

Example of question:

What type of PPE should I use for resuscitation, whether a patient is suspected of having COVID-19 or not?

The answer to questions of this dimension implied a thorough validation/update of the information issued by the DGS, as well as the articulation with the GCL-PPCIRA and with Occupational Health, in order to guarantee the adequacy and rational use of PPE, without compromising the safety of professionals and patients.

5. Information Access/sharing

The contacts included in this dimension refer to requests for help/information regarding the existing information and dissemination materials.

Example of question:

How can I access the information released by the DGS (information material, rules, guidelines, posters, etc.)? What posters should I have posted on my unit?

The support provided by LAIOT was mainly aimed at guiding professionals to the most appropriate consultation places and in the selection of the most relevant information materials to be made available and posted in the units according to each work context.

6. Equipment/technical procedures

In this dimension, there are issues that began to emerge more recently as a result of the progressive resumption of the planned activities of CHULC.

Example of question:

How can I schedule a COVID-19 test for a patient scheduled for elective surgery?

The questions of this dimension implied an articulation with the units of infectious diseases and guidance for the internal procedures already defined.

7. Worker's Rights

Dimension that encompasses legislative and labor issues, related to the concern of workers to ensure their rights.

Example of question:

a) I took the COVID-19 test and I am waiting for a result. How is the absence period for the test to be performed until the respective result is obtained in my schedule?

b) I have an elderly, dependent family member, whose his usual caregiver is prevented from maintaining the activity. Is there any guidance that allows my absence to provide with the necessary support?

The answer to these questions implied an articulation with the Human Resources Management Area, as well as guidance from professionals to other external entities, namely the Social Security Line or National Association of Informal Caregivers.

8. Computer Records

This dimension includes questions related to the operationalization of records in the computer application Trace-COVID, as well as regarding the access to the results of the tests performed.

Example of question:

How to access and use Trace-COVID?

These issues involved articulation with AGSTI and the Ministry of Health's Shared Services (Serviços Partilhados do Ministério da Saúde-SPMS).

9. Risk of Infection Transmission

This category includes issues related to concerns with other hospitalized patients, in clinical units that do not have individual rooms.

Example of question:

How should we proceed when performing an aerosol-generating procedure in order to reduce the risk of transmitting infection to other patients in shared rooms/wards?

In order to answer these questions, national or internal guidelines related to the respective themes were used, and it also involved articulation with the GCL-PPCIRA.

10. Patient/Caregiver Rights

This dimension encompassed issues related to patients' rights, namely the right to receive visits in situations of adult patients with disabilities or situations of dependency.

Example of question:

1) *How to minimize the impact of restricting visits on adult patients with special needs?*

This particular issue was analyzed by the GCL-PPCIRA and GSD and it is considered pertinent to review the conditions defined for limiting visits resulting from the guidelines within the scope of the Pandemic COVID-19. In this way, the possibility of visiting patients with disabilities or dependency was expanded, published in a new Information Circular. It was also from this issue that the project "Mais Próximo de Ti" emerged, which integrates a mobile team of professionals, who voluntarily promote communication and proximity between patients and their families through electronic means, performing virtual visits by video call.

The right to medication in an outpatient setting and transportation to perform the COVID-19 test of a patient in home isolation are also examples of doubts within this dimension.

Example of question:

2) *Patient with COVID-19 in home isolation has a cure test scheduled. Are you entitled to transport provided by the hospital?*

The answer to these questions implied an articulation with the Social Service, Pharmacy and with the Health Delegate of the patient's area of residence.

Example of Case Management

In order to illustrate the case management process usually developed, we present an example, using the methodology for problem solving and continuous quality improvement, disseminated by Edward Deming, called PDSA – *Plan, Do, Study and Act*⁽¹¹⁾.

Case: Difficulty in accessing and using the "Trace Covid" computer platform.

Trace Covid is a platform developed by DGS and SPMS, where detailed information is recorded on specific patients in home surveillance, contact tracking, active and passive surveillance, as well as clinical follow-up⁽¹²⁾.

Following the need to use the said platform, LAIOT was contacted by a professional who reported difficulties in accessing and using it. In this sense, several activities were developed, for the guidance and clarification of doubts presented by the professional, namely through the availability and support in the consultation of specific informative material, as well as in the articulation with internal structures and responsible external entities. The case management process followed the steps as shown in Fig. 2.

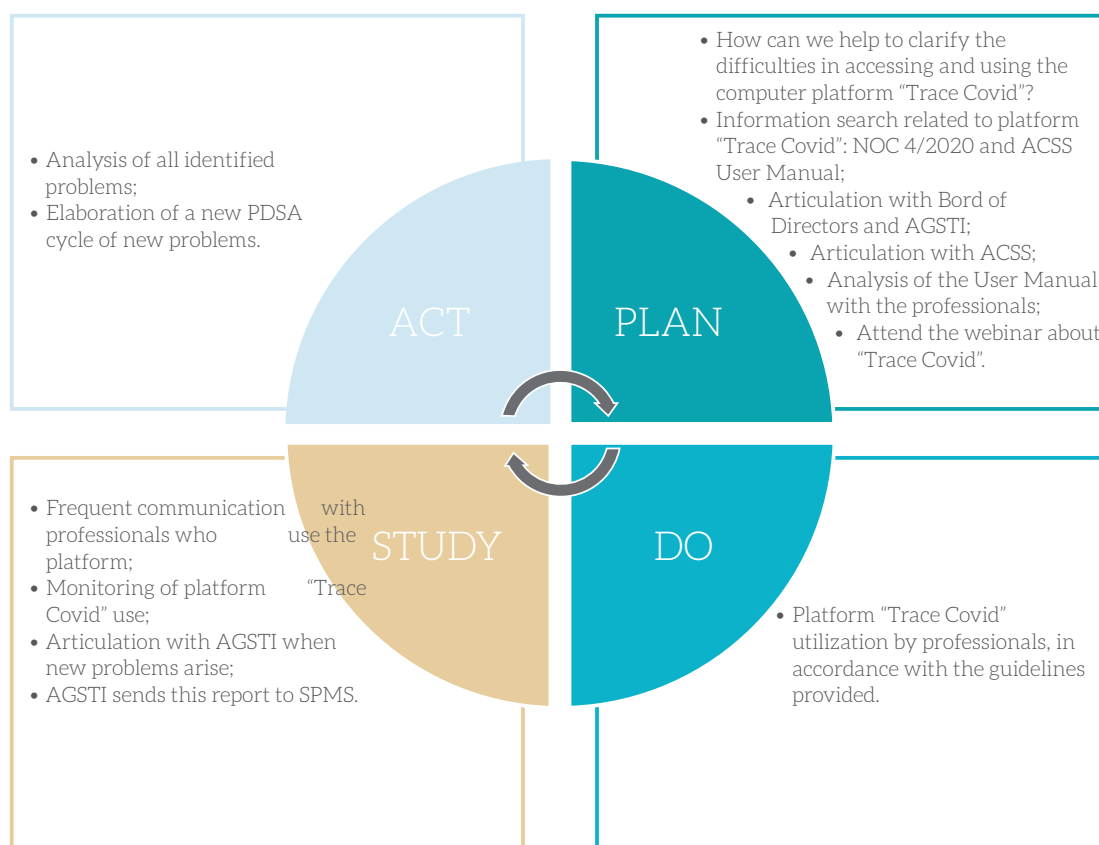


Figure 2 – PDSA cycle: Case management regarding difficulties in accessing and using the Trace Covid platform.

DISCUSSION

The COVID-19 pandemic has come to challenge health systems and their ability to adapt to this new reality. This process led to the abrupt need to reorganize structures and teams, directing the focus to those who were in direct care for patients⁽¹³⁾. However, this situation hindered the ability to reflect on the functions to be assigned to teams that are part of Technical Support structures within the scope of Quality and Safety. In many cases, these professionals were mobilized to provide direct care. Others were considered “non-essential”⁽¹⁴⁾.

In the case of CHULC, the proactivity and synergy of these teams, triggered their involvement in the institution’s critical processes, namely through the creation of LAIOT. Thus, with the support of the Board, it was possible to profit from the skills and knowledge of these elements, contributing to the learning and support of other professionals⁽¹⁵⁾. It should be noted that two of the dimensions with the highest percentage of contacts, the health/surveillance of the worker (30%) and the professional circuit (23%), refer to aspects related to the professional, which reinforces their criticality in their perspective. The support provided by LAIOT promoted a feeling of greater confidence and resilience, which fostered the development of improvement and innovation processes.

CONCLUSION

The learning and development process does not always occur in a context free from setbacks. The important thing is to find a sense for the experience, being able to turn adversity into an opportunity for improvement. This is the main challenge for health institutions and their professionals. Even in a time of pandemic, the quality and safety of patient care is a collective and individual responsibility. This constitutes the commitment of the institutions and a challenge for any health professional.

The presented strategy represents an innovative way of supporting professionals and consequently promoting good practices, aiming at the improvement and safety of the care provided to patients. With LAIOT it was possible to facilitate access to relevant and current information, allowing professionals to solve complex current problems.

Ethical Disclosures

Conflicts of interest: The authors have no conflicts of interest to declare.

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