

# Reflections on the Usability of Protocols in Primary Health Care in Dealing with Diabetes Mellitus

Reflexões Sobre a Usabilidade de Protocolos na Atenção Primária à Saúde no Enfrentamento do Diabetes Mellitus

Reflexiones Sobre la Usabilidad de los Protocolos en la Atención Primaria de Salud en el Abordaje de la Diabetes Mellitus

## RESUMO

**Objetivo:** O Diabetes Mellitus dentre as Doenças Crônicas não Transmissíveis se apresenta como uma das principais causas de internações hospitalares com alta mortalidade. Neste sentido, a utilização de Protocolos Clínicos na rede de saúde, para uma determinada Linha de Cuidados pode contribuir na melhoria e qualificação dos resultados almejados. O artigo apresenta reflexões de uma pesquisa que buscou conhecer sobre o uso do 'Protocolo Colaborativo Diabetes Mellitus: síntese operativa para o cuidado'. **Método:** Teve como fonte de dados, entrevistas semiestruturadas com a equipe da Atenção Primária à Saúde. Os diálogos foram realizados com enfermagem, gestores e técnicos da Secretaria de Saúde. **Resultados:** Os resultados sugerem a importância de estratégias que promovam uma gestão da clínica visando a qualificação do cuidado ofertado, valorização da educação permanente. **Conclusão:** Ações de promoção da saúde e o incentivo ao uso do Protocolos Clínicos de Diretrizes Terapêuticas conformando uma Rede de Saúde mais resolutiva.

**DESCRIPTORES:** Atenção Primária; Diabetes Mellitus; Protocolo Clínico.

## ABSTRACT

**Objective:** Diabetes Mellitus, among non-communicable chronic diseases, is one of the main causes of hospital admissions with high mortality. In this sense, the use of Clinical Protocols in the health network for a specific Line of Care can contribute to the improvement and qualification of the desired results. The article presents reflections of a research that sought to learn about the use of the 'Collaborative Protocol Diabetes Mellitus: operational synthesis for care'. **Method:** The data source was semi-structured interviews with the Primary Health Care team. The dialogues were held with nursing, managers and technicians from the Health Department. **Results:** The results suggest the importance of strategies that promote clinical management aimed at qualifying the care offered and valuing continuing education. **Conclusion:** Health promotion actions and encouraging the use of Clinical Protocols of Therapeutic Guidelines shaping a more resolute Health Network.

**DESCRIPTORS:** Primary Care; Diabetes Mellitus; Clinical Protocol.

## RESUMEN

**Objetivo:** La diabetes mellitus, entre las enfermedades crónicas no transmisibles, se presenta como una de las principales causas de hospitalización con alta mortalidad. En este sentido, el uso de protocolos clínicos en la red de salud, dentro de una determinada línea de cuidado, puede contribuir a la mejora y cualificación de los resultados esperados. El artículo presenta reflexiones de una investigación que buscó conocer el uso del "Protocolo Colaborativo Diabetes Mellitus: síntesis operativa para el cuidado". **Método:** La fuente de datos fueron entrevistas semiestructuradas con el equipo de atención primaria de salud. Se realizaron diálogos con profesionales de enfermería, gestores y técnicos de la Secretaría de Salud. **Resultados:** Los resultados sugieren la importancia de estrategias que promuevan una gestión clínica orientada a cualificar la atención brindada y valorar la educación permanente. **Conclusión:** Las acciones de promoción de la salud y el incentivo al uso de protocolos clínicos de directrices terapéuticas contribuyen a conformar una red de salud más resolutiva.

**DESCRIPTORES:** Atención primaria; Diabetes mellitus; Protocolo clínico.

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## INTRODUCTION

According to the World Health Organization (WHO), chronic non-communicable diseases (NCDs) include diseases of the cardiovascular system, diabetes, cancer and other chronic respiratory diseases.<sup>1</sup> Discussed globally, NCDs pose one of the greatest challenges for health systems in the 21st century, generating a high number of premature deaths, a greater number of hospital admissions, loss of quality of life with a high degree of limitation in work and leisure activities, bringing significant economic impacts to society.<sup>2</sup> They are currently the main cause of death in the world, affecting around 17 million people.<sup>3</sup>

Social conditions and determinants influence the increase in the incidence and secondary complications of NCDs, affecting developing countries differently, especially those with a high level of social inequality, such as Brazil.<sup>2</sup> The main risk factors for NCDs are: tobacco consumption, unhealthy diet, physical inactivity, excessive alcohol use, factors that influence the epidemic of overweight and obesity.<sup>3</sup>

Diabetes Mellitus (DM), among NCDs, is one of the main causes of prolonged hospitalizations, with high mortality and social consequences arising from premature disabilities resulting from the progression of the disease. In Brazil, DM has one of the highest rates in the world, being the highest in Latin America with approximately 15.7 million cases, ranking 6th globally in total number of records. Data from the Surveillance of Risk and Protective Factors for Chronic Diseases by Telephone Survey (VIGITEL) identified that the

prevalence of self-reported diabetes in the population over 18 years of age increased from 5.3% to 9.1%, between 2006 and 2022, with increasing age and low level of education being two of the factors that increased the frequency of the condition in Brazilians.<sup>4</sup>

DM is one of the main health conditions in the daily routine of Primary Health Care (PHC), which works from prevention and awareness of risk factors to screening, diagnosis, treatment and monitoring of complications.<sup>5</sup> The urgency of the topic makes DM one of the Primary Health Care Sensitive Conditions (CSAP - Condições Sensíveis à Atenção Primária à Saúde), appearing among the main causes of death, between the fourth and eighth position, making it possible to implement a set of practices to avoid hospitalizations and deaths due to cardiovascular and cerebrovascular complications.<sup>6</sup>

With the aim of contributing to the management of the DM care line clinic, the Municipal Health Department of Belo Horizonte has been updating a care guide, since the first version in 2011, containing recommendations for best practices and actions based on scientific evidence, as well as guidelines on access to specialized care. In its second version published in 2021, in addition to updating the clinical protocols, it provides guidance on the necessary resources based on the functioning of the health network, and is called the "Collaborative Protocol for Diabetes Mellitus: operational summary for care".<sup>7</sup>

Clinical Protocols and Therapeutic Guidelines (PCDTs) are management tools used to guide the clinical practice of professionals based on Clinical Epidemiology, Statistics and Scientific

Methodology. They are therefore configured as an instrument for all actors involved in care, from those who perform technical functions to those in administrative roles, and must be prepared considering health needs and the information available to update practices, and are associated with the portfolio of services offered by the SUS.<sup>8</sup>

Monitoring the usability of PCDTs is essential to the process of qualifying SUS management, aiming to guarantee the effectiveness of health services, optimize resources and reduce costs with avoidable complications.<sup>9</sup> The protocols both strengthen the technical guidelines and can be a reference guide for the entire health network, especially the process of organizing the health system from the PHC, impacting the consumption of technologies, assessment of the effectiveness and quality of care provided.<sup>6</sup> Thus, the article addresses some of the challenges and potential of the usability of the Diabetes Mellitus Collaborative Protocol: operational synthesis for care in the practice of PHC professionals at the research site, aiming to contribute to the development and application of protocols in care practice.

## METHOD

This is a descriptive, exploratory study with a qualitative approach using semi-structured interviews with key stakeholders as data sources. The instrument for the interviews was construct-

<sup>13</sup> CSAP – Health situations that can be treated with typical actions at the first level of care, and may develop complications without proper monitoring.

ed based on three research elements: structural issues of the UBS, processes implemented and the evaluation of the UBS's performance indicators.

The research locus was the Barreiro Health Region, in Belo Horizonte, Minas Gerais, an area with 300,000 inhabitants distributed across 20 UBS and 188 Family Health Teams (ESF), in addition to other support devices such as Medical Specialty Centers and Emergency Care Units (UPA).

Data analysis used the content analysis technique proposed by Bardin (1977), following three stages: pre-analysis, exploration of the material and treatment of results. The main themes were grouped as follows: practices and work process, management of clinical practice and evaluation, monitoring of results in PHC.

## RESULTS

The interviews were conducted in July 2024 and involved 15 interviewees: 11 ESF nurses, two UBS managers and two technicians from the Belo Horizonte Municipal Health Department (SMS-BH) responsible for developing the protocol, all with more than one year of experience in their roles and positions. The UBS operate under the ESF model and are located in territories of high social vulnerability,<sup>2</sup> with statutory employment contracts and working a 40-hour workweek exclusively dedicated to PHC. Nursing was the predominant category, formed mostly by women (86.6%), with an average age of 42.2 years, with an average

<sup>2</sup> It is characterized by a complex conceptual field, made up of different conceptions and dimensions that can focus on the economic, environmental, health and rights aspects linked to the notion of risk aligned with poverty.<sup>10</sup>

<sup>3</sup> The payment for performance of the Previne Brasil Program intended to promote the improvement of work processes and the qualification of results, with Indicator 7 seeking to evaluate the care provided to registered users with DM.<sup>4</sup>

time of 10 years in PHC and six years in the same UBS. UBS managers have an average of five years of experience, while SMS technicians had 15 years of experience in the health network. Regarding qualifications, 66.6% of the interviewees have a specialist title, 13.3% have a master's degree and 20.1% have no specialization, with ESF being the most common area. Professionals without specialization reported that the time spent full-time in the statutory employment contract constitutes barriers to professional development. This data and the professional qualification observed do not allow us to make any association with the Previne Brasil indicators used in the selection of UBS, and the data are described only for investigation purposes in new research.

The selection of UBS was based on performance in indicator 7 of Previne Brasil<sup>3</sup>, contemplating two units with the best and two with the worst results throughout 2023. The data were obtained through the manager of the Barreiro Health Region, who made the territory's indicators available. Indicator 7 assessed the performance of consultations and requests for glycated hemoglobin in at least 50% of people with diabetes every semester. Although two of the UBSs had reached the established target, it was found that the assessment of the indicator was limited to the request for the exam, without considering the correlation of the results obtained with the practices implemented in the UBSs.

Regarding structural issues, despite being located in highly vulnerable areas, it was possible to verify adequate structures with an adequate number of consulting rooms and respective equipment for the work. Administratively, the municipal administration offers internet, computers and printers, ensuring access to current operating systems, including the "Collaborative Protocol Diabetes Mellitus: operational summary for care". The municipality adopts the electronic medical record Integrat-

ed Solution for Hospital, Outpatient and Regulatory Management (SIG-RAH), which integrates records between the different levels of care in the network. In addition, all professionals confirmed that the current protocols are available on the website of the Municipal Health Department, organized in a specific folder.

## DISCUSSION

The COVID-19 pandemic resulted in the interruption of PHC priority actions, including health promotion, prevention, and monitoring of care lines. Even after the 'official' end of the pandemic, declared by the Ministry of Health in May 2022, there was a significant increase in demands from users with chronic conditions, making it difficult to resume the priority practices provided for in PHC, generating continuous work overload. Thus, one of the first findings observed was the change in work practices due to work overload. This scenario is exemplified in the report of a nurse, who highlighted the centralization of care on medicalization and listening to acute complaints, to the detriment of continuous monitoring of patients with chronic diseases, such as diabetes: *"We still haven't managed to make progress in terms of nursing care for diabetic users. Today, the demand for nurses is more based on listening to users with acute clinical complaints and care centered on the doctor and medicalization."*

This situation contributes to the lack of an assessment of DM care, as reported by another nurse, *"Patients with injuries such as diabetic foot, for example, when they arrive here there is not much that can be done, the injury has already been restored, then it is just a matter of referring them and providing guidance on dressing care [...]"*

It was not possible to identify intersectoral practices and actions, such as outreach policies or the participation of other workers in the multidisciplinary

plinary team. It is important to emphasize that during the research period, no guidelines for the new PHC financing policy had yet been implemented. In addition, no expanded nursing consultations were observed in the UBS, the research site, including foot assessment, risk stratification, and referrals to the diabetic foot outpatient clinic of the municipal network.

The consequences of the worsening of chronic conditions resulting from the Covid-19 pandemic, in addition to the worsening of social conditions, require a permanent evaluation of the local diagnosis to address the social determinants of health that affect the community and require new practices and actions in PHC work processes. It is important to emphasize that the increase in the incidence of DM rates in Brazil is closely associated with the social issues that affect a large portion of the Brazilian population, generating tension, understood as work overload, requiring a critical review of the set of practices and work processes developed in PHC.

Another finding arising from the interviewees' statements was the association of meeting the goals proposed by the *Previne Brasil* Program with good results and not with an effective process of monitoring the evolution of the clinical condition in association with the care of users with DM, reinforcing the need to build a management of clinical practice. The management of the UBS calls on workers to achieve goals and when they are not achieved, there was no constructive critical reflection on the results. This fact was evidenced in the statement of one of the managers, as in the example, *"In the care of diabetics, we had some guidelines, in fact, the Previne Brasil indicators, and it already told us what to do with diabetics under control, so we needed to meet some of the guideline targets."*

In this item, we highlight that the indicators perceived by the team as relevant, whether for financing the PHC

or for the Line of Care, require an assessment and monitoring of results in a way that can feed back into the chain of practices and processes in a dialogical and creative way, encouraging professionals to improve the work developed in the PHC.

We emphasize the importance of the state administration periodically developing and evaluating, within a ten-year period, its Guiding Guide for Practices and Care Processes for the Diabetes Mellitus Line. However, the analysis of the interviews revealed that although the "Collaborative Protocol for Diabetes Mellitus: operational synthesis for care" has the collaboration of a multidisciplinary team, including doctors, nurses, pharmacists, nutritionists and managers, its implementation and training occurred remotely due to the Covid-19 pandemic. In this case, all interviewees reported not having participated in this training and no nurse or manager of the UBS in the research had contributed to its development. The technicians interviewed also did not participate in the preparation of previous versions. These factors may be contributing to the lack of evaluation of results in the DM care line, to the lack of reference to the use of the "Collaborative Protocol Diabetes Mellitus: operational synthesis for care" in the daily lives of workers and to future limitations for the improvement and professional development of new practices and processes based on better scientific evidence.

Most of the nurses interviewed (77%) had never used any version of the protocol in clinical practice, 22% consulted it only to remember referral flows and 11% mentioned having applied the first version from 2011, in some practice context. Although the protocol is accessible, it is not effectively used. The vocation of continuing education associated with effective management of clinical practice for the DM care line can contribute to the monitoring, evaluation and management of PHC results.

Monitoring of the use of protocols was also shown to be non-existent both at the central level, responsible for creating and reviewing the instrument, and at the local level. Reports indicate that even technical references are unaware of which aspects of the protocol should be monitored, as cited by one technician, "[...] the technical reference itself often doesn't even know what it has to follow [...]" Among the interviewees, 27.27% were unaware of the existence of the protocol and turned to experienced colleagues when in doubt, 45.45% indicated lack of time as a barrier to accessing it, and 63.63% stated that they did not need the protocol due to previous experience, which may be related to the length of professional experience identified in the survey. These findings, however, do not strengthen the improvement of technical knowledge in the health network as a whole and hinder the qualification of the PHC evaluation and management process.

## CONCLUSION

The brief reports described above present some of the challenges observed in the implementation and management of DM care in PHC, through observation of the use of an Institutional Guidance Guide. Although the UBS have an adequate structure and use an integrated electronic medical record, critical aspects such as care overload, centralization of medical care, and the absence of a structured process of continuing education compromise the effectiveness of the practices recommended by the "Collaborative Protocol Diabetes Mellitus: operational synthesis for care". The Covid-19 pandemic has worsened the discontinuity and resumption of health promotion and prevention actions in PHC. The analysis revealed that monitoring of the DM care line is still carried out in a fragmented manner, without effective intersectoral actions or active participation of the multidisciplinary team.

In addition, the goals of Previne Brasil were perceived as an end in themselves, to the detriment of a critical evaluation of clinical results and patient evolution.

Regarding the “Collaborative Diabetes Mellitus Protocol: operational synthesis for care”, the research pointed out weaknesses in the implementation, monitoring and training and qualification process, reflected in the low adherence of professionals and a possible association with weaknesses in

the strategy of qualification and monitoring of results. The lack of knowledge and non-use of the protocol by a significant portion of professionals indicate the need to rethink its applicability and strengthen its inclusion in clinical practice.

In view of these findings, it is essential to adopt strategies that promote qualified clinical management, with continuous monitoring of care indicators, valorization of continuing ed-

ucation and encouragement of the use of processes with tools that can guide and improve care, reason and meaning of clinical protocols. Overcoming these challenges requires a PHC model that more effectively integrates the knowledge of the multidisciplinary team and guarantees care based on reflective practices and oriented towards improving health outcomes.

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