The Family Doctor and Nurse Program: development of the health care model in Cuba*

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ABSTRACT The Cuban family medicine model has been in development for more than three decades. It is the third model of medical care of the revolutionary period in Cuba and is the most fully realized application of the primary health care strategy. However, there is still room for improving the organization, quality and efficiency of primary health care services. The main objective of this article is to describe the model, its unique features, distinctive elements, main achievements and challenges. Documentation in journal articles, books and official Cuban Ministry of Public Health documents about the creation and development of this model were reviewed, selected and analyzed by experts for the preparation of this report. Conceptual elements of the model are presented, as well as indicators supporting the information. The main characteristics of family medicine in Cuba, its fundamental achievements and challenges are discussed. The Cuban family medicine model’s outcomes make it a reference for the Region of the Americas. It is still a model in development, however, perfectible and susceptible to transformations in the face of new challenges, the greatest of which will be renovating the model while keeping and strengthening the program’s foundational ideas.

Keywords Primary health care; family medicine; program evaluation; Cuba.

In the early 1960s, Cuba launched the Rural Medical Service and the Comprehensive Polyclinic, the former to bring health services to the hardest-to-reach rural and mountainous areas of the country, and the latter as the Ministry of Public Health’s basic primary care executive unit. These were the essential components of the Cuban National Health System, established in 1968. During that period, a team of general practitioners, nurses’ aides, dentists, health and social workers, and statisticians carried out a set of concrete health promotion, protection and recovery measures aimed primarily at addressing health problems caused by infectious diseases, malnutrition, parasitic diseases, anemia, and others (1–3).

The results of this experience proved satisfactory and were expanded to the entire country through “basic health programs,” an inherent aspect of program management that has characterized the Cuban health system since the beginning (4, 5).

* Non-official English translation from the original Spanish manuscript. In case of discrepancy, the original version (Spanish) shall prevail.
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In the 1970s, the community-based medicine model was proposed in response to the population’s growing health demands, as well as prevention of disease and other health problems. This renovation retained the basic principles of the comprehensive polyclinics while adding new foundational principles and procedures (4, 5).

This model was characterized by the improvement and development of a series of components, such as sectorization, regionalization, comprehensive care, team work, continuity of care, community participation, and continuous assessment and risk evaluation. Its main achievements were control of non-communicable diseases and introduction of teaching and research at the primary care level (6, 7).

Consequently, Cuba made an extraordinary leap forward in putting into practice the distinctive elements of primary health care (PHC), well before they were conceptualized at the International Conference in Alma-Ata in 1978 (7, 8).

Despite these transformations and achievements, the community-based medicine model exhausted its potential to respond to the population’s health problems, particularly dissatisfaction with the health services received. There were several reasons for this, including the tendency toward overspecialization; fragmentation of medical care; lack of comprehensive, proactive care for individuals, families and communities, and a predominantly biomedical approach to care (7, 9).

In 1984, as a solution to these problems, the Cuban government introduced the family medicine model, which, after successive transformations motivated by the ever-changing situation, has endured to this day (7).

As mentioned above, Cuba met the targets of the “Health for All in the Year 2000” strategy nearly 15 years ahead of the conference in Alma-Ata (7, 8).

In the Region of the Americas, Cuba is recognized for its health system’s outcomes and, in particular, for implementing the PHC strategy, established more than three decades ago with the development and improvement of the Cuban family medicine model (10, 11).

The main objective of this article is to describe the model, its unique features and distinctive elements, main achievements and challenges.

Development

Since 1959, an equity-based PHC approach has been the foundation of health practice in Cuba, thanks to a profound social revolution and political will.

Despite the efforts made and outcomes achieved in the two ensuing decades, several problems indicated the need for changes in the health system (12, 13). These problems included fragmentation and overspecialization of medical care; depersonalization and indiscriminate use of technology; health programs with an essentially biological orientation; dissatisfaction with services; demographic changes and changes in the country’s morbidity and mortality profile; the population’s higher cultural level; emergence of medical thinking oriented toward a clinical, epidemiologic and social approach; and the need for a qualitative improvement in the health of the population.

Thus, the Cuban family medicine model was accepted as only way to remedy this situation and achieve health for all. Adoption of this model was the result of institution building in which the goal of each stage was to respond to the demands of the population’s epidemiologic profile and level of satisfaction (14).

On 4 January 1984, the Cuban family medicine model, also known as the “Doctor of 120 Families Plan”, the Family Doctor, or the Community-based Doctor was launched in the Lawton Polyclinic, located in the October 10 Municipality in Havana, the country’s capital. It began with 10 pairs of doctors and nurses who became the first 10 basic health teams (BHS) working in family doctor offices (CMF). Each of these teams provided comprehensive medical care to an average of 600–700 people, approximately 120 families, giving the program its initial name. The program’s main objective was to improve the population’s health status through comprehensive actions targeting individuals, families, the community and the environment, in close collaboration with the community (15).

The experience in this polyclinic was quickly expanded to the rest of the country, and, by the end of the program’s first year, 237 family doctors were already working. In the model’s first six years, the number of doctors rose to nearly 12,000, guaranteeing equitable coverage to more than 7 million people (65% of the country’s population) (16).

The BHS work was complemented with a team of supervising specialists in internal medicine, pediatrics, obstetrics and gynecology, and psychology, as well as professional or technical statisticians, hygienists and epidemiologists, and social workers. Together, with an average of 15–20 BHS per health area, they formed the basic working group (GBT) (17).

From the outset, basic activities such as continuous assessment and risk evaluation, health situation analysis with community and intersectoral participation, home visits and end-of-life care were unique aspects of the Cuban family medicine model, as were health promotion, prevention of diseases and other health problems, and rehabilitation, all of which ensure fulfillment of the program’s main objective (16–18).

Continuous assessment and risk evaluation is a dynamic, organized process for planned and programmed assessment of the health status of individuals and families, as well as for intervention. Directed and coordinated by the basic health team, this process is divided into two phases: registration and classification into groups (presumed healthy, at risk, sick and disabled), to be comprehensively assessed on a regular basis. Frequency of assessment depends on the group to which a person belongs.

Health situation analysis is the process used to study a community’s health situation in order to identify its main problems and define intervention strategies to improve its health status, using a multidisciplinary, community participatory and intersectoral approach. Problems are prioritized, and an action plan is prepared that includes systematic evaluation of its fulfillment.

Home visits are differentiated care that the basic health team provides in the patient’s home when an individual requires daily assessment, rest, bed rest, or isolation, but does not require hospital infrastructure.

End-of-life care is differentiated care for people who, because of their age or illness, require specific actions to guarantee their quality of life and dignity in the final stage of life. This group generally includes older adults with chronic or acute illnesses or malignancies signaling that they are approaching death.

As part of the continuous improvement of the model, in 1987, the Comprehensive...
Family Care Program (PAIF) was launched and renamed one year later as the Family Doctor and Nurse, Polyclinic and Hospital Work Program.

This program favored a family-based approach to health care planning, without ignoring specific comprehensive actions addressing the needs of women, children, adolescents, adults and older adults. As its name indicates, this program reflected not only the activities of the EBS but also those of the GBT, the polyclinic and referral hospitals, thereby ensuring another essential feature of this model: continuity of care for the population (19).

In order to meet the proposed objective, professionals trained to carry out the service delivery system’s new missions were needed. This led to improvements in human resources training through implementation of a new medical education plan based on identification of the population’s health problems and a PHC approach to finding solutions.

Furthermore, more medical schools were established throughout the country, resulting in more available doctors, and providing training in the territories where they live and work (20, 21).

In 1984, with the launch of the family medicine model in Cuba, a new specialty in family medicine was also initiated. The first specialists in this discipline graduated in 1987. Text books, specialized family medicine training programs, models and registries were created to meet the needs of the moment and train these specialists in new competencies and new performance standards centered around care of individuals, families, communities and the environment (21–23).

In the 1990s, Cuba confronted a severe economic crisis due to global geopolitical changes and the economic and financial blockade imposed since the 1960s. These events had a tremendously negative impact on all areas of activity in the country, not only on the economy but also on health. For example, severe resource constraints affected the construction and maintenance of health institutions, including CMF, and cut supplies of reagents and diagnostic tools.

Even in the very difficult circumstances of that period, Cuba managed to maintain and improve its main health indicators (Table 1), thereby demonstrating the health system’s response capacity based on development and countrywide expansion of the family medicine model (24).

It should be noted that even after 10 years of deep economic crisis, there were 2½ times as many family doctors as in 1990, a year when the country had already achieved and maintained 100% coverage of the Cuban population by family doctors (Table 1).

In 2002, a set of transformations were introduced that made certain services available at the primary care level in the polyclinics, bringing them closer to the population. Once provided only in secondary level facilities, these services included ultrasounds, endoscopies and duodenal biliary drainage (in disuse for several years now), optometry services, dental care, natural and traditional medicine, and comprehensive rehabilitation areas. All of these changes were designed to eliminate the longstanding dissatisfaction of users and providers. The latter also benefitted from the creation of libraries in all polyclinics, with computerized services and access to the Cuban health information network, Infomed, which has undoubtedly helped to relieve the relative isolation of family doctors posted in community-based offices (25).

Continuous improvements to the system led to a transformation process beginning in 2010, consisting of three essential elements: reorganization, downsizing and regionalization of health services. This process aimed at achieving greater efficiency and sustainability in each health area by offering only services needed, based on the characteristics of each one (26).

These transformations, together with the demographic, epidemiologic and social changes occurring in the country, led to updating certain aspects of the model included in the new 2011 Family Doctor and Nurse Program (26).

This program states the general premises determining the actions of basic stakeholders and defines the number of EBS for each health area that will ensure comprehensive quality care for a
TABLE 3. Lessons learned

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
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<tbody>
<tr>
<td>No family doctor offices</td>
<td>The population and some workplaces provided the locales, which were adapted to serve as family doctor offices. A construction program was carried out. When this was unfeasible, locales were shared by several basic health teams, rotating community outreach activities with office hours.</td>
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<tr>
<td>Need for the doctor and nurse to live in the community where they work</td>
<td>In addition to family doctor offices, housing was constructed for doctors and nurses. The government decided that each building constructed for the population would include one apartment for the family doctor office, another for the doctor to live in and another for the nurse to live in.</td>
</tr>
<tr>
<td>Family doctor office maintenance</td>
<td>Different community organizations were assigned this maintenance. The government created a budget for this purpose.</td>
</tr>
<tr>
<td>Need to cover doctor's or nurse's absences</td>
<td>This was covered by basic health teams (EBS) given the geographic proximity of their offices. Absences are covered by another member of the trio. Furthermore, 10% of doctors on staff in each polyclinic are on call to cover longer periods of absence.</td>
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<tr>
<td>Need for staff training and continuing education</td>
<td>Teaching activities as part the family doctor and nurse's work load, one afternoon per week for training basic health teams.</td>
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<td>Need to publicize the scientific research activities of family doctors and nurses</td>
<td>Creation of the Sociedad Cubana de Medicina Familiar and the Revista Cubana de Medicina Familiar. Scientific seminars held in polyclinics, municipalities and provinces. Congresses and National Family Medicine Day. Participation in multiple national and international events.</td>
</tr>
<tr>
<td>Isolation of basic health teams</td>
<td>Creation of the basic working group. Basic specialists and technical professionals in primary care share the responsibility for providing care to the population and jointly address its health problems. Polyclinics serve as coordination and support centers for all family doctor office activities.</td>
</tr>
<tr>
<td>Need to guarantee the flow of information</td>
<td>Creation of a messenger service between the family doctor office and the polyclinic with telephone numbers assigned to all family doctor offices in the community.</td>
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<tr>
<td>Shortage of doctors and nurses</td>
<td>Fulfillment of international commitments and the departure of a large number of doctors and nurses in a brief period has been compensated by placing residents from different specialties, even interns in pre-professional practice, to work alone in family doctor offices, and assigning a family medicine specialist from a nearby family doctor office as mentor with responsibility for the population’s care.</td>
</tr>
<tr>
<td>Need to provide care to workers and students</td>
<td>Sliding schedule, one day a week, basic health teams move one shift to 4–7 pm in order to see workers or students who cannot come during regular hours.</td>
</tr>
<tr>
<td>Population’s demand for greater stability of doctors and nurses in family doctor offices</td>
<td>Community outreach was cut from five days to two days per week, and office visit hours were increased from five sessions to eight sessions per week.</td>
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<tr>
<td>Problems locating doctors and nurses when they are doing community outreach, and population’s need to know their schedules</td>
<td>Sign placed on the office door displaying weekly office hours and community outreach schedule, and how to reach basic health team members when they are not in the family doctor office.</td>
</tr>
<tr>
<td>Need to know the population’s satisfaction with basic health team services</td>
<td>Systematic surveys are conducted and then analyzed in monthly basic working group meeting; grievances or complaints lodged with the public service office of each polyclinic are also examined. The polyclinic administration systematically responds to issues periodically gathered by the local government delegate from the district where the family doctor office is located. The family doctor and nurse also systematically participate in the delegate’s reports to their constituency and respond to any issues raised in relation to health services.</td>
</tr>
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Source: Created by the authors.

population of up 1 500 individuals. It uses the health planning model to organize the work of the EBS, prioritize activities in the family doctor office, and schedule the doctor’s weekly rounds in the community.

The strengths and potential of the Cuban family medicine model have unquestionably had an impact on our population (27, 28) (Tables 2 and 3).

Box 1 presents other results (29):

- Cuba is able to meet international commitments without affecting the population’s health coverage by training more human resources and by planning adequately from the bottom up. Cuban health personnel, fundamentally doctors and nurses, are currently collaborating in 62 countries (30, 31).

Today, Cuban family medicine is facing new challenges to improvement stemming from social and technological development and growing demands of the population in the current context. This implies strengthening primary care by continually improving quality of services, including user and provider satisfaction, through the measures outlined in Box 2 (32–34).

CONCLUSIONS

Based on its outcomes, the Cuban family medicine model is a reference for the Region of the Americas. This model is distinguished by the systematic use of

BOX 1. Outcomes obtained with the family medicine model

- Health promotion, and disease and harm prevention actions, organized, focused on lifestyle modifications and avoiding risk factors.
- Health services brought closer to communities.
- Vaccination coverage ≥98.7% for nine diseases in children aged <1 year. Since 2016, Cuban children have been protected against 13 vaccine-preventable diseases.
- Early intake of ≥95% of pregnant women before the 12th week of gestation, which has raised the quality of prenatal care.
- In 2016, primary care outpatient visits accounted for 92.8% of the total, and emergency room visits 61.4%.
- Increased exclusive breastfeeding for the first six months.
- Greater access to physical therapy and rehabilitation, thanks to expanded services and prescription of this treatment for more conditions.
- Consolidation of natural and traditional medicine practices.
- Hospital stays decreased from 6.4 days in 1990 to 4.7 days 2016, thanks, among other things, to resolution capacity and follow-up of early discharges in primary care.
- Increased family planning and sex education activities with positive results; total contraceptive coverage has been ≥77% for more than a decade. Condom use has increased 2.4 times in the past two decades.
- Life expectancy at birth rose to 77 years in men and 81 years in women.
Guaranteed continuity of care with a relevant referral and counter-referral system. Development of eHealth and the creation of computerized network system that facilitates the flow of information between health facilities at different levels of the health system. Systemization of research and application of findings in practice. Renovation of the family medicine model without renouncing its foundational concepts. Adaptation of health services to population aging. Development of the intersectoral approach and community participation to address noncommunicable diseases as the leading causes of disease and death in the Cuban population.

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**Conflicts of interest.** None declared.

**Disclaimer.** Authors hold sole responsibility for the views expressed in the manuscript, which may not necessarily reflect the opinion or policy of the RPSP/PAJPH or the Pan American Health Organization (PAHO).


RESUMEN

El modelo de medicina familiar cubano se desarrolla, desde hace más de tres décadas, como el tercer modelo de atención médica del periodo revolucionario en Cuba. Es la expresión más acabada de la aplicación de la estrategia de atención primaria de salud. Aún muestra potencial para la mejora en la organización, la calidad y la eficiencia de los servicios de salud en el primer nivel de atención de salud. El objetivo esencial de este trabajo es describir el modelo, sus singularidades, sus elementos distintivos, y sus principales logros, retos y desafíos. Se realizó una revisión documental en artículos de revistas, libros y documentos oficiales del Ministerio de Salud Pública de Cuba sobre la creación y desarrollo del modelo, seleccionados y analizados por expertos para la elaboración del presente informe. Se presentan elementos conceptuales del modelo, así como indicadores que sustentan la información. En este trabajo se identificaron las principales características de la medicina familiar en Cuba, sus logros fundamentales, retos y desafíos. Con base en sus resultados, se concluye que el modelo de medicina familiar de Cuba es un referente para la Región de las Américas. Es aún un modelo en desarrollo, perfectible y susceptible de transformaciones para enfrentar nuevos retos, el mayor de los cuales será renovar el modelo manteniendo y fortaleciendo las ideas fundacionales del programa.

Palabras clave

Atención primaria de salud; medicina familiar; evaluación de programas y proyectos de salud; Cuba

RESUMO

O modelo cubano de medicina familiar foi desenvolvido, há mais de três décadas, como o terceiro modelo de assistência médica do período revolucionário em Cuba. É a expressão mais completa da aplicação da estratégia de atenção primária à saúde. Ainda mostra potencial de melhoria na organização, qualidade e eficiência dos serviços de saúde no primeiro nível de cuidados de saúde. O objetivo essencial deste trabalho é descrever o modelo, suas singularidades, elementos distintivos, principais conquistas, e desafios. Para isso, foi feita uma revisão documental em artigos de revistas, livros e documentos oficiais do Ministério da Saúde Pública de Cuba sobre a criação e desenvolvimento do modelo, selecionados e analisados por especialistas para a elaboração deste relatório. Os elementos conceituais do modelo são apresentados, bem como indicadores que suportam a informação. Identificamos as principais características da medicina familiar em Cuba, suas conquistas fundamentais, e desafios. Com base em seus resultados, conclui-se que o modelo de medicina familiar de Cuba é uma referência para a Região das Américas. Ainda é um modelo em desenvolvimento, perfeitável e susceptível a transformações para enfrentar novos desafios, o maior dos quais será renovar o modelo com a manutenção e fortalecimento das ideias fundamentais do programa.

Palavras-chave

Atenção primária à saúde; medicina de família; avaliação de programas e projetos de saúde; Cuba.