

Brief Communication

Evolution of public policies and programs for asthma control in Brazil from the perspective of consensus guidelines*

Evolução das políticas públicas e programas de controle da asma no Brasil sob a perspectiva dos consensos

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Abstract

There is much discussion about effective public policies that allow the proper treatment of asthma, providing care that is comprehensive and centered on asthma patients within their social context. Educating health professionals and asthma patients provides better recognition of symptoms and the triggers of asthma exacerbations, as well as disseminating strategies for avoiding such triggers, thereby ensuring better treatment and quality of life for asthma patients. Asthma imposes an ever-increasing burden on society, in terms of impaired quality of life, morbidity, and health care costs, making this a very important discussion in the field of public policy.

Keywords: Health policy; Asthma; Consensus.

Resumo

Percebe-se que muito se discute sobre políticas públicas eficazes que possibilitem o tratamento adequado da asma, oferecendo um atendimento integral e centrado no paciente asmático dentro do seu contexto social. Educar profissionais de saúde e a população de asmáticos possibilita um melhor reconhecimento dos sintomas, dos fatores desencadeantes de exacerbações e das formas para evitá-los, garantindo melhor tratamento e qualidade de vida do paciente. A asma impõe crescente carga à sociedade em termos de redução da qualidade de vida, custos com cuidados de saúde e morbidade. Por isso, torna-se de suma importância sua discussão no campo das políticas públicas.

Descritores: Política de saúde; Asma; Consenso.

Asthma imposes an ever-increasing burden on society, in terms of impaired quality of life, morbidity, and health care costs. The fact that the population with a lower income and a lower level of education is more vulnerable to the morbidity caused by asthma is often attributed to issues of access to health care services and drugs, as well as to educational issues.⁽¹⁻³⁾ It is therefore imperative to discuss asthma in the field of public policy.

In 1996, the Brazilian Thoracic Association, the Brazilian Association of Allergists and Immunopathologists, and the Brazilian Society of Pediatrics published the First Brazilian

Consensus on Asthma Education,⁽⁴⁾ drawing a plan for asthma education and control. Chart 1 summarizes the issues addressed in the Brazilian consensus guidelines for asthma.

In various Brazilian cities, programs were created in an attempt to meet the goals set by the First Brazilian Consensus on Asthma Education (Figure 1). In 1996, a program designated *Criança que Chia* (Wheezing Child)—a joint venture of the Belo Horizonte Municipal Department of Health and the Pediatric Pulmonology Department of the Federal University of Minas Gerais *Hospital das Clínicas*—was implemented. The primary objective of the program was to reduce the morbidity and

* Study carried out under the auspices of the Graduate Program in Collective Health, Department of Collective Health, *Universidade Federal de Juiz de Fora* – UFJF, Federal University of Juiz de Fora – School of Medicine, Juiz de Fora, Brazil.

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Financial support: Pamella Valente Palma is the recipient of a scholarship from the Programa Institucional de Bolsas de Iniciação Científica (PIBIC, Institutional Program for Scientific Initiation Scholarships) from the Brazilian Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq, National Council for Scientific and Technological Development).

Submitted: 20 April 2012. Accepted, after review: 8 June 2012.

Chart 1 - Brazilian consensus guidelines for asthma management.

Brazilian consensus guidelines for asthma management	Year	Major topics discussed
First Brazilian Consensus on Asthma Education	1996	<p>The guidelines propose the basis for the development and implementation of an asthma treatment education program adjusted to the social, economic, and cultural conditions of the target population.</p> <p>The primary objectives of the program are as follows:</p> <ul style="list-style-type: none"> • To inform the population that asthma is a chronic pulmonary disease that can be controlled if treated appropriately, appropriate treatment allowing asthma patients to lead a normal life • To educate health professionals, to guarantee an accurate diagnosis, to guarantee an appropriate therapeutic approach, and to encourage patients and family members to participate actively in the treatment • To reduce the morbidity and mortality from asthma • To educate asthma patients so that they can recognize asthma symptoms, avoid triggering factors, receive the best treatment, and improve their quality of life
Second Brazilian Consensus on Asthma Management	1998	<p>Definition of asthma: Chronic inflammatory disease of the airways characterized by the following:</p> <ul style="list-style-type: none"> • Airflow obstruction that is reversible spontaneously or through treatment • Inflammation with involvement of various cells, particularly mast cells and eosinophils • Bronchial hyperresponsiveness • Recurrent episodes of wheezing, dyspnea, chest tightness, and cough, particularly at night and in the morning upon waking <p>Pathology and pathogenesis: Hypertrophy and hyperactivity of the submucosal glands, which can be infiltrated by eosinophils; mucus plug formation; smooth muscle hypertrophy; basement membrane thickening; mucosal and submucosal edema; and eosinophil, neutrophil, plasma cell, macrophage, and lymphocyte infiltration</p> <p>Diagnosis: Clinical diagnosis is based on episodic symptoms that are consistent with the disease, on a favorable response to treatment, and on the exclusion of alternative diagnoses.</p> <p>Functional diagnosis is recommended when the symptoms are atypical or when the disease onset is recent.</p> <p>Quality of life assessment is described as a method for calculating the impact of asthma on patients.</p> <p>Treatment: Emphasis is placed on pharmacological treatment, treatment objectives being as follows: to prevent death and long-term risks, including persistent airflow limitation; to eliminate or minimize symptoms; to allow patients to perform their regular activities at work and school; to eliminate asthma attacks and the need for emergency room visits and hospitalizations; to eliminate or reduce the need for bronchodilator use for symptom relief; and to allow normal growth in children.</p> <p>Asthma medications are divided into two groups: control medications and rescue medications.</p> <p>Considerations regarding education, follow-up, and action plans</p> <p>Treatment of acute asthma in adults</p>

Chart 1 - Continued...

Brazilian consensus guidelines for asthma management	Year	Major topics discussed
Third Brazilian Consensus on Asthma Management	2002	<p>The introduction is immediately followed by the <i>Carta de Salvador</i> (Salvador Charter), which was signed by the presidents of the medical associations involved in the development of the consensus guidelines. In the Salvador Charter, which was approved by the participants of an assembly meeting that was held during the Third Brazilian Conference on Asthma, the 50,000 members of the Brazilian Thoracic Association, the Brazilian Society of Pediatrics, the Brazilian Association of Allergists and Immunopathologists, and the Brazilian Clinical Medicine Society informed the then Minister of Health José Serra of the urgency in implementing the National Asthma Control Plan.</p> <p>Definition of asthma: Asthma is a chronic inflammatory disease characterized by lower airway hyperresponsiveness and variable airflow limitation that is reversible spontaneously or through treatment. The clinical manifestations of asthma include recurrent episodes of wheezing, dyspnea, chest tightness, and cough. The disease results from the interaction among genetic mechanisms, environmental exposure, and other factors that lead to the onset and maintenance of the symptoms.</p> <p>Pathology and pathogenesis: Inflammation is described as the most important pathophysiological mechanism of asthma, being found in patients with recent-onset asthma, in those with mild asthma, and even in those who are asymptomatic.</p> <p>Diagnosis: The diagnosis of asthma should be based on clinical and functional parameters, as well as on allergy assessment. The classification of disease severity is as follows: intermittent asthma; mild persistent asthma; moderate persistent asthma; and severe persistent asthma.</p> <p>Treatment: The role of inhaled corticosteroids is highlighted, the use of inhaled corticosteroids being associated with a reduction in mortality and in the number of hospitalizations for asthma.</p> <p>Asthma education programs: The goals of asthma education programs include explaining the chronicity of asthma to patients, assisting patients in recognizing the symptoms, assisting patients in identifying aggravating factors, instructing patients on how to avoid aggravating factors, instructing patients on how to use appropriate medication correctly (i.e. using the appropriate technique), and instructing patients on how to execute an action plan.</p>
Fourth Brazilian Guidelines for Asthma Management	2006	<p>Definition of asthma: The previous definition was maintained.</p> <p>Pathology and pathogenesis: Emphasis is given to bronchial remodeling, which affects airway architecture and leads to irreversible airway obstruction in certain patients.</p> <p>Diagnosis: The diagnosis should be based on clinical findings and, whenever possible, on pulmonary function test results and allergy assessment.</p> <p>Treatment: The importance of asthma control is highlighted. Complete asthma control is often achieved with the currently available treatments. The objective of asthma treatment is to maintain asthma control for prolonged periods, and the following should always be taken into consideration: potential adverse effects; drug interactions; and medication costs.</p> <p>The classification of the disease is based on the levels of asthma control.</p> <p>Asthma prevention programs: Asthma education can be provided to the general population, health professionals, asthma patients, family members, and caregivers. Asthma education should be provided in schools, companies (public and private), and health insurance companies.</p>

Chart 1 - Continued...

Brazilian consensus guidelines for asthma management	Year	Major topics discussed
Brazilian Thoracic Association Guidelines for Asthma Management – 2012	2012	<p>Definition of asthma: Although the previous definition was maintained, it now includes the fact that airflow obstruction is intrapulmonary and generalized.</p> <p>Epidemiology: The estimated number of asthma patients in Brazil is 20 million.</p> <p>Burden of disease: Expenditures on severe asthma account for approximately 25% of the family income of poorer patients.</p> <p>Diagnosis: The concepts related to the clinical diagnosis of asthma were maintained, the objectives of functional diagnosis by spirometry being highlighted: to establish the diagnosis; to document the severity of airflow obstruction; and to monitor the course of the disease and consequent changes in the treatment.</p> <p>Classification: The classification of the disease was based on the levels of asthma control, disease severity being determined after the exclusion of causes of uncontrolled asthma.</p> <p>Treatment: Health care components</p> <ul style="list-style-type: none"> • physician-patient partnership • identification and control of risk factors • asthma evaluation, treatment, and control • prevention and control of future risks • special situations in asthma management

mortality from respiratory diseases in children, particularly the morbidity and mortality from pneumonia and asthma. Before the implementation of the program, treatment was based exclusively on emergency room visits and patient follow-up was inadequate, which resulted in high hospitalization rates. The remaining objectives of the program were as follows^(5,6):

- to invest in the training of health care teams and in the education of patients and family members regarding asthma
- to reorganize the care provided to children with asthma, involving the different levels of health care
- to provide inhaled medications for exacerbation control and maintenance therapy

In 1996, the Program for Integrated Health Care for Children with Asthma in Fortaleza, Brazil, was implemented, with the objectives of reducing morbidity, improving patient perception of disease progression, reducing the need for emergency room visits, and reducing the number of hospitalizations for asthma, therefore reducing the costs of the disease.⁽⁵⁻⁷⁾ In March of 1996, the

Program for the Treatment of Asthma Patients in São Luís, Brazil, was created.^(5,6)

In 1998, the Brazilian National Ministry of Health issued Decree no. 3,916/GM/MS, thereby creating the National Drug Policy (as part of the process of decentralization of health care in Brazil) and facilitating access to certain medications for asthma control.⁽⁵⁾

In 1999, the Brazilian Thoracic Association, the Brazilian Association of Allergists and Immunopathologists, and the Brazilian Society of Pediatrics, together with the Brazilian Clinical Medicine Society and the Brazilian National Ministry of Health, committed themselves to establishing guidelines for the creation of the *Plano Nacional de Controle da Asma* (PNCA, National Asthma Control Plan). In 2001, after extensive discussions, the *Carta de Salvador* (Salvador Charter) was delivered to the Brazilian National Ministry of Health, drawing attention to the urgency of implementing the PNCA in order to provide asthma treatment via the Brazilian Unified Health Care System.^(8,9) In 1999, the Program for the Treatment of Asthma Patients in the Federal District of Brasília, Brazil, was created.^(5,9)

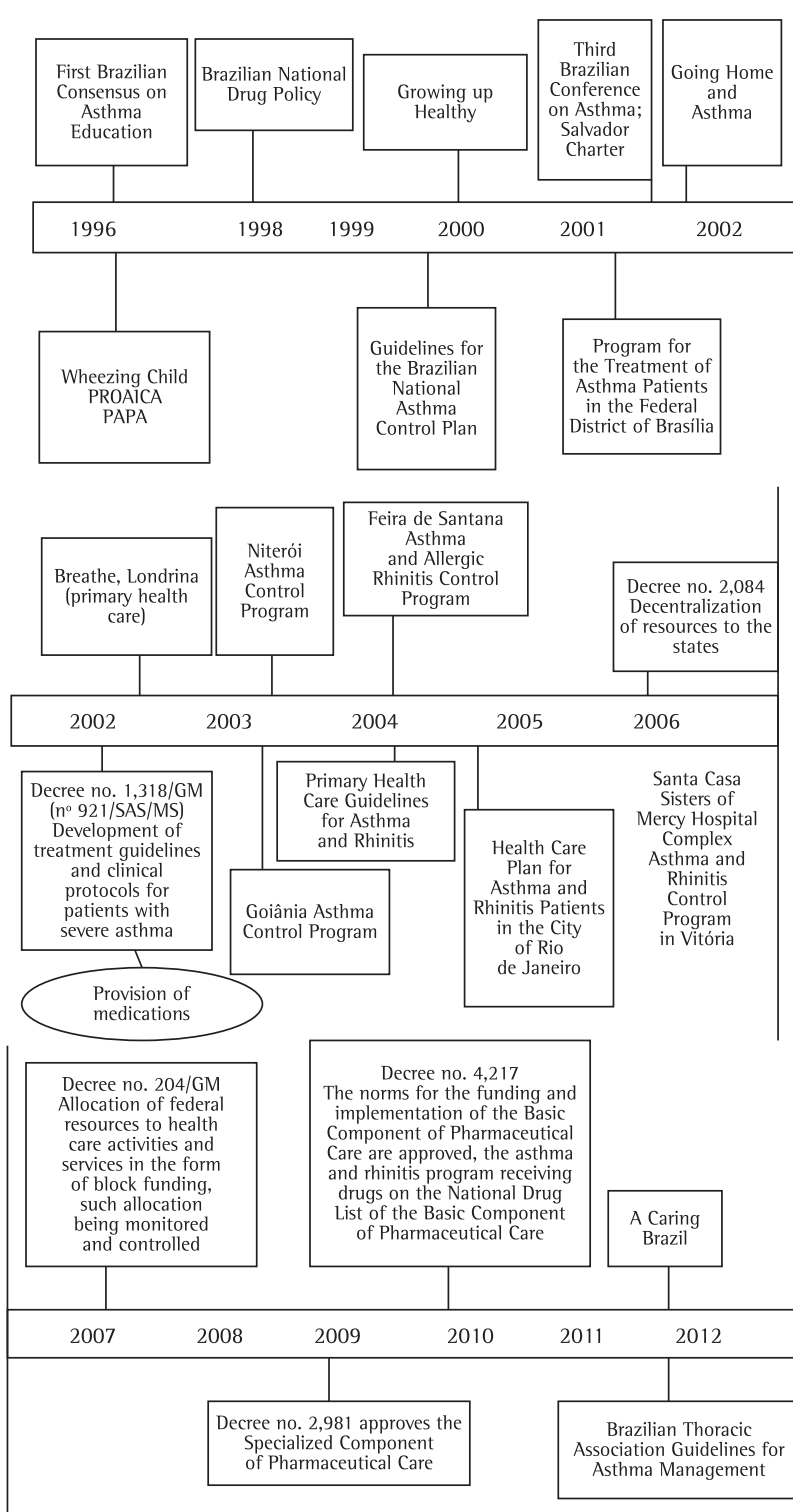


Figure 1 - Public policies and programs for asthma control in Brazil, 1996-2012. PROAICA: *Programa de Atenção Integral à Saúde da Criança Asmática* (Program for Integrated Health Care for Children with Asthma); and PAPA: *Programa de Assistência ao Paciente Asmático* (Program for the Treatment of Asthma Patients). Sources: Cerci Neto,⁽⁷⁾ Brandão,⁽¹⁴⁾ and Carmo et al.⁽²⁰⁾

In 2000, the state of Paraná, Brazil, launched its own control program, designated *Programa Crescendo com Saúde – Infecções e Alergias Respiratórias na Infância* (Growing up Healthy – Respiratory Infections and Allergies in Children). In 2001, the city of Porto Alegre, Brazil, launched its own program, designated *De Volta para Casa e Asma* (Going Home and Asthma).⁽⁵⁾

On June 23, 2002, the Brazilian National Ministry of Health issued Decree no. 1,318/GM,⁽¹⁰⁾ which was updated by Decree no. 921/SAS/MS, issued in November of 2002,⁽¹¹⁾ whereby the Brazilian Department of Health Care was charged with taking the necessary measures to create treatment guidelines and clinical protocols for patients with severe asthma, to whom drugs such as beclomethasone, budesonide, fenoterol, formoterol, albuterol, and salmeterol were to be exclusively provided. Also in 2002, an asthma control program designated *Respira Londrina* (Breathe, Londrina) was implemented in the city of Londrina, Brazil, in order to prevent asthma attacks, promoting strategies for the treatment of asthma patients via the primary health care system.⁽⁵⁾

In 2003, the Goiás State Department of Health, in partnership with the Federal University of Goiás School of Medicine, developed the Municipal Asthma Plan, which was subsequently designated *Catavento – Programa de Controle da Asma de Goiânia* (Pinwheel – Goiânia Asthma Control Program).⁽⁵⁾ Another program that began to be developed in 2003 was the Plan for Asthma Control in the City of Niterói, Brazil, which was based on the Brazilian National Ministry of Health PNCA. The program consisted of two levels of health care, namely primary health care and tertiary health care, the former being provided via primary health care clinics, family health programs, and community clinics and the latter being provided via a system of referral and counter-referral.⁽⁵⁾

In 2004, as part of what would later become the Brazilian National Policy for Integrated Respiratory Care, the Primary Health Care Guidelines for Asthma and Rhinitis were published, with the objective of broadening the scope of the health care provided to such patients, which was limited to symptomatic treatment of asthma exacerbations. Also in 2004, the Londrina asthma control program came to include all 52 family health care clinics in the city. In the same year,

the Feira de Santana Asthma and Allergic Rhinitis Control Program was implemented in Feira de Santana—the second most populous city in the state of Bahia, Brazil—with the objectives of controlling the two diseases and reducing the numbers of emergency room visits, hospitalizations, and deaths.⁽¹¹⁻¹⁴⁾

In 2004, by means of a bidding process, 848,560 flasks of beclomethasone dipropionate aerosol (250 µg/dose), 864,000 flasks of beclomethasone dipropionate aerosol (50 µg/dose), and 293,256 flasks of albuterol aerosol (100 µg) were acquired, an investment totaling R\$ 32,685,232.36. The drugs were distributed in the 2004-2005 period to the cities in which the Family Health Program had been implemented. In 2004, the process of development and implementation of the Feira de Santana Asthma and Allergic Rhinitis Control Program began, with the participation of the Bahia State Asthma and Allergic Rhinitis Control Program. The program resulted in a significant reduction in mortality, in the number of emergency room visits, and in the rates of hospitalization for asthma in the following year.⁽⁵⁾

In 2004, in the city of Rio de Janeiro, Brazil, the Health Care Plan for Asthma and Rhinitis Patients in the City of Rio de Janeiro was developed. The overall objective was to reduce the morbidity and mortality from asthma among residents of the city of Rio de Janeiro. Specific objectives included training health professionals, promoting continuing education for health professionals, improving the information system, and increasing the coverage of asthma patient follow-up by establishing new asthma referral centers. In 2006, there were 33 such facilities for children with asthma. Of those 33, 3 provided treatment to children with severe asthma and 30 provided treatment to children with mild to moderate asthma. Another 16 facilities provided treatment to adult asthma patients. The Rio de Janeiro program resulted in a reduction in hospitalizations and emergency room visits.⁽⁵⁾

Brazilian National Ministry of Health Decree no. 2,084⁽¹³⁾ allocated R\$ 0.95/inhabitant per year for the treatment of asthma and rhinitis at the state and municipal levels, under agreements established by the *Comissões Intergestores Bipartites* (Bipartite Leadership Committees). At that time, the states of Minas Gerais, Amapá, Amazonas, and Pará, as well as some cities in the state of Paraíba, chose not to distribute the federal resources allocated

to asthma and rhinitis expenditures.⁽⁹⁾ In 2005, the Santa Casa Sisters of Mercy Hospital Complex in Vitória, Brazil, in partnership with the Vitória City Hall, created the Asthma Referral Center for adolescents and adults in the city (with a multidisciplinary team) as part of the Santa Casa Sisters of Mercy Hospital Complex Asthma and Rhinitis Control Program.^(5,13)

In May of 2006, the year in which the Fourth Brazilian Guidelines for Asthma Management were published, representatives of medical associations, of the Brazilian National Ministry of Health, and of thirteen asthma programs that were currently active met in Brasília, Brazil, in order to discuss the core aspects of those programs, i.e., professional training, planning, implementation, epidemiological coverage, funding, and results. The representatives discussed the importance of developing public policies for asthma in the context of integrated health care and health surveillance, on the basis of the experience accumulated in the various programs existing in the country at that time.⁽¹⁵⁾

In January of 2007, Brazilian National Ministry of Health Decree no. 204/GM regulated the allocation of federal resources to health care activities and services in the form of block funding, such allocation being monitored and controlled. Chapter II of Decree no. 204/GM deals with the purchase of drugs and materials for pharmaceutical services provided under various programs, including the asthma and rhinitis program.⁽¹²⁾

In November of 2009, Brazilian National Ministry of Health Decree no. 2,981 approved the specialized component of pharmaceutical care, and, in December of 2010, Brazilian National Ministry of Health Decree no. 4,217⁽¹⁶⁾ approved the norms for the funding and implementation of the Basic Component of Pharmaceutical Care, the asthma and rhinitis program receiving drugs on the National Drug List of the Basic Component of Pharmaceutical Care.⁽⁷⁾

In 2012, the Brazilian Thoracic Association Guidelines for Asthma Management were published, again emphasizing the components of the health care provided to asthma patients. In May of 2012, a program designated *Brasil Carinhoso* (A Caring Brazil) was launched, consisting of a set of measures aimed at reducing childhood poverty; one of the measures is the free distribution of three drugs for the treatment of asthma (ipratropium bromide, beclomethasone, and albuterol) via

the *Saúde Não Tem Preço* (Health Is Priceless) program.^(17,18)

Effective public policies that allow appropriate asthma treatment that is centered on asthma patients within their social context have long been called for. In the Fourth Brazilian Guidelines for Asthma Management,⁽¹⁵⁾ Cerci Neto, Ferreira Filho, and Bueno concluded that there is a satisfactory number of health professionals involved and that the environment is favorable, given that full public funding is provided for the programs. However, we emphasize the importance of a better use of public health strategies, such as family health programs, outreach, humanization, and community health programs, in order to offer high-quality integrated health care to the greatest possible number of asthma patients.^(19,20)

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