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Developmental surveillance, screening, and evaluation: An analysis of Brazil's public policies for childcare

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ABSTRACT

This essay analyzes the Brazilian laws, public policies, and programs for the promotion of child development, focusing on initiatives aimed at identifying developmental delays. Since 1984, the legislation about early childhood has included child development as part of the Brazilian childcare agenda. However, screening and developmental assessment were not considered among the most important actions aimed at childcare. It is necessary to formulate official instruments or scales and implement interventions for the detection of developmental disorders, delays, and risk conditions to reach more children and promptly identify their potential developmental delays.

Keywords: child-development; developmental-screening; intersectoral-collaboration; public-health; public-policy

RESUMEN

Vigilancia, cribado y evaluación del desarrollo: un análisis de las políticas públicas de Brasil para el cuidado infantil.

Este ensayo analiza las leyes, políticas públicas y programas brasileños para la promoción del desarrollo infantil, centrándose en iniciativas destinadas a identificar retrasos en el desarrollo. Desde 1984, la legislación sobre la primera infancia ha incluido el desarrollo infantil como parte de la agenda brasileña de cuidado infantil. Sin embargo, la vigilancia y la evaluación del desarrollo no han ocupado un lugar destacado como una de las acciones más importantes



dirigidas al cuidado infantil. Es necesario formular instrumentos o escalas oficiales, e implementar intervenciones para la detección de trastornos del desarrollo, retrasos y condiciones de riesgo que permitan llegar a más infantes, así como la identificación temprana de retrasos en el desarrollo.

Palabras claves: colaboración-intersectorial; desarrollo-infantil; política-pública; salud- pública; tamizaje-de-desarrollo

RESUMO

Vigilância, triagem e avaliação do desenvolvimento: uma análise das políticas públicas de cuidado da criança no Brasil.

Esse ensaio analisa as leis, políticas públicas e programas brasileiros de promoção do desenvolvimento infantil, com foco em iniciativas que visam identificar atrasos no desenvolvimento. Desde 1984, a legislação da primeira infância inclui o desenvolvimento infantil como parte da agenda brasileira de atenção à população infantil. No entanto, a vigilância e a avaliação do desenvolvimento não ocuparam uma posição importante como uma das ações voltadas para o cuidado da criança. É necessário criar instrumentos ou escalas oficiais e implementar intervenções para a detecção de transtornos do desenvolvimento, atrasos e condições de risco que possibilitem chegar a mais crianças e a identificação precoce de atrasos no desenvolvimento.

Palavras chave: colaboração-intersectorial; desenvolvimento-infantil; política-pública; saúde-pública; triagem-de-desenvolvimento.

INTRODUCTION

Early child development is the stage of human life from pregnancy to 6 years of age that covers a maturational and interactive process in an ordered progression of increasingly complex perceptual, motor, cognitive, language, socio-emotional, and self-regulation skills¹⁻². These first six years of live are a crucial phase of growth and development with lifelong effects. Thus, the initiatives aimed at childcare must include strategies to identify children with developmental delays: surveillance, screening, and evaluation of development.

Although these three concepts are often used as synonyms, there is a significant difference regarding their forms of action. Developmental surveillance (monitoring) is defined as the “use of information

from multiple sources (parent concerns or questions, asking about developmental milestones, informal observation of the child, and physical examination) to monitor a child’s development over time”³. Screening implies the “systematic use of a validated screening tool to identify children likely to have a developmental delay, with all children in a practice or population, regardless of risk”³. Evaluation of development is the “formal testing of a child’s developmental skills using a standardized assessment tool, and/or evaluation by a specialist in the area of child development, to determine the specific nature of a child’s developmental difficulties and diagnosis”³.

The early detection of children who may have developmental problems should be one of the



objectives of routine pediatric consultations carried out by nurses and physicians. From a public health perspective, it is fundamental to detect developmental problems in order to intervene in the specific developmental delays once they are identified. The likelihood of identifying developmental delays increases when more children are participating in a developmental screening program⁵; therefore, all children—not just those with suspected problems—must be monitored or screened⁴. Those with no evident delays may not reach their developmental potential, and this may lead to inequity and fewer opportunities for healthcare access. In this regard, healthcare systems must have policies that guarantee the early detection of developmental problems or delays for all children.

In Brazil, nurses have played an important role in the promotion of child health and child development in primary care since they have contact with children from childbirth up to early childhood within the healthcare system. Services such as consultations at health services or home visits provide nurses with the opportunity to identify not only health problems but also child development delays. In this context—as nurses with experience in the care of children during primary care—the authors hereby recognize the impact throughout life that the early detection of developmental delays might have and the need of having public policies and programs to promote the early detection of developmental delays in children.

This paper analyzes official documents from different ministries and governmental institutions as well as documents from other private organizations and institutions that research and provide care to children. Also, this research focuses specifically on Brazil because it is a country that has been at the forefront of legislation for early childhood care despite the challenges that it faces as a country with high levels of social inequality.

This argumentative essay aims at analyzing the inclusion of child developmental surveillance, screening, and evaluation in Brazilian laws, policies, and programs concerning childcare. The article is structured by firstly showing a historical description of the Brazilian laws, policies, and programs, followed by an analysis of this legislation and the main challenges in detecting developmental delays in children in Brazil.

HISTORICAL DESCRIPTION OF PUBLIC CHILDCARE POLICIES IN BRAZIL SINCE 1984

In Brazil, a solid legislation has been developed to benefit children during their first years of life. The Ministry of Health—in association with the Ministry of Social Security and Social Assistance—implemented the “Integral Child Health Care Program” (PAISC) in 1984⁶. This program focused on the improvement of health conditions and the reduction of infant mortality and morbidity rates.

The program also represented an option to offer assistance focusing not only on cases of pathologies but also considering growth and development as a fundamental aspect in children’s care. The monitoring of growth and development was an opportunity to decrease the adverse effects caused by malnutrition and infectious diseases. Developmental surveillance allowed a timely identification of children with delays or at risk, and favored the implementation of early interventions for promoting child development⁶.

As part of the PAISC, the Ministry of Health created the first “Child Card”, an instrument to monitor child growth and development. It mainly addressed the identification and prevalence of early childhood stunting. Child development was not highly addressed, however, it was the first attempt of an instrument to monitor the development of children. The Child Card included a form with the main development milestones and instructions that



explained the actions that should be taken in case of delays or suspected development problems⁷.

In 1990, Brazil enacted law No. 8069, the Statute of Child and Adolescent, a legal framework that sought the integral protection of the Brazilian children's rights. It recognized development as a right and set the basis to legally guarantee that child development must be incorporated into all sectors, institutions, policies, and programs that provide care to children. Also, according to the Statute, all the opportunities and facilities must be guaranteed to enable physical, mental, moral, spiritual, and social development in conditions of freedom and dignity⁸.

Regarding developmental evaluation, the statute indicates in its article 14 that it is mandatory during pediatric consultations to evaluate all children during their first eighteen months of life with the aim of detecting risks for psychic development⁸. Moreover, the statute states that health professionals who provide care to children must have the knowledge and skills to identify psychic development-related risks.

In 1996, Brazil adopted the Integrated Management of Childhood Illnesses (IMCI) strategy, an initiative of the World Health Organization, the Pan American Health Organization, and the United Nations International Children's Emergency Fund (UNICEF) to reduce child mortality rates caused by infectious diseases. This initiative introduced a set of simplified criteria to assist in primary healthcare through assessing, classifying, and treating diseases prevalent in children under five years of age⁹. In Brazil, the IMCI was adapted for the epidemiological characteristics of Brazilian children and the guidelines that the Ministry of Health provided for breastfeeding, promotion of healthy eating habits, growth and development, immunization, and the control of malnutrition, diarrheal diseases, acute respiratory infections, and malaria, among others⁹.

In 2002, the Ministry of Health published a document called "Child's Health. Monitoring Child Growth and Development" that established the guidelines to monitor the growth and development of children. This publication introduced other anthropometric indexes in addition to the weight/age index, to evaluate growth⁷. Furthermore, this guideline indicated that developmental surveillance should be registered during well-child visits using two instruments: the "Child Development Surveillance Form" and the "Child Card". It is important to note that the Ministry of Health used the concept of "surveillance" instead of "evaluation" in the guideline. The purpose of developmental surveillance was to offer just an observation guide to allowed professionals to identify children at risk of developmental problems, rather than to evaluate them since this requires quantitative scales or tests, special materials, and/or trained professionals⁷.

The Child Development Surveillance Form was an instrument that had to remain in the child's file and was used for children from one month to six years of age. It contained a shaded area that corresponded to the period of incidence or disappearance of a given milestone. This was based on the fact that 90% of children acquired or presented the contained milestones by this age. While observing the child's behaviors, the health professional completed the form with a P for "present", an A for "absence", and an NV for "not verified".

The Child Development Surveillance Form included in the "Child Health. Monitoring Child Growth and Development" was a newer version of the one created in 1984. The difference was the incorporation of the psychic development items for each age group; this new version covered four domains of development: maturational, psychomotor, social, and psychic. Moreover, it allowed the detection of any of these situations: expected responses for the age, failure to reach any



milestone of development for the age, and persistence of delay for more than two visits (or absence of the "milestone" in the last shadowed frame)⁷.

The Child Card—which remained with the mother or caregiver—included some milestones selected from the Child Development Surveillance Form. It allowed the health professional to promote child development and educate about the importance of development, the progression of the milestones, and stimulation⁷.

Despite Brazil's efforts to develop national childcare initiatives, the states have implemented their own policies, programs, and projects to ensure the highest development of children. Thus, during 2003, the state of Rio Grande do Sul—with the support of the Inter-American Development Bank and the Maria Cecilia Souto Vidigal Foundation—implemented the Better Early Childhood Program (PIM): an innovative initiative of integral care for children in Brazil¹⁰. This program has been well accepted by the population and has become a reference framework for other programs oriented to promote early childhood development in Brazil due to its excellent results.

To assess the impact of the PIM, child development is one of the indicators evaluated as part of the program. The evaluation is performed during the home visits at three different moments of the program, and it assesses the eight development indicators by age group established by the PIM. This methodology defines whether the children can already accomplish such development indicator on their own, with assistance, or if they are unable to accomplish it¹⁰.

In 2004, the Ministry of Health published the "Agenda of Commitments for the Integral Health of the Child and Reduction of Infant Mortality". This initiative was implemented due to the ineffective government strategies that maintained the high

infant mortality rates. The purpose of the document was to organize the assistance to the infant population: from basic care to specialized attention in the units of medium and high complexity¹¹.

Hence, the Ministry of Health determined thirteen principles to provide holistic care to children and reduce mortality. One of them was the monitoring of growth and development through the Child Card. The document emphasized that—beyond recording the information of the evaluation in the card—it was fundamental to orientate the mother, family, or caregiver about the children's health¹¹. In addition, professionals should be prepared to identify growth and developmental disorders, delays, or risks, and they should also know to how adequately address the situation if these situations are presented¹¹.

In 2005, the Ministry of Health introduced the Child Health Handbook to promote the monitoring of the integral health of all children born in 2005 and after. The new Child Health Handbook not only covered the information included in the previous Child Card; it also expanded the data on a variety of topics related to the health of the newborn, pregnancy, childbirth and puerperium, visual and oral health, accident prevention, and the expected sequence for global development¹². The Child Health Handbook also provided space for annotations of clinical intercurrents. In addition, the head circumference chart was introduced and the weight/age charts remained, contemplating up to 7 years¹².

The Child Health Handbook represented the main instrument used by health professionals to monitor the development of children during pediatric consultations. The professionals used the Child Health Handbook to observe the development of the milestones and verify how the mother or caregiver related to the child¹². Moreover, the Child Health Handbook facilitated the orientation of the family about essential aspects of child development and



provided them with the opportunity to follow the development of their child¹². As the definition of developmental surveillance states, including the collaboration of the family and the information they bring is a fundamental element to identify delays or risks for the child's development.

In 2007, an intersectoral program was created under the responsibility of the Ministry of Health and Ministry of Education with the objective of integrating the policies and actions between both Ministries: the Health in School Program. This program was implemented in public schools to prevent diseases, promote children health and care¹³. However, the program did not include developmental surveillance or screening as a relevant element.

In 2009, the Ministry of Health instituted, by law, the Healthy Brazilian Kids Strategy, an integral care-focused public health policy intended for the children in Brazil's National Health System of at the Primary Health Care. The Healthy Brazilian Kids Strategy was a response to the commitment made by the Brazilian government to fulfill the Millennium Development Goals. The strategy recognized early childhood as the main stage of human development to promote health with significant lifelong consequences¹⁴.

In 2010, the Early Childhood National Network created the Early Childhood National Plan, a document that presented actions to be implemented during the next 10 years to guarantee the children's rights recognized in the Statute of Child and Adolescent and other Brazilian laws and policies. It is also an answer to different international agreements signed by Brazil in favor of early childhood¹⁵. The Early Childhood National Plan defined that it is the state's responsibility to provide children with everything they need at this stage and to ensure all the conditions determined in this plan, so children can meet their greatest development potential¹⁵.

Regarding developmental surveillance, the Early Childhood National Plan outlined the following actions: to use the Child Health Handbook as the main developmental surveillance document to register the child development, to monitor the development during the primary care home visit and the pediatric consultation, to train health professionals to identify risk conditions and to act in case of special situations, and to form interdisciplinary childcare teams in child healthcare units, all of these with particular attention to child mental health¹⁵.

In 2012, the Ministry of Health published the guidelines "Child Health: Growth and Development". It included a variety of aspects that influence the growth and global development of children and the activities that health professionals have to implement in twelve different areas of childcare. One of these areas was developmental surveillance: a significant intervention in primary care to identify delays in the development and recognized the fundamental participation of parents and caregivers in the process¹⁶.

Additionally, the document included the list of milestones per age that children should present by the age of 10; this helped the health professionals to monitor the development. Based on the Child Health Handbook, a chart was included to interpret the results considering the diagnostic impression and orientation for the professionals of what they should do in each case¹⁶.

In 2015, the National Policy on Comprehensive Health Care for Children (PNAISC) was formulated in the context of the National Health System. This policy had the objective to promote and protect the children's health, and it determined early childhood as the age ranging from zero to five full years or from zero to seventy-two months¹⁷.

The PNAISC was structured in seven strategic axes, being the third one the promotion and monitoring of



growth and development, especially for early childhood. This axis was defined in article 9 of the PNAISC, and it emphasized that primary care should promote and monitor growth and development following the Child Health Handbook¹⁷.

The “National Policy on Comprehensive Health Care for Children (PNAISC): Guidelines for its implementation” was published in 2018. This document was designed to improve the model of management and attention to children's health in Brazil by providing theoretical and practical subsidies based on the PNAISC¹⁸. This document also established the Child Health Handbook as the national and official instrument to monitor child growth and development. Additionally, health professionals should adequately complete the growth graphs and the development milestones in the Child Health Handbook¹⁸.

In 2016, it was created Law No. 13.257: Early Childhood Legal Framework. It established the principles and guidelines for formulating and implementing early childhood public policies due to the specificity and relevance of early childhood development. This law defined early childhood from birth until 6 years or 72 months¹⁹. Since the implementation of this law, Brazil is at the forefront of the Latin-American countries, being the only country with a law specifically aimed at early childhood. Nevertheless, the main objective of the Early Childhood Legal Framework is to improve child development by placing childhood in the center of policies, programs, and services. There is no specification about developmental surveillance or screening among the law.

ANALYSIS OF THE BRAZILIAN LEGISLATION ON CHILDCARE AND CHALLENGES IN DETECTING DEVELOPMENTAL DELAYS IN CHILDREN

States have the responsibility to formulate laws and policies, implement programs, and allocate

resources to guarantee the highest development for every child. The results obtained through this review demonstrated that child development has always been a part of Brazil's agenda since 1984. The decrease in infant mortality rates and the recognition of early childhood as the most important stage of human development to invest in has led to the formulation and implementation of several successful and innovative initiatives with a significant impact on child wellbeing.

The Ministry of Health, the Ministry of Education, and the Ministry of Social Development are the institutions more involved in children's policies and with more actions in place at the federal to local levels. These ministries carry out activities that address the different factors that influence child development since early years: nutrition, health services, learning opportunities, dwelling, among others. Although some of these interventions have been planned with an intersectoral perspective, it is likely to find them fragmented, isolated, and limited to the sector that developed them²⁰.

The few initiatives that included developmental surveillance as an axis of action outlined the main common points: use of the concept of surveillance rather than screening or evaluation, primary care as the ideal space for developmental surveillance, and the use of the Child Health Handbook as the official developmental surveillance document.

Considering the difficulty and challenges for detecting developmental delays by screening and evaluating, Brazil has employed developmental surveillance strategies to identify early developmental risks and delays in an easier and cheaper fashion. Since systematic developmental screening and evaluation are more complex processes, they require validated instruments and appropriate knowledge, skills, materials, and equipment. Nevertheless, since 2001, the American Academy of Pediatrics (AAP)²¹ has recommended to



screen every child in order to identify early developmental delays and provide early interventions. Furthermore, in 2006, the AAP²² recommended incorporating developmental surveillance at every well-child visit, and in case of suspicion of any developmental delay, the child must be screened using standardized developmental screening tests.

Therefore, following the AAP's recommendations and the results of this review which showed the absence of developmental screening in Brazil, it is possible to conclude that the country is limiting the detection of developmental delays to developmental surveillance. Consequently, it is necessary to include developmental screening with validated instruments in public policies, plans, and programs that will allow a more comprehensive and early identification as well as suitable interventions.

Considering that health services are the main governmental services in contact with families and their children during the first years of life, primary care represents the ideal space for monitoring child development. Nurses providing childcare in primary care services generally are the first health professionals that hear the concerns from caregivers regarding their children's development. Thus, pediatric primary care nurses must be trained to monitor child development and access the necessary resources to intervene in special situations. The Canadian Task Force on Preventive Health Care²³ supports this idea by recommending that primary care professionals should be alert during periodic well-child visits to monitor child development and provide special care to those suspicious cases to diagnose developmental delays. Moreover, the AAP²¹ recognized these encounters between family and health services not only as an optimal space to screen or evaluate child development but also as an excellent moment to inform the families and give them advice about promoting child development.

Several instruments can be used to screen or evaluate child development. The selection of the instrument depends on the objective of the intervention and the resources that the health system allocates to evaluate the child's development. Since the results of developmental screening and evaluation can be influenced by culture and context, there cannot be a standardized instrument worldwide. It is recommended to use validated instruments adapted to the reality and characteristics of the population that will be evaluated²⁴.

In the case of Brazil, the Ministry of Health has made great efforts to have a Brazilian instrument for developmental surveillance since 1984. Nowadays, the Child Health Handbook is considered the official document. Even though internationally recognized screening and diagnostic tests such as the Ages and Stages Questionnaire²⁵, Denver II Developmental Screening Test²⁶, and Bayley-III Scales of Infant and Toddler Development²⁷ have been validated for the Brazilian population, none of them has been included in public policies, plans, or programs as an official test for developmental screening.

In spite of the existence of the Child Health Handbook for developmental surveillance, the evidence consulted demonstrated that professionals do not complete it (or complete it incorrectly) to monitor the developmental milestones²⁸⁻²⁹. Porter et al.³⁰ indicated that pediatricians or other professionals in primary care rely on their clinical perception, rather than use standardized developmental screening tools. Furthermore, the combination of the use of non-validated and non-standardized instruments and limited clinical observation has led to poor results in the adequate detection of developmental delays. This situation confirms the need for continually screen with high-quality instruments³¹.



In spite of the efforts to include developmental surveillance in different programs addressed to children, the current ones are insufficient due to the absence of a more specific policy regarding developmental screening and evaluation. A policy should consider official screening and/or evaluation tests, who are the professionals that would screen and evaluate, the actions that should be taken in case of delays or risks, the ages when children should be screened and evaluated, and the system where the information would be registered, among other relevant information. Dworkin et al³² suggested that the early detection of developmental delays is promoted by policies that integrate developmental monitoring and screening into all the services and sectors that are aimed at children.

Another reason why it is fundamental to have a structured policy of developmental screening and evaluation is the possibility of obtaining indicators of child development. Otherwise, this data will remain unknown as it is today. Some countries already document basic information related to children's health: poverty levels, vaccination percentages, data on growth lag, mortality rates, schooling, etc. However, these data do not reflect the current condition of the children's development from their integral vision³³.

The absence of these child development indicators has both individual and collective consequences. At the individual level, when developmental delays or risks are not promptly identified, children are denied the opportunity to benefit from early and appropriate interventions, losing what could be the most effective intervention to improve their development. At the collective level, the lack of child development indicators not only hinders the assessment of public policies that promote child development but also fails to identify who and where are the vulnerable populations that might need more care and resources.

Both individual and collective consequences have an important impact on the equal access to services. Children with developmental needs might not receive adequate care at the right moment, and they will remain in a disadvantaged position with a significant lifelong effect. In this regard, effective actions for early detection of developmental delays and implementation of accurate interventions have the potential to reduce these inequities.

It is well known that nurses are essential for healthcare systems to achieve equity, and equity during early childhood is not the exception. Nursing care plays an essential role in meeting developmental needs and ensuring that all children reach their developmental potential. Since both developmental surveillance and developmental screening are within the scope of practice of primary care nurses concerning childcare, nurses are an optimal human resource to not only promote child health and development as they have been doing historically in Brazil but also to implement policies or programs to identify developmental delays or risks in children.

This essay advances the literature by recognizing the challenges that Brazil must overcome for the timely detection of delays in development. However, it should be noted that it was limited to the Brazilian context and did not analyze the policies from other countries.

CONCLUSIONS

The analysis of the Brazilian laws, policies and programs concerning childcare revealed that Brazil has been on the right track to improve the living conditions of children during the early years of life by developing numerous laws, policies, and programs, and also by allocating resources to achieve this. Nevertheless, the main challenge is to put developmental screening and evaluation in a higher



position in the list of interventions to improve the children's health and wellbeing.

It is necessary to formulate and implement developmental surveillance, screening, and evaluation policy. This policy should consider the main logistic aspects: official instruments or scales, interventions for developmental disorders, and delays, and risk conditions. Nurses can perform accurate developmental screenings and recognize atypical development while also providing continuous support to the family. Their participation in systematic developmental screening will allow reaching a more significant number of children and identifying potential developmental delays.

Research must be done to determine developmental indicators and evidence the gap between the prevalence of developmental delays and its timely identification in early childhood in Brazil.

CONFLICT OF INTEREST STATEMENT

The authors hereby declare that there is no conflict of interest.

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