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MONITORING CHILD DEVELOPMENT IN THE IMCI CONTEXT

Amira Consuelo Figueiras
Isabel Cristina Neves de Souza
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imci

Integrated Management of Childhood Illness
Child and Adolescent Health Unit
Family and Community Health Area

Pan American Health Organization
Regional Office of the World Health Organization

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The authors wish to honor the memory of

Dr. Márcia Regina Marcondes Pedromônico,

who died during the preparation of this manual.

Dr. Pedromônico held a doctorate in psychology and was professor at both the undergraduate and graduate levels in the Department of Pediatrics, São Paulo School of Medicine, University of São Paulo. It was she who first espoused the idea of using the IMCI strategy as a tool for monitoring child development. Her technical knowledge was enlisted in preparing the table of development milestones. She was always available to discuss ideas for improving this material.

If child survival is one of the most important unfinished challenges bequeathed to us by the twentieth century, then guaranteeing healthy growth and development for all children, a goal that is already being addressed in the twenty-first century, is key to meeting this challenge.

< II. PREFACE >

If child survival is one of the most important unfinished challenges bequeathed to us by the twentieth century, then guaranteeing healthy growth and development for all children, a goal that is already being addressed in the twenty-first century, is key to meeting this challenge.

The progress that has been made, especially in recent decades, in the prevention of diseases and the effective treatment of many of them, has had a major impact on the overall living conditions of people throughout the world, including the Region of the Americas. Life expectancy has increased in the last twenty years, and an important part of this increase has been due to the countries' efforts to reduce infant mortality. The number of deaths in children under 5 years of age was drastically reduced between the early 1980s and the end of the 1990s, and the goal to reduce the 1990 figure by one-third was attained in 2000.

This important achievement, however, has not always been accompanied by improvements in the living conditions of the children and their families. On the contrary, the 1990s saw a deterioration in economic and social conditions for vast sectors of the population in the Americas, and the living conditions of children were far below the necessary minimum to ensure them a satisfactory state of health. It is therefore essential to implement interventions that will contribute to the prevention, early detection, and effective treatment of diseases, as well as the promotion of health.

Since the mid-1990s, the strategy of Integrated Management of Childhood Illness (IMCI) has proven to be an effective means of providing a basic set of scientifically sound interventions that effectively address and treat the main illnesses and health problems that occur in the first years of life. IMCI has also helped to promote the adoption of health promotion measures by sharing knowledge and health care practices with parents so that they can care of their children properly.

Implementation of the IMCI strategy has had important benefits for the quality of care given to children not only in the health services but also at home and in the community. One of these benefits has been to give added importance to the integrated approach to child health, which has greatly changed the practices followed in caring for the specific diseases that tend to affect this age group.

The addition of corroborating data and practices for assessing the development status of children has further strengthened this overall approach to child health. Among other advantages, these new contributions have made it possible to take optimal advantage of everyone who comes in contact with the child, both health professionals and family members, to identify occasional problems, provide the most appropriate recommendations for treatment, and promote the use of simple practices that will help to promote early child development. Thus, the incorporation of child development monitoring as part of IMCI not only corresponds to the ethical commitment to improve child survival but also affords greater opportunities for surviving children to reach their maximum potential and to grow and develop as adolescents, young adults, and healthy and socially productive adults.

Extension of the IMCI strategy to the entire population, especially the most vulnerable groups, has posed and continues to pose a major challenge for the countries of the Americas. We believe that this challenge should include the effective incorporation of child development into the IMCI strategy.

The present manual is intended to provide health professionals—from those involved in academic training to personnel who work directly in child health care—with the tools, integrated into IMCI and placed within the population's reach, to make effective interventions for the improvement of child development.

These conditions will undoubtedly hasten achievement of the Millennium Development Goals for 2015 to which all the countries are committed. By ensuring that all children and their families have

the opportunity for healthy growth and development throughout childhood, they not only improve child survival but also make a difference in the lives of those who survive.

Monitoring Child Development was initially developed to train primary health care professionals serving in the Municipal Health Secretariat of Belém, Pará, in aspects of child development. During 2000-2004, training was given to a total of 240 physicians and nurses in the Basic Health Units and the Program on Family Health which made it possible to monitor children with developmental disorders and refer 1,200 of them who are now undergoing specialized treatment. Two new multidisciplinary services have been created in the city to help meet this demand and thereby improve the quality of life for these children.

This experience, supported by the Spanish and Portuguese versions of Monitoring Child Development, has been shared with professionals in a number of other countries who have benefited from the work done in Pará and incorporated similar elements into their own child health care services.

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< III. INTRODUCTION >

Providing children with opportunities to develop fully may well the most important contribution that can be made to the human species. Satisfactory child development, especially in the first years of life, helps to maximize children's likelihood of getting an education and becoming fully active citizens who are able to cope with the vicissitudes of life and thus reduce the social and economic disparities of society.

This manual was developed as part of the instructional materials for the **Course in Monitoring Child Development in the IMCI Context**. It is intended for professionals in the basic health network rather than specialists in child development. It contains basic information about development during the two first years of life that every primary care health professional should know in order to counsel parents adequately on monitoring their child's normal development, and, in the event of delays or difficulties, knowing how to deal with the situation. It is not meant to provide diagnoses, but rather to serve as a general easy-to-apply tool for assessment. Its purpose is to encourage primary care professionals to assess development in children under 2 years old with an understanding of why this is so important. Early diagnosis will most certainly give developmentally delayed children a better chance, since it opens up the possibility to seek proper care and improve their quality of life.

Monitoring the development of children in the two first years of life is of the utmost importance, since this is the stage of extrauterine life when nerve tissue grows the fastest and matures, and is therefore the most vulnerable. Because of children's great plasticity during at this time, it is also the period

during which they respond best to therapy and to the stimulation they receive from the environment. For these reasons, it is fundamental that health professionals, families, and communities take advantage of this time to monitor the development of their children.

"**DEVELOPMENT MONITORING includes all activities related to the promotion of normal development and the detection of developmental problems in the course of primary child health care. It is a flexible, ongoing process based on information received from health professionals, parents, teachers, and others.**" (Huthsson & Nicholl, 1988).

"PRIMARY HEALTH CARE is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination" (Declaration of Alma-Ata, 1978).

If child development monitoring is to be incorporated effectively into the primary health care context, health professionals must have basic knowledge about child development. They need to know how a normal child behaves, to understand the factors that can contribute to altered development, and to recognize behavior that may be indicative of a problem. In order for monitoring to be successful, the methods used must be simple, easy to apply, socially acceptable, and at the same time scientifically sound.

In an effort to simplify the monitoring of child development and incorporate it into primary health care operations, this manual follows the methodology adopted for Integrated Management of Childhood Illness. It is designed to systematize care and make it easier for the health professionals to advise parents on how to encourage normal development in their children and detect problems early. Children with any signs of concern should be referred and assessed by professionals with more experience in child development in order to decide whether or not there is real problem that needs to be studied further and what treatment is appropriate.

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< IV. MONITORING CHILD DEVELOPMENT >
THEORETICAL CONTEXT

Introduction

The integral development of young children is fundamental to human progress and to building social capital, the main elements that are needed in order to break the cycle of poverty and reduce inequity, which in turn are key to equalizing opportunities for all human beings both socioeconomically and in terms of gender.

The definition of child development varies depending on the theoretical framework adopted and the perspective being addressed. For the pediatrician, there is the classical definition of Marcondes et al. (1991):[1] development is the growing capacity of the individual to perform increasingly complex functions. The pediatric neurologist will focus on maturation of the central nervous system; the psychologist, depending on his or her education and experience, will look at cognitive aspects, intelligence, adaptation, and/or ability to relate to the environment; and the psychoanalyst will place more emphasis on relationships with others and development of the psyche.[2]

For Mussen et al. (1995),[3] development is defined as "systematic, long-lasting changes in physical and neurological, cognitive, and behavioral structures." The study of development is about discovering how and why the human organism grows and changes throughout life. One of its objectives is to understand those changes that appear to be universal–i.e., changes that occur in all children, regardless of the culture in which they are being raised or the experiences they have. Another objective is to account for individual differences. A third objective is to understand how children's behavior is influenced by the surrounding context. These three perspectives—universal norms, individual differences, and environmental influences—are essential to a clear understanding of child development. Depending on the theoretical orientation of the researcher and the types of issues to be studied, emphasis may be placed on any of these three perspectives.

The ecological model of human development starts from an ecological perspective in which different micro- and macrosocial environments are considered to interact (Fig. 1). In this view, the environments are the State, the community, and the family. Each has its own set of standards and values. At the level of the State, these are expressed through its policies and institutional frameworks; in the community, they are seen in its models of organization and participation; and in the family, they are created by its important role to protect, care for, and meet the immediate needs of children.

In summary, child development is a process that starts with conception and embraces a number of different aspects, including not only physical growth but also the neurological, behavioral, cognitive, social, and affective maturation of the child. The end-product of development is a child who is able to respond to his or her needs and react with the environment while taking into account the context of his or her life.

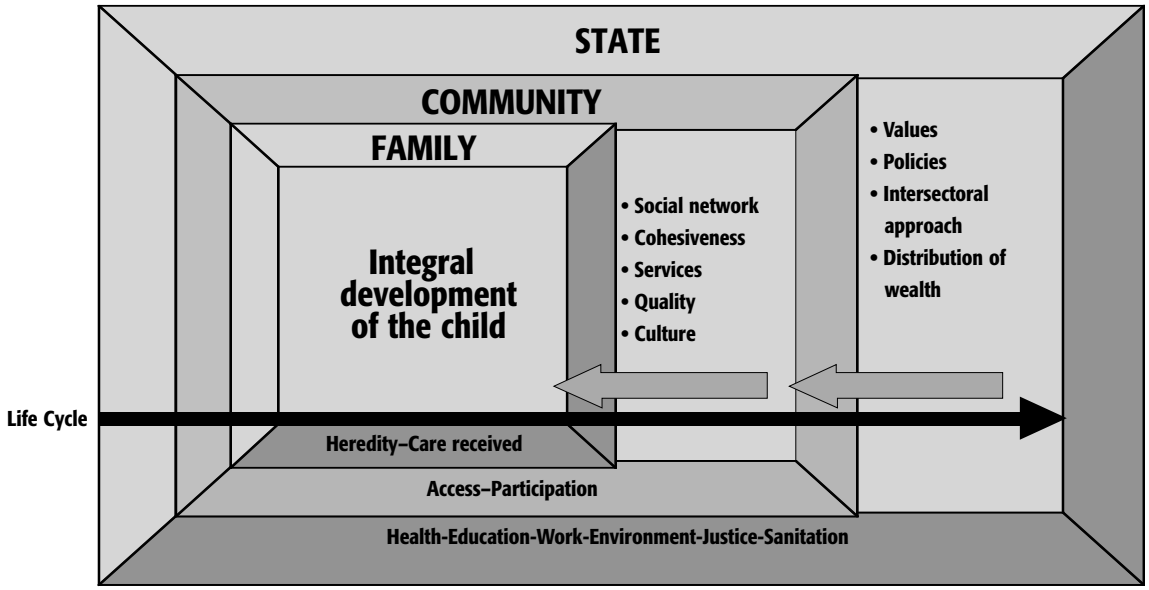
Prevalence of child development disorders

Because of the complexity of the definition and the different perspectives on normal development, there is no way to obtain reliable statistics that show the true prevalence of developmental problems in children.

The World Health Organization (WHO) estimates that 10% of the people in any country have some

1. Marcondes E, Machado DVM, Setian N, Carrazza FR. Crescimento e desenvolvimento. In: Marcondes E, coordenador. Pediatria básica. 8a ed. São Paulo: Sarvier; 1991. p.35-62.
2. Brasil. Ministério da Saúde. Secretaria de Políticas de Saúde. Área Técnica da Criança. Fundamentos técnicos-científicos e orientações práticas para o acompanhamento do crescimento e desenvolvimento - vol.2; Brasília: MS. No prelo 2002.
3. Mussen PH, Conger JJ, Kagan J, Huston AC. Desenvolvimento e personalidade da criança. 3a ed. Traduzido por Rosa MLGL. São Paulo: Herbra; 1995.

Figure 1—Ecological Model:
Determinants of Integral Development in children



Molina H.; Bedregal P. & Margozzini P., 2001. Revisión sistemática sobre eficacia de intervenciones para el desarrollo biosicosocial de la niñez. Santiago de Chile, Ediciones Terra Mía; 2002.

type of impairment.[4] According to the latest census in Brazil, the country has a population of 169,799,170, which would mean that 16,979,917 of these individuals have some form of impairment, including children with developmental disorders.

Halpern et al. (2000),[5] when they assessed 1,363 infants under 12 months of age selected randomly from a cohort of 5,304 born in the hospitals of Pelotas in 1993, found that 463 (34%) were at risk for delayed development. Figueiras et al. (2001),[6] assessing 82 children under the age of 2 on Combu Island, Pará, found 37% to be at risk for developmental problems.

Risk factors for developmental problems in children

A number of different factors can be responsible for developmental problems in children. In most cases it was not possible to identify a single cause, since a number of etiologies could have been associated with the problem.

Since child development is the result of interactions between biological characteristics and experiences presented by the environment, adverse factors in both these areas can affect its normal rate. The probability of such an event occurring is called *developmental risk*. The primary condition for children to develop well is the affection of their mother or caregiver.[7] Lack of affection or love in the first years of life will have a permanent effect on a child's development and is one of the most serious developmental risks.

Most studies classify the risks for developmental problems in children as being either biological or environmental. Biological risks are the pre-, peri-, and postnatal events that result in biological damage and can increase the probability of developmental damage. Some authors make a distinction between biological and "established" risks, by which

4. World Health Organization. Opportunities for all: a community rehabilitation project for slums. Philippines: WHO; 1995. 54p
5. Halpern R, Giugliani ERJ, Victora CG, Barros FC, Horta BL. Fatores de risco para suspeita de atraso no desenvolvimento neuropsicomotor aos 12 meses de vida. *J Pediatr* 2000;76(6):421-28
6. Figueiras ACM; Souza ICN; Pedromônico MR; Sales LMM; Brito RHE; Magno MMM. Avaliação do desenvolvimento de crianças até 2 anos de idade no arquipélago do Combu. Rev Par Med 2001a;15(3):39. Suplemento II - resumos do 4º Congresso Nacional de Pediatria-Região Norte da Sociedade Brasileira de Pediatria/ I Congresso Paraense de Atenção Multidisciplinar à Criança; Belém.
7. Lejarraga H. O fascinante processo de desenvolvimento psicomotor da criança.) Berço,13 - dezembro 2002. *Nestlé Nutrition*.

they mean medically defined disorders, in particular those of genetic origin. Examples of established risks would include inborn metabolic defects, congenital malformations, Down syndrome, and other genetic conditions. Biological risks would include prematurity, severe cerebral hypoxia, kernicterus, the meningitides and encephalitides, etc. Adverse life experiences associated with the family, the environment, and society are considered environmental risks. These would include precarious sanitary conditions, lack of social and educational resources, limited maternal education, domestic stress (mistreatment, violence, or abuse), mental health problems of the mother or caregiver, and unsatisfactory care and training practices, among others.[7,8] There is growing evidence that social factors have a significant impact on child development.

In recent decades, many studies have sought to identify the risk factors for child development, motivated not only by the scientific interest of researchers, but also by the concern of governments and nongovernmental organizations for the rights and proper care of children. Even so, much remains to be learned about the physiopathogenesis of child development disorders, and such knowledge will enhance the effectiveness of programs and interventions aimed at preventing or minimizing child development problems.

Clinical presentation of developmental disorders in children

Problems in child development can present in a number of different ways: motor development, language, personal-social interaction, cognition, etc. In most cases, a condition will affect more than one function and the child will have a mix of functional disturbances. For example, a child with cerebral palsy will have disturbances in motor development first and foremost, and he or she may also have difficulties with language and cognition. A child with untreated congenital hypothyroidism may also be challenged in motor, language, and cognitive development. Deaf children will mainly have language difficulties. Autistic children will tend to have problems with personal-social interaction and also in language development. In other words, the clinical presentation of children with developmental problems will vary greatly in terms of both type and intensity.

There are also children who have no clinical manifestations of delayed development but will be unable achieve their potential because they failed to receive adequate stimulation, even though they are well nourished and healthy. Thus it is very important not only to diagnose problems, but also to promote healthy child development.

Diagnosis of developmental disorders in children

Development, unlike growth, can be difficult to measure or assess. This difficulty is reflected in its very definition: *the process of change through which a child acquires greater complexity in his or her movements, thinking, emotions, and relations with others*. Even so, it is possible to establish certain standards and identify areas of development that can be assessed, and these are described below. Most importantly, child development is both integral and multidimensional; it takes place continuously; it occurs in unique patterns; and it is affected by interaction with others.

The ease of detecting developmental problems, whether by a professional or by the child's family, can hinge on a number of factors. Identifying disorders associated with previously defined risk conditions—for example, Down syndrome—is relatively uncomplicated. The more severe a child's developmental disorder, the more easily and quickly it will be detected by a health professional. Another factor is the area in which the alteration is manifested—for example, delayed motor development is more easily identifiable than linguistic and cognitive problems. However, the latter correlate more closely with future development than alterations in motor behavior. Although serious disorders can be recognized even in infancy, language impairments, hyperactivity, and emotional disorders are usually not diagnosed before the child is 3 or 4 years old. Similarly, learning difficulties are rarely identified before a child starts going to school.[9]

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7. *Idem.*
8. Graminha SSVG, Martins MAO. Condições adversas na vida de crianças com atraso no desenvolvimento. Medicina (Ribeirão Preto) 1997;30(2):259-67.
9 Palfrey JS, Singer JD, Walker DK, Butler JA. Early identification of children's special needs: a study in five metropolitan communities. *J Pediatr* 1987;111:651-9

In order to ensure that a child attains his or her full development potential, it is essential to understand normal child development and the factors that can affect the process. For this reason, it is important for a child be followed not only by family members but also by professionals who know how to detect any alterations, so that he or she can be referred for treatment as early as possible.

Even though professionals agree on the importance in monitoring child development, there is still some debate about how it should be approached. A number of proposals and models have been suggested.[10,11] One of these, for example, is development screening—i.e., a systematic process in which the development of apparently normal children is checked using tests, scales, examinations, and other procedures, to identify those who might be at high risk for developmental problems. Another approach is development monitoring: a series of activities that include the promotion of normal development and the detection of developmental problems as part of a flexible ongoing process within the primary child health care context, in which reports and feedback from health professionals, parents, teachers, and others are shared. Yet another approach is development assessment, in which children suspected of having developmental problems undergo a series of detailed (usually multidisciplinary) examinations, including diagnostic testing, and/or they are subjected to development monitoring in order to closely observe their development periodically or on an ongoing basis, systematically or informally, with or without screening, without implying the use of any specific technique or process.

Depending on the purpose, all these procedures have their place in the study of child development. Thus, for example, for conducting population surveys, in which the objective might be to identify children at greater or lesser risk for developmental problems, screening would probably be the best choice. On the other hand, in following individual children, development monitoring would undoubtedly be preferable. And for cases that required diagnosis, development assessment is indispensable. Or a given approach may used while at the same time drawing on elements from another in order to produce a more appropriate result. In development monitoring, it may be necessary to refer to some sort of scale as a basis for the examination.

Input from parents about the development of their children is a critical element in development monitoring. There is general consensus in the literature that parents are good observers and excellent detectors of deficiencies in their children. Their observations have high sensitivity, specificity, and predictive value in the detection of problems in their children's development.[12]

Treatment of child developmental disorders

The treatment of children with delayed development will largely depend on the cause of the problem. If the delay is due to environmental problems such as lack of stimulation from the caregiver, the treatment will consist of counseling the parents about the important relationship between the child's development and the way in which they interact with him or her. Often it is necessary to treat a depressed mother who is having difficulty interacting with her child. If the developmental delay is being caused by a pathology such as toxoplasmosis or congenital hypothyroidism, the child needs to start receiving medication as soon as possible, as well as functional therapy with a multidisciplinary team—pediatrician, neurologist, psychologist, physical therapist, occupational therapist, speech pathologist, etc. If the condition is the result of an event that has already occurred, such as neonatal anoxia, kernicterus, or a central nervous system infection, the child should receive functional therapy for the presenting alterations. Functional therapy should never be postponed while awaiting clarification of the etiology. Depending on the resources available, isolating a single etiology could take a long time or not be successful at all. Experience has repeatedly shown that stimulation during the three first years of life results in improved performance both by children with established developmental disorders and by those at risk, and for this reason it should be encouraged as early as possible.

10. Baird G, Hall DMB. Developmental pediatrics in primary care: what should we teach?. *Br Med J* 1985;291:583-85.
11. Hutchson T, Nicoll A. Developmental screening and surveillance. *Br Hosp Med* 1988;39:22-9.
12. Glascoe FP. Evidence-based approach to developmental and behavioral surveillance using parents' concerns. *Child Care Health Dev* 2000;26(2):137-49

EXERCISES

Read the descriptions below and list the risk factors present in each case.

1 – Rosa is 3 months old. Her mother had several episodes of blood loss when she was pregnant and had been confined to bed. Rosa was delivered normally at gestation week 34 and weighed 2,100 g. She did not cry immediately after she was born and was taken to the nursery, where she remained for 7 days. She is currently being monitored in a program for at-risk newborns. Identify and classify her development risk factors.

R: _____

2 – Pedro is 10 months old. He was delivered normally at term and weighed 3,300g. He cried at birth and did not present any abnormality. His mother drank while she was pregnant. She is depressed, did not want to get pregnant, and does not get along with Pedro's father. They are always arguing and sometimes exchange blows. Pedro is an irritable child and cries easily. He is being followed at a basic health unit. Identify and classify his developmental risk factors.

R: _____

3 – Mario is 2 months old. He was born at term by normal delivery and weighed 3,800 g. There were no intercurrent events during childbirth. His mother had had no prenatal care when she was pregnant. He was discharged from the maternity service at 24 hours. On his second day at home, his mother noticed that he was turning "yellow." She was told to place him in the sun early in the morning, but Mario did not improve. His symptoms got worse on day 5, when he had a convulsive crisis and was taken to the hospital. He was kept in the nursery for 20 days, where he was given phototherapy and two blood transfusions. This information was reported by the mother, because the hospital did not furnish medical report. Mario is the third child. His mother states that her second child died 1 week after birth and had been very "yellow." Identify and classify Mario's developmental risk factors.

R: _____

4 – Ann is 2 years old and does not speak. She is one of six children. Her mother goes to a job, and Ann is left at home in the care of her 9- and 10-year-old siblings. Her father is alcoholic, and there is a lot of fighting. When she was 8 months old, Ann had a crisis with a high fever and convulsions. She was kept in the hospital for two weeks. When her mother was pregnant, she took pills (Citotek) in an attempt to induce an abortion because she did not want to have another child. Identify and classify Ann's developmental risk factors.

R: _____

< V. INTRODUCTORY FRAMEWORK FOR MONITORING CHILD DEVELOPMENT UNDER IMCI >

The tool presented here for monitoring development in the IMCI context assesses a child taking into account information about risk factors, the mother's opinion of her child's development, head circumference, any phenotypical alterations observed during physical examination, and finally, the body positions, behavior, and reflexes expected for the child's particular age group. The expected positions and reflexes have been drawn from observations by Lefèvre and Diament (1990), and the behaviors are based on four development scales used both nationally and internationally which have been validated by other authors (Bayley, 1993; Frankenburg and Dodds, 1967; Gesell and Amatruda, 1945; Pinto, Vilanova, and Vieira, 1997).

For infants 0 to 2 months of age, the criteria have been based on primitive reflexes, positions, and abilities that can observed in the first two months of life (Table 1 and Assessment Sheet 1). Since the number of reflexes/position/abilities is small, the absence of only one of them is taken to be sufficient basis for deciding that a problem exists.

For children aged 2 months to 2 years old, a total of 32 development milestones have been grouped into eight age ranges. The four milestones for each cohort are considered to be present in 90% of all children of that age, and there is one from each of the following categories: gross motor skills, fine motor skills, language competency, and personal-social interaction (Table 2 and Assessment Sheet 2). Since the cutoff was the 90th percentile and the number of behaviors to be observed is small (only four for each age group), failure to meet a single milestone is considered sufficient basis for taking a decision.[1-5].

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2. Bayley N. Bayley scales of infant development. New York: Psychological Corporation; 1993.
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< VI. ASSESSING A CHILD'S DEVELOPMENT >

In the first consultation to assess the development of a child up to 2 years old, it is important to ask the mother or primary caregiver about development-related facts and observe the child as he or she engages in the corresponding age group's expected behavior. Take this opportunity to observe the mother and her interaction with the child (mother-child bond), since this relationship an important factor in fostering human development.

Notice how the mother holds her baby, and whether there is affectionate visual and verbal contact between mother and child. Also look for the child's spontaneous movements, and whether he or she shows interest in nearby objects and the surrounding environment. It is also important to see how much care the baby is getting based on his or her state of hygiene. Notice what the child is paying attention to, doing, looking at, or wants. These preliminary observations may be helpful in the assessment.

Ask questions about the child's development.

> Ask:

- **How was your pregnancy with this baby? How long did it last?**
  Use simple words that she can understand. Ask about the length of gestation, prenatal care (how many consultations), any health problem such as infections, drug use, problems such as hemorrhages or eclampsia, whether or not the pregnancy had been wanted, mood swings (depression, irritability), and any other information that you consider relevant. If there is any suspicion of an infection such as rubella, toxoplasmosis, syphilis, AIDS, or cytomegalovirus, ask the mother if she was tested for these diseases.

> Ask:

- **How was the baby's delivery?**
  Find out if delivery took place at home or in the hospital, if the mother was in labor for a long time, and if the delivery was normal, cesarean, or with forceps.

> Ask:

- **How much did your baby weigh at birth?**
- **Were there any problems right after birth?**
  Find out if the mother has any information from the hospital in writing about the delivery or the newborn. Note the birthweight and first head circumference. Ask if the child cried at birth; whether there was any problem that required oxygen, medications, phototherapy, blood transfusion, or any other intervention; whether the baby had to stay hospitalized in the nursery or ICU, or rooming-in, and if so, for how many days, for what type of problem; and whether the mother stayed with the child during the hospitalization or if she visited from time to time. It is even important to know whether she took part in caring for the child (feeding, hygiene, etc.); whether there was physical, verbal, and/or visual contact between mother and the child; and whether the father participated in some way at this time.

> Ask about the infant's history up to the time of the consultation:

- **Has your baby had any serious health problem up to now.**
  Some of the common diseases in infancy can interfere with a child's development—for example: convulsions, meningitides, encephalitides, cranial injuries, respiratory infections, repeated ear infections, etc.

It is also important to know about any family problems that might affect the child's development. Consanguineous parents are more likely to have children with genetic alterations due to autosomal recessive inheritance.

> Ask:

- **Are you and the baby's father related by blood?**
- **Does anyone in your family have a physical or mental health problem?**

Living conditions can favor or hinder a child's full development.

> Ask:

- **How and with whom does your baby usually play?**
- **Where and with whom does your baby spend most of the day?**
  Find out if the child goes to daycare or stays at home. Ask the mother if she spends a lot of time lying beside the baby or staying near the cradle, if the baby lives with other children or only with adults, and whether people spend time and play with the baby. If so, find out what kinds of toys are used.

Ask about:
- Mother's schooling, family life, number of people in the household, domestic violence, any drug or alcohol use in close proximity of the child, etc.

After these initial questions, which should be included in any child's first visit to a basic health unit, and before starting to observe the child's development, always ask the mother:

- **WHAT DO YOU THINK ABOUT YOUR CHILD'S DEVELOPMENT?**
  It is the mother who spends the most time with the child and is therefore in the best position to observe his or her development. Comparing her child with other others, more often than not, she will be the first to notice if he or she is not doing well. Value her opinion, and when she thinks her baby is not doing well, be twice as careful to monitor this child's development.

Once the questions have been asked to determine the risk factors and the mother's opinion about her baby's development, **check and observe the child**. Be sure to notice the shape of the head, measure head circumference, and determine the corresponding percentile based on the child's age as shown on the NCHS Head Circumference Chart. Also find out if there are any phenotypical alterations such as low-set ears, exceptionally wide-set eyes, etc.

Make sure that the assessment environment is as quiet and relaxing as possible and that the child is in an appropriate health and emotional state to proceed with the examination. If for some reason it is not possible to assess the child's development during that visit, or if you have a doubt about any aspect of the consultation, schedule a new appointment at the earliest possible date to continue the assessment more safely.

Ascertain the child's developmental status
Follow the recommended steps for monitoring the child's developmental status. Observe and ascertain whether or not the child meets the set of conditions being used to classify his or her development.

If the child is under 2 months old, use the table **Monitoring the Development of Infants Under 2 Months Old** (Annex, Table 1). If the child's age is between 2 months to 2 years, use the table **Monitoring the Development of Children 2 Months to 2 Years Old** (Annex, Table 2). For premature infants, use the corrected age up to the chronological age of 12 months.

< VII. MONITORING DEVELOPMENT OF THE CHILD UNDER 2 MONTHS OLD >

In infants under 2 months old, we are going to observe the following behaviors:

Under 1 month old
- Moro reflex
- Blinking reflex
- Sucking reflex
- Flexed arms and legs
- Closed hands

Moro reflex
Position of the infant: lying face up

There are several ways to test for this reflex. One of them is to place the infant lying face up on top of a diaper or blanket on a smooth surface and then suddenly yank the diaper or blanket away. Another way is to clap or make some other loud noise directly above the baby's head.

Expected response: extension, abduction, and spreading of both arms, followed by return to normal flexed position in adduction.

This response should be symmetrical and complete.

Blinking reflex
Position of the infant: lying face up

Clap your hands about 30 cm away from the child's RIGHT ear and watch for the response. Then repeat with the LEFT ear and observe again. The response should be elicited within no more than two or three attempts, since the child might become habituated to the stimulus.

Expected response: blinking.

Sucking reflex
Position of the infant: ask the mother to bring her baby to her breast and watch for the response. If the baby has recently nursed, stimulate the lips with your finger. Then observe.

Expected response: the infant should grasp the breast or make sucking movements with the lips and tongue when stimulated with the finger.

Flexed arms and legs
Position of the infant: lying face up.

Expected position: because of the predominance of flexor tonus at this age, the child's arms and legs should be flexed.

Closed hands
Position of the infant: with the child in any position, observe his or her hands.

Expected position: at this age, the hands should be closed

1 month to under 2 months old
- Vocalizing
- Alternate kicking
- Social smiling
- Opening of the hands

Vocalizing
Position of the infant: With the infant in any position during the examination, notice whether he or she makes any vocalization, such as a guttural sound or short vowels. They should not be crying sounds. If none are observed, ask the caregiver if the child makes any such sounds at home.

Expected response: if the child produces a vocalization, or if the caregiver says that he or she does, consider that this milestone has been met.

Alternate kicking
Position of the infant: with the child lying on his or her back, watch how the legs move.

Expected response: flexion and extension of the legs, usually in a pedaling movement or crossing them over, sometimes kicking with force as they extend.

Social smiling
Position of the infant: with the child lying on his or her back, smile and talk to him or her. Do not tickle and/or touch the face.

Expected response: the child smiles in response. The objective is to obtain more of a social response than a physical one.

Opening of the hands
Position of the child: with the child lying on his or her back, observe his or her hands.

Expected position: at some point the child should open his or her hands spontaneously.

CLASSIFYING AND TAKING ACTION REGARDING DEVELOPMENT OF THE INFANT UNDER 2 MONTHS OLD

If the infant presents reflexes, positions, and abilities that are normal for under 1 month of age or for 1 month to under 2 months of age, if his or her head circumference falls between the 10th and the 90th percentile, if he or she does not have three or more phenotypical alterations, and if there are no risk factors for development, assign the classification **Normal Development** (green row, Table 1).

If the infant presents reflexes, positions, and abilities that are normal for under 1 month of age or for 1 month to under 2 months of age, if his or her head circumference falls between the 10th and the 90th percentile, if he or she does not have three or more phenotypical alterations, but if there are one or more risk factors for development, assign the classification **Normal Development with Risk Factors** (yellow row, Table 1).

If the infant is lacking one or more of the reflexes, positions, and abilities that are normal for under 1 month of age or for 1 month to under 2 months of age or if any of these is impaired, if his or her head circumference is below the 10th or above the 90th percentile, or if he or she has three or more phenotypical alterations, assign the classification **Probable Developmental Delay** (red row, Table 1).

Table 1

• Absence of one or more reflexes/position/abilities for the corresponding age group; or • Head circumference below 10th or above 90th percentile; or • Three or more phenotypical alterations	**PROBABLE DEVELOPMENTAL DELAY**
• All reflexes/position/abilities present for the corresponding age range; • Head circumference above 10th and below 90th percentile; • Fewer than three phenotypical alterations; • One or more risk factors	**NORMAL DEVELOPMENT WITH RISK FACTORS**
• All reflexes/position/abilities present for the corresponding age range; • Head circumference above 10th and below 90th percentile; • Fewer than three phenotypical alterations; • No risk factors	**NORMAL DEVELOPMENT**

Once the development of the infant aged 1 week to under 2 months has been classified, take the actions indicated in Table 2.

If the infant was classified as having **Normal Development**, praise the mother, counsel her on stimulating her baby, schedule a return visit for routine monitoring based on the timetable followed by the health service, and tell her about the signs indicating that she should come back sooner. The main signs to watch for are convulsions or any indication that the infant is extremely irritated, sleeps too much, or refuses to eat.

If the infant was classified as having **Normal Development with Risk Factors**, counsel the mother on stimulating her baby, schedule a return visit in 2 weeks, and inform the mother about the signs indicating that she should come back sooner than 2 weeks. If there is any suspicion of a congenital infection such as rubella, toxoplasmosis, syphilis, AIDS, or cytomegalovirus, request serological tests.

If the child was classified as having a **Probable Developmental Delay**, refer the case for neurological and psychomotor assessment by a pediatrician or another professional who has in-depth knowledge about child development. For infants with phenotypical alterations, in addition to such a referral, if possible refer the case to a medical genetics service for assistance in diagnosing and counseling the family. Explain to the mother that referring her child for an assessment does not necessarily mean that there is a developmental delay. This will be determined by the specialized team that will be handling the case following a thorough examina-

Table 2

PROBABLE DEVELOPMENTAL DELAY	• Refer for neurological and psychomotor assessment
NORMAL DEVELOPMENT WITH RISK FACTORS	• Counsel the mother on stimulating her baby • Schedule a return visit in 2 weeks • Inform the mother about the signs indicating that she should come back sooner than 2 weeks
NORMAL DEVELOPMENT	• Praise the mother • Counsel the mother to continue stimulating her baby • Schedule a return visit for routine monitoring based on the timetable followed by the health service • Inform the mother about the signs indicating that she should come back sooner

tion. If there should prove to be a problem, the necessary care and guidance will be given.

Note: At health care centers where newborns can be screened for hypothyroidism, phenylketonuria, otoacoustic emissions, and/or other conditions, refer the infant for these tests.

When the infant classified as having **Normal Development with Risk Factors** is brought in for a return visit, observe and verify the presence of the reflexes and/or abilities corresponding to his or her age group. If they are present and normal, praise the mother, counsel her on stimulating her baby, schedule a return visit for routine visit based on the timetable followed by the health service, and tell her about signs indicating that she should come back sooner. Should any of the reflexes and/or abilities for the age group be deficient, reclassify the case as **Probable Delay in Development**, and refer the patient for neurological and psychomotor assessment. In the event of a serological result suggestive of a congenital infection, refer the infant for neurological and psychomotor assessment at an establishment where specific treatment can also be given, if necessary. If by the time the child returns he or she is already 2 months old, use the assessment criteria in Annex Table 2.

EXERCISES

1 – Fernanda is 28 days of age. Her mother is 15 years old and used drugs while she was pregnant. The infant was born at term, but she weighed only 2,300 g. The delivery was normal. However, the baby did not cry when she was born. She remained in the hospital for 10 days and is now being cared for by her grandparents. At home, her grandmother has noticed that she is very quiet and has difficulty feeding. She was brought to the health service by her grandmother. After asking questions about the pregnancy, delivery, and birth, the attending health professional observed that Fernanda did not have the Moro reflex, she did not react to sound stimuli, her arms and legs were extended and hypotonic, and she did not have the sucking reflex. Her head circumference was 36 cm and there were no phenotypical alterations. Assess, classify, and counsel Fernanda's grandmother about her development following the IMCI methodology and fill out the assessment sheet below. What action would you take, based on the classification assigned?

ASSESSMENT SHEET 1
DEVELOPMENT OF THE INFANT 0 < 2 MONTHS OLD

Name: _____ Age: _____ Weight: _____ Kg Temperature: _____ °C

ASK:
What problems does the child have? _____ First visit? ____ Return visit? ____

<table>
<tr><th colspan="2">ASSESS</th><th>CLASSIFY</th></tr>
<tr><td colspan="2">Assess development of the infant 1 week to 2 months old</td><td rowspan="2"></td></tr>
<tr><td>ASK</td><td>OBSERVE</td></tr>
<tr><td>• Were there any problems during your pregnancy or the baby's delivery or birth?
• How much did the baby weigh at birth?
• What was his/her gestational age?
• Has your baby had any serious disease such as meningitis, encephalitis, head injury, convulsions, etc.?
• What do you think about your baby's development?

FIND OUT :
Any social risk factors (maternal depression, alcoholism, drugs, violence, etc.) _____
Any phenotypical alterations or head circumference >10th or <90th percentile.

REMEMBER:
If the infant's mother has said that her baby has a development problem, or if there is any risk factor present, be especially attentive in your assessment of his or her development</td><td>• Alterations in head circumference:
Yes ____ No ____

• Presence of three or more phenotypical alterations:
Yes ____ No ____

• Alterations in reflexes/position/abilities:
Yes ____ No ____</td><td></td></tr>
</table>

A: _____

2 – John is 1 month and 15 days old. His gestation was uneventful, his mother having had prenatal care since her second month of pregnancy. His parents are not related, nor is there is a history of people with physical or mental problems in either parent's family. John was born at term, weighed 3,600 g, cried at birth, and did not manifest any alterations during the neonatal period. He is being followed in the Family Health Program. He was brought into the unit today for routine growth and development monitoring. He weighs 4,900 g and is being exclusively breast-fed. His head circumference is 38 cm and he has no evident phenotypical alterations. The health professional assessed his development. John is already responding to a smile, vocalizing, moving his legs alternately, and opening his hands from time to time. Assess and classify John's development following the IMCI methodology and fill out the assessment sheet below. What action would you take, based on the classification assigned? What advice would you give to John's mother?

ASSESSMENT SHEET 1
DEVELOPMENT OF THE INFANT 0 < 2 MONTHS OLD

Name: _____ Age: _____ Weight: _____ Kg Temperature: _____ °C

ASK:
What problems does the child have? _____ First visit? ____ Return visit? ____

<table>
<tr><th colspan="2">ASSESS</th><th>CLASSIFY</th></tr>
<tr><td colspan="2">Assess development of the infant 1 week to 2 months old</td><td rowspan="2"></td></tr>
<tr><td>ASK</td><td>OBSERVE</td></tr>
<tr><td>• Were there any problems during your pregnancy or the baby's delivery or birth?
• How much did the baby weigh at birth?
• What was his/her gestational age?
• Has your baby had any serious disease such as meningitis, encephalitis, head injury, convulsions, etc.?
• What do you think about your baby's development?

IDENTIFY:
Any social risk factors (maternal depression, alcoholism, drugs, violence, etc.) _____
Any phenotypical alterations or head circumference >10th or <90th percentile.

REMEMBER:
If the infant's mother has said that her baby has a development problem, or if there is any risk factor present, be especially attentive in your assessment of his or her development..</td><td>• Alterations in head circumference:
Yes ____ No ____

• Presence of three or more phenotypical alterations:
Yes ____ No ____

• Alterations in reflexes/position/abilities:
Yes ____ No ____</td><td></td></tr>
</table>

A: _____

3 – Julia is 20 days old. She was brought to the Health Service to take the foot prick test. The health professional asked the mother about her pregnancy, delivery, and birth. Julia's mother said she had had a febrile condition during her third month of her pregnancy, followed by a reddish rash on her body. Julia was born at term, cried at birth, and weighed 3,050 g. The health professional's examination showed a head circumference of 34 cm and the absence of phenotypical alterations. She was suckling well. The health professional also observed that the Moro reflex was present and symmetrical, and she had the blinking reflex in response to a sound stimulus. Her arms and legs were flexed, and her hands remained closed. Assess and classify Julia's development and fill out the assessment sheet below. What action would you take, based on the classification assigned?

ASSESSMENT SHEET 1
DEVELOPMENT OF THE INFANT 0 < 2 MONTHS OLD

Name: _____ Age: _____ Weight: _____ Kg Temperature: _____ °C

ASK:
What problems does the child have? _____ First visit? ____ Return visit? ____

<table>
<tr><th colspan="2">ASSESS</th><th>CLASSIFY</th></tr>
<tr><td colspan="2">Assess development of the infant 1 week to 2 months old</td><td rowspan="2"></td></tr>
<tr><td>ASK</td><td>OBSERVE</td></tr>
<tr><td>• Were there any problems during your pregnancy or the baby's delivery or birth?
• How much did your baby weigh at birth?
• What was his/her gestational age?
• Has your baby had any serious disease such as meningitis, encephalitis, head injury, convulsions, etc.?
• What do you think about your baby's development?

IDENTIFY:
Any social risk factors (maternal depression, alcoholism, drugs, violence, etc.) _____
Any phenotypical alterations or head circumference >10th or <90th percentile.

REMEMBER:
If the infant's mother has said that her baby has a development problem, or if there is any risk factor present, be especially attentive in your assessment of his or her development..</td><td>• Alterations in head circumference:
Yes ____ No ____

• Presence of three or more phenotypical alterations:
Yes ____ No ____

• Alterations in reflexes/position/abilities:
Yes ____ No ____</td><td></td></tr>
</table>

A: _____

< VIII. MONITORING DEVELOPMENT IN THE CHILD 2 MONTHS TO 2 YEARS OLD >

After you have asked the questions above, identified any risk factors, found out the mother's opinion of her baby's development, checked for any phenotypical alterations, and measured the infant's head circumference, observe his or her behavior. Based on the child's age, refer to the following classification criteria:

- If the age is over 2 and less than 4 months, follow the criteria for 2-month-olds.
- If the age is 4 but less than 6 months, follow the criteria for 4-month-olds.
- If the age is 6 but less than 9 months, follow the criteria for 6-month-olds, and so on.
- Always assess the child based on the criteria for the his or her age or the next-lowest age. See the criteria below for each age group.

If you find that the child does not meet one or more of the milestones for his or her age range, go back to the previous age level. This will enable you to classify the child's development.

For 2-month-olds, we are going to observe the following behaviors:

2 MONTHS: The child
- Looks at the face of the examiner or the mother
- Tracks an object at mid-range
- Reacts to sound
- Raises his or her head.

Looks at the face of the examiner or the mother
Position of the infant: lying face up on a cot or a pad.

Place your face directly in front of the child's at a distance of about 30 cm. Notice if he or she looks at you. If not, ask the mother to do the same thing.

Satisfactory performance: If the child looks at you or the mother, consider that this milestone has been met.

Tracks an object at mid-range
Posição da criança: deitada em decúbito dorsal (de costas) na maca ou colchonete.

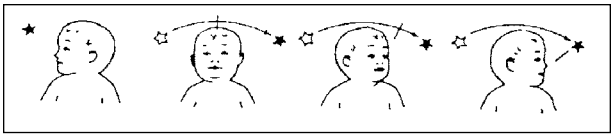
Position of the infant: lying face up on a cot or a pad.

From behind, hold a red pompom above the child's face at a distance of 20 to 30 cm, so that he or she can see it. Gently bounce the pompom to attract is or her attention.

Once you are sure that the child has seen the

pompom, move it slowly to the RIGHT. If the child loses sight of the pompom, try the same movement again, up to three attempts. Notice whether the child tracks the pompom. Now move the pompom slowly to the LEFT. Remember that if the child loses sight of the pompom, you can try the same movement again up to three attempts.

Satisfactory performance: If the child tracks the pompom, either with the eyes alone or with both



the eyes and the head, on both sides, consider that this milestone has been met.

Reacts to sound
Position of the infant: lying face up on a cot or a pad.

From behind, hold a bell on the side of the infant's head close to the RIGHT ear (20 cm to 30 cm way) so that the child cannot see it. Jingle the bell softly and then stop (first attempt). If the child does not respond, repeat the test up to a maximum of three attempts. Now repeat the test on the LEFT. Remember that if the infant does not react to the sound, you can repeat the stimulus up to three attempts.

Satisfactory performance: If the child shows any behavioral change, such as moving the eyes, a different facial expression, or increased respiration rate, consider that this milestone has been met.

Raises his or her head
Position of the infant: lying face down on a bed or a pad.

Satisfactory performance: If the child raises his or her head to a 45 degree angle with the chin resting on the surface even momentarily without turning to one side or the other, consider that this milestone has been met.

For 4-month-olds, we will observe the following behaviors:

4 MONTHS: The child
- Responds to the examiner
- Holds objects
- Makes sounds
- Holds head up.

Responds to the examiner
Position of the infant: lying face up in a bed or on a pad.

Place yourself in front of the infant so that he or she can see your face. Say something like "*Hi, (name)*" or "*What a pretty baby!*" Watch for a reaction (smile, vocalization, crying). If the child does not respond, ask the mother to do the same thing. Watch for a response.

Satisfactory performance: If the child looks the examiner or the mother in the eye, smiles, or tries to make a speech sound, consider that this milestone has been met.

Holds objects
Position of the infant: lying face up in a bed or on a pad.

Holding a bell, touch the back or tips the baby's fingers. Observe the response.

Satisfactory performance: If the child holds the object for a few seconds, consider that this milestone has been met.

Makes sounds
Position of the infant: lying face up in the bed or on a pad.

Place yourself in front of the infant so that he or she can see your face. Say something like "*Hi, (name)*" or "*What a pretty baby!*" Notice whether the baby responds to your speech with vocalizations.

Satisfactory performance: If the child makes sounds (*gugu, aaaa, eeee, etc.*), consider that this milestone has been met. If the mother says that he or she does at home, make a note to that effect, but only calculate what you were able to observe.

Holds head up
Position of the infant: Place the child in a sitting position with your hands supporting the trunk, or ask the mother to do so. If the infant holds his or her head up for a few seconds without bobbing, consider that this milestone has been met.

For 6-month-olds, we are going to observe the following behaviors:

6 MONTHS: The child
- Reaches for a toy
- Brings objects to the mouth
- Locates the source of a sound
- Rolls over.

Reaches for a toy
Position of the infant: Seated in the mother's lap facing the examiner.

Take a red block and place it within the child's reach (on the table or in the palm of your hand, for example). Invite the baby's attention to the block by tapping on it. You should not place the block in the child's hand.

Satisfactory performance: If the child tries to get the toy by extending an arm or moving the body toward it, consider that this milestone has been met. The child does not necessarily have to grasp the toy.

Brings objects to the mouth
Position of the infant: Seated in the mother's lap facing the examiner.

Take a red block and place it within the child's reach (on the table or in the palm of your hand, for example). Invite the child's attention to the block by tapping on it. If the child does not reach, or try to reach, for it, place the block in the child's hand.

Satisfactory performance: If the child brings the block to his or her mouth, consider that this milestone has been met.

Locates the source of a sound
Position of the infant: Seated in the mother's lap facing the examiner.

Offer the child a toy (a cup or a block) to play with. Go behind the child, outside the line of vision, and gently ring a bell near the RIGHT ear. Notice the response. Repeat the stimulus near the LEFT ear.

Satisfactory performance: If the child responds by turning his or her head toward the sound on both sides, consider that this milestone has been met.

Rolls over
Position of the infant: lying face up in the bed or on a pad.

Lay the bell down next to the child and attract his or her attention to it. See if the child can roll over unaided to get the bell.

Satisfactory performance: If the child changes position and rolls all the way over, consider that this milestone has been met. If the mother says that he or she does at home, make a note of that information, but only calculate what you were able to verify.

For 9-month-olds, we are going to observe the following behaviors:

9 MONTHS: The child
- Plays peek-a-boo
- Transfers objects from hand to hand
- Duplicates syllables
- Sits without support.

Plays peek-a-boo
Position of the child: Seated on a pad or in the mother's lap.

Place yourself in the front of the child and pretend to disappear and reappear behind a cloth or the mother's back. Notice whether the he or she tries to find you when you disappear, such as pulling at the cloth or looking behind the mother.

Satisfactory performance: If the child pulls the cloth away from you or looks behind the mother, this milestone will have met.

Transfers objects from hand to hand
Position of the child: Seated on a pad or in the mother's lap.

Place yourself in front of the child and give him or her a block to hold. Notice whether the child tries to transfer the block from one hand to the other. If not, offer another block, moving your hand into his or her line of sight, and observe.

Satisfactory performance: If the child transfers the first block to the other hand, consider that this milestone has been met.

Duplicates syllables
Position of the child: Seated on a pad or in the mother's lap.

During the course of the consultation, notice if the child has been making two-syllable utterances like papa, dada, or mama. If not, speak to the child or ask the mother to do so, to try to elicit duplicated syllables. Ask the mother whether the child does this at home. The words do not necessarily have to be meaningful. Make a note of any verbal production.

Satisfactory performance: If the child produces duplicated syllables, or if the mother reports that he or she has done so, consider that this milestone has been met.

Sits without support
Position of the child: In the crib or on a pad.

Give a bell or a cup to the child to hold and see if he or she remains sitting without support.

Satisfactory performance: If the child was able to remain sitting while holding the object in his or her hands without support, consider that this milestone has been met.

For 12-month-olds, we are going to observe the following behaviors:

12 MONTHS: The child
- Imitates gestures
- Uses thumb and index finger to pick up small objects (pincer grasp)
- Babbles
- Takes steps with support (cruising).

Imitates gestures
Position of the child: Seated on a pad or in the mother's lap.

Ask the mother what types of gestures she has already taught her baby (for example: Clap! Kiss!, By-bye! etc.). Facing the child, make one of these gestures and see if the child imitates it. If not, ask the mother to try. If the child still refuses to do it, ask the mother if he or she does it at home.

Satisfactory performance: If the child imitates the gesture, consider that this milestone has been met. If the mother says that he or she does it at home, make a note to this effect, but only calculate what you actually saw

Uses thumb and index finger to pick up small objects (pincer grasp)
Position of the child: Seated on a pad or in the mother's lap.

Place a bean or a kernel of corn on the pad or in the palm of your hand. Notice if the child tries to pick it up. Observe how he or she picks up the bean or kernel.

Satisfactory performance: If the child picks up the bean or kernel with any part of the thumb and the forefinger, consider that this milestone has been met.

Babbles
Position of the child: Seated on a pad or in the mother's lap, lying down for a diaper change, or undergoing a physical examination.

Notice if the child carries on an incomprehensible conversation with him- or herself it or with the examiner or the mother using pauses and inflection (with varying intonation, but only a few words, if any, distinguishable). If this is not observed, ask the mother if the child speaks gibberish at home and make a note of her answer.

Satisfactory performance: If the child babbles, or if the mother reports that he or she does so at home, consider that this milestone has been met.

Takes steps with support (cruising)
Position of the child: Standing, supported against a piece of furniture or the mother's leg.

With the child standing, ask the mother to support her baby (with her hand, a towel, or a piece of furniture, etc.) and encourage him or her to take steps.

Satisfactory performance: If the child manages to take a few steps with support, consider that this milestone has been met.

For 15-month-olds, we are going to observe the following behaviors:

15 MONTHS: The child
- Makes gestures on request
- Places block in a cup
- Says one word
- Takes steps without support.

Makes gestures on request
Position of the child: Seated on a pad or in the mother's lap.
Ask the mother what types of gestures she has already taught her baby (for example: *Clap! Kiss!, By-bye!* etc.). Facing the child, VERBALLY ask the him or her to make one of these gestures and then observe what happens. If the child does not make the gesture, have the mother make the same request. If the child still doesn't do it, ask the mother whether he or she does it at home. Be careful not to demonstrate the gesture; just try to elicit it verbally.

Satisfactory performance: If the child makes the gesture, consider that this milestone has been met. If the mother says that he or she does it at home, make a note to this effect, but only calculate what you actually saw.

Places block in a cup
Position of the child: Seated on a pad or in the mother's lap.

Pick up a cup and three blocks and place them within the child's reach on the table or pad. Make sure that he or she is watching while you do this. Hold one of the blocks and show that you are putting it in the cup. Remove the block and tell the child: *Put the blocks in the cup. Put the blocks here* (pointing inside the cup with your index finger). This demonstration may be repeated three times.

Satisfactory performance: If the child puts at least one block in the cup and lets it go, consider that this milestone has been met.

Says one word
Position of the child: Seated on a pad or in the mother's lap.

During the course of the consultation, notice whether the child produces words spontaneously. Take notes. If he or she does not make any words, ask the mother how many words the child says and what the words are.

Satisfactory performance: If the child speaks at least one word other than papa or mama, or the names of family members or pets, consider that this milestone has been met.

Takes steps without support
Position of the child: Standing

Ask the mother to call the child. Watch the child as he or she takes a few steps. Stay close by to offer support in case it is needed.

Satisfactory performance: If the child takes a few steps unsupported and with good balance, consider that this milestone has been reached.

For 18-month-olds, we are going to observe the following behaviors:

18 MONTHS: The child
- Identifies two objects
- Scribbles spontaneously
- Says three words
- Takes steps backwards.

Identifies two objects
Position of the child: Seated on a pad or in the mother's lap.

Place three objects—a pencil, a ball, and a cup —side by side on the pad or table close to the child. Say: *Show me the ball!* Make a note of his or her response. If the child points to or picks up another object, take it from him or her without showing any sign of disapproval, and set the object aside. Now say: *Show me the pencil!* Again, make a note of the response. Take the object without comment. Finally, ask the child to show you the cup.

Satisfactory performance: If the child correctly points to or picks up two of the three objects, consider that this milestone has been met. If the mother says that he or she does it home, make a note to that effect, but calculate only what you have actually observed.

Scribbles spontaneously .
Position of the child: Seated on a pad or in the mother's lap.

Put a blank unlined sheet of paper and a pencil on the table, opposite the child. You can place the pencil in the child's hand and encourage him or her to scribble, but do not to demonstrate how to do it.

Satisfactory performance: If the child scribbles on the paper spontaneously, consider that this milestone has been met. Disregard accidental marks caused by the pencil hitting the paper

Says three words
Position of the child: Seated on a pad or in the mother's lap.

During the course of the consultation, notice whether the child produces words spontaneously. Make a note to that effect. If he or she does not, ask the mother how many words the child says and which ones.

Satisfactory performance: If the child says three words besides Daddy, Mommy, or the names of family members or pets, consider that this milestone has been met. Take into account what the mother reports.

Steps backwards
Position of the child: Standing.

During the course of the consultation, notice if the child steps backwards. If this does not happen, ask the child to open the door of the examination room and see if he or she steps backwards.

Satisfactory performance: If the child takes two steps backwards without falling, or if the mother states that he or she is capable of doing so, consider that this milestone has been met.

For 24-month-olds, we are going to observe the following behaviors:

24 MONTHS: The child
- Takes off his or her clothes
- Builds a three-block tower
- Points to two images
- Kicks a ball.

Table 3

• One or more milestones unmet for the corresponding age range • Head circumference below the 10th or above the 90th percentile; or • Presence of three or more phenotypical alterations	**PROBABLE DELAY IN DEVELOPMENT**
• One or more milestones unmet for the corresponding age range • All milestones met for the age range but one or more risk factors are present	**POSSIBLE DELAY IN DEVELOPMENT** **NORMAL DEVELOPMENT WITH RISK FACTORS**
• All milestones met for the corresponding age range	**NORMAL DEVELOPMENT**

Table 4

PROBABLE DELAY IN DEVELOPMENT	• Refer for neurological and psychomotor assessment
POSSIBLE DELAY IN DEVELOPMENT **NORMAL DEVELOPMENT WITH RISK FACTORS**	• Counsel the mother on stimulating her baby • Schedule a return visit in 30 days • Tell the mother about the signs indicating that she should come back sooner
NORMAL DEVELOPMENT	• Praise the mother • Counsel the mother to continue stimulating her baby • Schedule a return visit for routine monitoring based on the timetable followed by the health service • Tell the mother about the signs indicating that she should come back sooner.

Takes off his or her clothes
Position of the child: Any position.

When examining the child, ask him or her to take off any article of clothing that is easy to remove, except socks, diapers, or shoes. The purpose is to find out whether the child is able to remove an item of clothing, demonstrating independence. If the child does not want to do so, ask the mother whether he or she does this at home.

Satisfactory performance: If the child is capable of removing any article of clothing, or if the mother reports that he or she does so at home, consider that this milestone has been met.

Builds a three-block tower
Position of the child: Seated on a pad or in the mother's lap.

Put three blocks on a table or on the floor in front of the child. Take another three blocks and make a tower with them. Say to the child: *Make a tower like mine. Build a tower.* Up to three attempts are permitted.

Satisfactory performance: If the child places the three blocks one on top of the other, and they don't fall down when his or her hand is taken away, consider that this milestone has been met.

Points to two images
Position of the child: Seated on a pad or in the mother's lap.

Show the child the sheet of paper with five images on it: a bird, a dog, a girl, a car, and a flower (Annex, Tables). Say to the child: *Show me the girl!* or *Where is the girl?* Make a note of his or her response. Repeat for all the images.

Satisfactory performance: If the child correctly points to two of the five images, consider that this milestone has been met.

Kicks a ball
Position of the child: Standing.

Place a ball about 15 cm in front of the child or roll it in his or her direction. Notice whether he or she kicks the ball. You can demonstrate.

Satisfactory performance: If the child kicks the ball without having to lean on something for support, consider that this milestone has been met.

Once you have finished observing the child, you will then classify his or her development according to the categories in Table 3.

If the child has met all the milestones corresponding to his or her age group and does not present any risk factors, classify the case as **Normal Development** (green row).

If the child has not met one or more of the milestones for his or her age group, it is possible that there may be some developmental delay. Check the milestones for the previous age group. If all the milestones for that group were met and only those of the current age group are unmet, this child should be rated as having a **Possible Developmental Delay** (yellow row).

If all the milestones are met for the child's current age group but one or more risk factors is present, assign the classification **Normal Development with Risk Factors** (yellow row).

If one or more of the milestones for the previous age group are unmet, if a warning sign was found in the physical examination (three or more phenotypical alterations), or if the head circumference falls below the 10th percentile or above the 90th percentile, indicate **Probable Delay in Development** (red row).

Now that the child's development has been classified, consider the behaviors according to the criteria in Table 4.

If the child has been assigned the classification **Normal Development**, praise the mother and counsel her on stimulating her child. Tell her to come back for routine development monitoring according to the timetable followed by the health service. It is recommended that the child be seen every two months up to the age of 6 months, every three months between ages 6 and 18 months, and every six months between ages 18 and 24 months.

If the child was classified as having **Normal**

Development with Risk Factors or a **Possible Developmental Delay**, counsel the mother on stimulating her baby, schedule a return visit in 30 days, and tell the mother the signs to look for indicating that she should come back sooner. These signs include convulsions or inability to perform a skill that he or she was able to do before.

In the event of Probable Developmental Delay, refer the child for neurological and psychomotor assessment and orientation by a professional who has in-depth knowledge about child development. In the case of children with phenotypical alterations, if possible, refer them to a service specialized in genetics, since not all genetic syndromes are associated with developmental delay.

Explain to the mother that referring her baby for further assessment does not necessarily mean that there is a developmental delay. It is up to a specialized team, after a thorough examination, to give the final opinion about the child's condition and whether or not some type of problem exists. Also reassure her that if there is a problem, the child will be receiving the necessary care and guidance.

On the return visit of a child with a **Possible Developmental Delay**, see if the child has now met the milestones that were in question. If so, praise the mother, counsel her on stimulating her baby, and tell her to come back for routine development monitoring according to the timetable followed by the health service. Also tell the mother the signs to look for indicating that she should bring her baby back sooner. If the child still fails to meet one of the milestones for his or her age group, refer him or her for neurological and psychomotor assessment.

< IX. GUIDELINES FOR PROMOTING HEALTHY CHILD DEVELOPMENT >

In order for a child to develop fully, above all else it is essential to be loved and wanted by his or her family, and insofar as possible, for the family to try to understand the child's feelings and know how to meet his or her needs.

An important concept that every health professional should understand is resiliency—in other words, the capacity to confront and overcome adversity and risks in a positive and constructive way, thus tackling violence at its roots.

Resiliency is not inborn; it is cultivated through education and ongoing interactions with people and the surrounding environment, which gradually build a person's character.[1]

This means that children need to have conditions around them that encourage the development of their full potential. These conditions can be both human—i.e., people who foster interaction—and physical, such as housing, parks, day care centers and schools that make it possible for them to have a variety of experiences which, taken together, give them protection, stimulation, and a sense of achievement and confidence.

It is not always possible to create environments that incorporate all these characteristics, but this does not mean that nothing can be done. The first step, therefore, is to believe that changes are possible.

In addition to the external influences mentioned, there are also internal characteristics of the personality, such as self-esteem, autonomy, creativity, and humor. These, however, are not developed independently.

Below is a list of characteristics, including ways in which they can be encouraged and developed in children and families, that contribute to improving the children's living conditions and quality of life, followed by a list of conditions that keep them from becoming resilient.

1. Almeida, Conhecendo a resiliência: uma cartilha para pais, professores e profissionais de saúde. 2000 (Mimeo).

INDIVIDUAL CHARACTERISTICS	
What to do	**What to avoid**
• Always love and support the child (unconditionally) • Praise the child whenever he or she does something correctly or makes an effort • Allow the child to express his or her wishes and desires and show respect for them • Give the child a chance to do things unaided • Undertake activities with pleasure and enjoyment • Create a cheerful and festive environment • Allow the child to create and play freely • Offer (safe) things for the child to play with	• Failing to give the child love, attention, or care • Acting in an overly authoritarian manner • Overprotecting the child • Keeping the child from experimenting with new things • Having no time for fun • Giving importance to negative and tragic situations • Failing to stimulate the child • Imposing rigid or strict rules

FAMILY CHARACTERISTICS	
What to do	**What to avoid**
• Foster a harmonious and confident family environment • Know how to listen to the child and look out for his or her well-being	• Constant family conflict • Violence and/or mistreatment of the child • Ignoring the child's needs when a loved one dies or goes away

COMMUNITY CHARACTERISTICS	
What to do	**What to avoid**
• Give importance to reviving and valuing the local culture • Show interest in children (both leaders and the community as a whole)	• Insufficient recreation areas for children • Insufficient cohesiveness and solidarity in the community

Offering age-specific stimulation for the child:

- **Children up to 2 months old:**
  Counsel the mother and other people in his or her home environment to talk to the child while at the same time making visual (eye-to-eye) contact. Stimulate the child visually by waving brightly colored objects within his or her line of sight at a distance of at least 30 cm. To stimulate the neck, place the child face down and attract his or her attention in front using visual and auditory stimulation.

- **Children 2 to 4 months old:**
  Interact with the child by establishing visual and auditory contact (talking to the baby). When he or she is in a supported sitting position, take advantage to practice controlling the head. Touch the child's hands with small objects and encourage him or her to grasp them.

- **Children 4 to 6 months old:**
  First, offer toys to the infant at short distances away, encouraging him or her to reach for them. Then place objects in the child's hand and encourage him or her to bring it to the mouth. Provide auditory stimulation within the line of sight to encourage him or her to look for the source of the sound. Stimulate the child laterally with objects or gestures to get him or her to roll over.

- **Children 6 to 9 months old:**
  Play peek-a-boo with the child using a cloth in front of your face. Give the child toys that are easy to handle, so that he or she can pass them from one hand to the other. Keep up a constant dialogue with the child, introducing words with sounds that are easy to make (dada, papa). Allow the child to play on the floor (on a pad or mat) or lying face down to encourage dragging and ultimately crawling.

- **Children 9 to 12 months old:**
  Play with the child by singing songs and using gestures (clapping, saying Bye-bye), and encour-

age a response. Let the child handle very small objects (beans, corn kernels, beads) so that he or she can learn to grasp them and pick them up, being careful that nothing goes into the mouth. Talk and encourage the child to learn the names of people and objects in his or her environment. Put the child in a place where he or she can move from a sitting to a standing position with support (sofa, bed, chair) and get around holding onto the furniture.

- **Children 12 to 15 months old:**
  Encourage the child to say Bye-bye, play kisses, clap, pretend to answer the phone. Give the child containers and objects of various sizes so that he or she can learn how to put one thing inside another. Teach the child simple words through rhymes, songs, and the use of regular speech sounds. Give the child the opportunity to go small distances safely as preparation for walking unaided.

- **Children 15 to 18 months old:**
  Ask the child for different objects by name to help expand his or her knowledge and learn how to pick up, give, and release; demonstrate whenever possible. Give the child paper and a fat crayon to initiate self-expression (spontaneous scribbling). Play with the child by asking him or her to walk forward and backward; provide assistance at first.

- **Children 18 to 24 months old:**
  Encourage the child to put on and take off his or her clothes when told; provide assistance at first. Play with objects that can be stacked; demonstrate. Ask the child to identify pictures of previously named items from magazines and games. Play at kicking a ball, as if to make a goal.

< X. VIDEO-BASED EXERCISES >

Now we are going to show some children in video segments, and you are being asked to observe their development. Decide on the appropriate classification and the proper actions to take in each case.

Case 1. Odair is 1 year and 9 months old. He was brought to the Health Unit with coughing and fever. His mother also thinks that he may have a development problem. The health professional assessed him, classified him, and treated him according to the IMCI strategy. During the consultation it was also possible to observe his development. You are asked to observe him as well.

- **How would you classify Odair's development? Explain your answer.**

_____

_____

- **What action would you take in his case?**

_____

_____

Case 2. Emanuelle is 4 months old. She was brought to the Health Unit for a routine consultation and vaccinations. The health professional examined her, counseled the mother on breastfeeding, vaccinated her, and also observed her development. You are asked to observe her as well.

- **How would you classify the Emanuelle's development? Explain your answer.**

_____

_____

- **What action would you take in her case?**

_____

_____

Case 3. Alana is 1 year and 4 months old. She was brought to the Health Unit because she has been having diarrhea for three days. Her mother is also concerned because Alana has not yet started to talk. The health professional examined Alana and made some recommendations.

- **What is your opinion about Alana's development? Explain your answer.**

_____

_____

- **What action would you take in her case?**

_____

_____

Case 4. Gilson is 11 months old. His mother brought him to the Health Unit because he has a fever. She also thinks he is rather slow. She had already mentioned this concern on previous visits, but the health professional did not offer her any guidance on this problem.

- **What is your opinion about Gilson's development? Explain your answer.**

_____

_____

- **What action would you take in his case?**

_____

_____

Case 5. Sue Ann was born prematurely at 7 months. She is now 12 months old and was brought to the Health Unit because she had cried a lot the night before. Her mother thinks that she has an earache. The Health professional examined Sue Anne and counseled her mother.

- **What is your opinion about Sue Ann's development? Explain your answer.**

_____

_____

- **What action would you take in this case?**

_____

_____

< XI. WRITTEN EXERCISES >

1 – Ivan is 9 months old. He was brought to the Health Service because he had been coughing. During the consultation, the health professional assessed him following the IMCI methodology. She then asked the mother what she thought about his development. The mother acknowledged that Ivan is a little "slow." He is not yet sitting up unaided. He picks up objects and passes them from one hand to the other, already says *papa* and *dada*, and plays peek-a-boo. When lying down, he is not able to roll over. When asked about his gestation, delivery, and birth, the mother stated that he was not premature, weighed 3,100 g at birth, but was slow to start crying after he was born and needed oxygen. His head circumference was 36 cm. His ears are low-set, his eyes have an upward-slanting crease, and his fingers show signs of clinodactily. Fill out the assessment sheet below and classify Ivan's development according to the IMCI methodology. What action should the health professional take in regard to this classification?

ASSESSMENT SHEET 2
DEVELOPMENT OF THE CHILD 2 MONTHS TO 2 YEARS OLD

Name: _____ Age: _____ Weight: _____ Kg Temperature: _____ °C

ASK:
What problems does the child have? _____ First visit? ____ Return visit? ____

<table>
<tr><th colspan="2">ASSESS</th><th>CLASSIFY</th></tr>
<tr><td colspan="2">Assess development of the child 2 months to 2 years old</td><td rowspan="2"></td></tr>
<tr><td>ASK</td><td>OBSERVE</td></tr>
<tr><td>• Was there any problem during your pregnancy or the baby's delivery or birth? _____
• How much did your baby weigh at birth? ____
• What was his/her gestational age? ____
• Has your baby had any serious disease such as meningitis, encephalitis, head injury, convulsions, etc...? _____
• What do you think about your baby's development?

FIND OUT:
Any social risk factors (maternal depression, alcoholism, drugs, violence, etc.) _____
Any phenotypical alterations or deviations in head circumference?

REMEMBER:
If the infant's mother has said that her baby has a development problem, or if there is any risk factor present, be especially attentive in your assessment of his or her development.</td><td>Alterations in head circumference:
Yes ____ No ____

Presence of three or more phenotypical alterations:
Yes ____ No ____

The development milestones for the infant's age group:
• Have all been met ____
• At least one has not been met _____

If one or more milestones for the age group have not been met, check the milestones for the previous age range:
• Have all been met ____
• At least one has not been met _____</td><td></td></tr>
</table>

A: _____

2 – Mariana is 4 months old. She as brought to the Health Unit because she had "sores" on her body. Upon examining her, the health professional noticed that Mariana was not interacting. Asked if she didn't smile, the mother said that Mariana is very serious, did not like to be in her lap and preferred to lie in her cradle looking at a mobile overhead. The mother also said that, since she worked a lot, she did not have much time to play with Mariana. With regard to her gestation, delivery, and birth, the mother said that all had gone well. She had had prenatal monitoring, the delivery was normal, Mariana weighed 3,200 g, and there were no intercurrent events. Asked if the mother bore any family relationship to Mariana's father, she said that they were first cousins. The health professional found that Mariana did not have any phenotypical alterations and her head circumference was 40 cm. Based on this information, classify Mariana's development following the IMCI methodology and fill out the assessment sheet below. What action would you take in Mariana's case?

ASSESSMENT SHEET 2
DEVELOPMENT OF THE CHILD 2 MONTHS TO 2 YEARS OLD

Name: _____ Age: _____ Weight: _____ Kg Temperature: _____ °C

ASK:
What problems does the child have? _____ First visit? ____ Return visit? ____

<table>
<tr><th colspan="2">ASSESS</th><th>CLASSIFY</th></tr>
<tr><td colspan="2">Assess development of the child 2 months to 2 years old</td><td rowspan="2"></td></tr>
<tr><td>ASK</td><td>OBSERVE</td></tr>
<tr><td>• Was there any problem during your pregnancy or the baby's delivery or birth? _____
• How much did your baby weigh at birth? ____
• What was his/her gestational age? ____
• Has your baby had any serious disease such as meningitis, encephalitis, head injury, convulsions, etc...? _____
• What do you think about your baby's development?

FIND OUT:
Any social risk factors (maternal depression, alcoholism, drugs, violence, etc.) _____
Any phenotypical alterations or deviations in head circumference?

REMEMBER:
If the infant's mother has said that her baby has a development problem, or if there is any risk factor present, be especially attentive in your assessment of his or her development.</td><td>Alterations in head circumference:
Yes ____ No ____

Presence of three or more phenotypical alterations:
Yes ____ No ____

The development milestones for the infant's age group:
• Have all been met ____
• At least one has not been met _____

If one or more milestones for the age group have not been met, check the milestones for the previous age range:
• Have all been met ____
• At least one has not been met _____</td><td></td></tr>
</table>

A: _____

3 – Fabrício is 2 years old and was brought to the Health Unit because his mother was concerned that he had not yet started to talk. He also appears not to understand when he is given an instruction. Asked about his gestation, delivery, and birth, the mother said everything had been normal. With regard to Fabrício's health, she said that he had been hospitalized for 20 days when he was 8 months old with bacterial meningitis. The health professional found that Fabrício did not have any phenotypical alterations. His head circumference was 50 cm. Classify Fabricio's following the IMCI methodology and fill out the assessment sheet below. What action would you take in regard to Fabrício?

ASSESSMENT SHEET 2
DEVELOPMENT OF THE CHILD 2 MONTHS TO 2 YEARS OLD

Name: _____ Age: _____ Weight: _____ Kg Temperature: _____ °C

ASK:
What problems does the child have? _____ First visit? ____ Return visit? ____

ASSESS		**CLASSIFY**
Assess development of the child 2 months to 2 years old		
ASK	**OBSERVE**	
• Was there any problem during your pregnancy or the baby's delivery or birth? _____ • How much did your baby weigh at birth? ____ • What was his/her gestational age? ____ • Has your baby had any serious disease such as meningitis, encephalitis, head injury, convulsions, etc...? _____ • What do you think about your baby's development? **FIND OUT:** Any social risk factors (maternal depression, alcoholism, drugs, violence, etc.) _____ Any phenotypical alterations or deviations in head circumference? **REMEMBER:** If the infant's mother has said that her baby has a development problem, or if there is any risk factor present, be especially attentive in your assessment of his or her development.	Alterations in head circumference: Yes ____ No ____ Presence of three or more phenotypical alterations: Yes ____ No ____ The development milestones for the infant's age group: • Have all been met ____ • At least one has not been met _____ If one or more milestones for the age group have not been met, check the milestones for the previous age range: • Have all been met ____ • At least one has not been met _____	

A: _____

Table 1: DEVELOPMENT OF THE INFANT UNDER 2 MONTHS OLD (as long as there is no serious classification requiring referral to a hospital)

ASK:
- Did you have prenatal care?
- Was there any problem during your pregnancy of the baby's delivery or birth?
- Was your baby premature?
- How much did your baby weigh at birth?
- Has your baby had any serious disease such as meningitis, encephalitis, head injury, convulsions, etc.?
- Are you and your baby's father blood relations?
- Are there any developmental disorders in the family?
- What do you think about your baby's development?

ALSO ASK:
- Are there any risk factors in the home, such as domestic violence, maternal depression, drugs, alcoholism, etc.

OBSERVE AND FIND OUT:
- Head circumference
- Any phenotypical alterations?

REMEMBER:

If the infant's mother has said that her baby has a development problem, be especially attentive in your assessment of his/her development.

OBSERVE:

UNDER 1 MONTH
- Moro reflex
- Blinking reflex
- Sucking reflex
- Flexed arms and legs
- Closed hands

1 MONTH < 2 MONTHS
- Vocalizing
- Alternate kicking
- Social smiling
- Opening of the hands

CLASSIFY DESVELOPMENT

• Absence of one or more reflexes/abilities for the age group • Head circumference under 10th or over 90th percentile, or • Presence of 3 or more phenotypical alterations.	**PROBABLE DELAY IN DEVELOPMENT**	• Refer patient for neurological and pscyhomotor assessment
• All reflexes/abilities present for the age group • Head circumference between10th and 90th percentile • Fewer than 3 phenotypical alterations or none • Presence of one or more risk factors	**NORMAL DEVELOPMENT WITH RISK FACTORS**	• Counsel the mother on stimulating her baby. • Schedule a return visit in 2 weeks. • Tell the mother the signs to look for indicating that she should bring the child in sooner
• Reflexes/abilities correspond to age group • Head circumference between 10th and 90th percentile • Fewer than 3 phenotyp-ical alterations or none • No risk factors present	**NORMAL DEVELOPMENT**	• Praise the mother • Counsel the mother to continue stimulating her child • Schedule return visit for routine monitoring based on timetable followed by the health service • Tell the mother the signs to look for indicating that she should bring her baby in sooner.

ASSESSMENT SHEET 1
DEVELOPMENT OF THE INFANT 0 < 2 MONTHS OLD

Name: _____ Age: _____ Weight: _____ Kg Temperature: _____ °C

ASK:
What problems does the child have? _____ First visit? ____ Return visit? ____

<table>
<tr><th colspan="2">ASSESS</th><th>CLASSIFY</th></tr>
<tr><td colspan="2">Assess development of the infant 1 week to 2 months old</td><td rowspan="2"></td></tr>
<tr><td>ASK</td><td>OBSERVE</td></tr>
<tr><td>• Were there any problems during your pregnancy or the baby's delivery or birth?
• How much did your baby weigh at birth?
• What was his/her gestational age?
• Has your baby had any serious disease such as meningitis, encephalitis, head injury, convulsions, etc.?
• What do you think about your baby's development?

IDENTIFY:
Any social risk factors (maternal depression, alcoholism, drugs, violence, etc.) _____
Any phenotypical alterations or head circumference >10th or <90th percentile.

REMEMBER:
If the infant's mother has said that her baby has a development problem, or if there is any risk factor present, be especially attentive in your assessment of his or her development..</td><td>• Alterations in head circumference:
Yes ____ No ____

• Presence of three or more phenotypical alterations:
Yes ____ No ____

• Alterations in reflexes/position/abilities:
Yes ____ No ____</td><td></td></tr>
</table>

A: _____

Table 2: DEVELOPMENT OF THE CHILD 2 MONTHS TO 2 YEARS OLD
(as long as there is no serious classification requiring referral to a hospital)

ASK:
- Did you have prenatal care?
- Was there any problem during your pregnancy of the baby's delivery or birth?
- Was your baby premature?
- How much did your baby weigh at birth?
- Has your baby had any serious disease such as meningitis, encephalitis, head injury, convulsions, etc.?
- Are you and your baby's father blood relations?
- Are there any developmental disorders in the family?
- What do you think about your baby's development?

ALSO ASK:
- Are there any risk factors in the home, such as domestic violence, maternal depression, drugs, alcoholism, etc.

OBSERVE AND FIND OUT:
- Head circumference
- Any phenotypical alterations?

REMEMBER:

If the infant's mother has said that her baby has a development problem, be especially attentive in your assessment of his/her development.

OBSERVE:

2 months
- Looks at face of examiner or mother
- Tracks an object at mid-range
- Reacts to sound
- Raises head

4 months
- Responds to examiner
- Holds objects
- Makes sounds
- Holds head up

6 months
- Reaches for a toy
- Brings objects to mouth
- Locates source of a sound
- Rolls over

9 months
- Plays peek-a-boo
- Transfers objects hand to hand
- Duplicates syllables
- Sits without support

12 months
- Imitates gestures (e.g., clapping)
- Holds thumb and index finger to pick up small objects in a pincer grasp
- Babbles
- Takes steps with support

15 months
- Makes gestures on request
- Places block in a cup
- Says one word
- Takes steps without support

18 months
- Identifies two objects
- Scribbles spontaneously
- Says three words
- Takes steps backwards

24 months
- Takes off his/her clothes
- Builds a three-block tower
- Points to two images
- Kicks a ball

CLASSIFY DEVELOPMENT

• Head circumference >10th or <90th %ile, or • Presence of 3 or more phenotypical alterations, or • Failure to meet one or more milestones for the previous age group.	**PROBABLE DELAY IN DEVELOPMENT**	• Refer patient for neurological and psychomotor assessment.
• Failure to meet one or more milestones for current age group	**POSSIBLE DELAY IN DEVELOPMENT**	• Counsel the mother on stimulating her baby. • Schedule a return visit in 30 days. • Tell the mother the signs to look for indicating that she should bring the child in sooner.
• All milestones for the age group have been met, but one or more risk factors are present	**NORMAL DEVELOPMENT WITH RISK FACTORS**	
• All milestones for the age group have been met	**NORMAL DEVELOPMENT**	• Praise the mother. • Counsel the mother to continue stimulating her child. • Schedule return visit based on timetable followed by health unit • Tell the mother the signs to look for indicating that she should bring her baby in sooner.

ASSESSMENT SHEET 2
DEVELOPMENT OF THE CHILD 2 MONTHS TO 2 YEARS OLD

Name: _____ Age: _____ Weight: _____ Kg Temperature: _____ °C

ASK:
What problems does the child have? _____ First visit? ____ Return visit? ____

<table>
<tr><th colspan="2">ASSESS</th><th>CLASSIFY</th></tr>
<tr><td colspan="2">Assess development of the child 2 months to 2 years old</td><td rowspan="2"></td></tr>
<tr><td>ASK</td><td>OBSERVE</td></tr>
<tr><td>• Was there any problem during your pregnancy or the baby's delivery or birth? _____
• How much did your baby weigh at birth? ____
• What was his/her gestational age? ____
• Has your baby had any serious disease such as meningitis, encephalitis, head injury, convulsions, etc...? _____
• What do you think about your baby's development?

FIND OUT:
Any social risk factors (maternal depression, alcoholism, drugs, violence, etc.) _____
Any phenotypical alterations or deviations in head circumference?

REMEMBER:
If the infant's mother has said that her baby has a development problem, or if there is any risk factor present, be especially attentive in your assessment of his or her development.</td><td>Alterations in head circumference:
Yes ____ No ____

Presence of three or more phenotypical alterations:
Yes ____ No ____

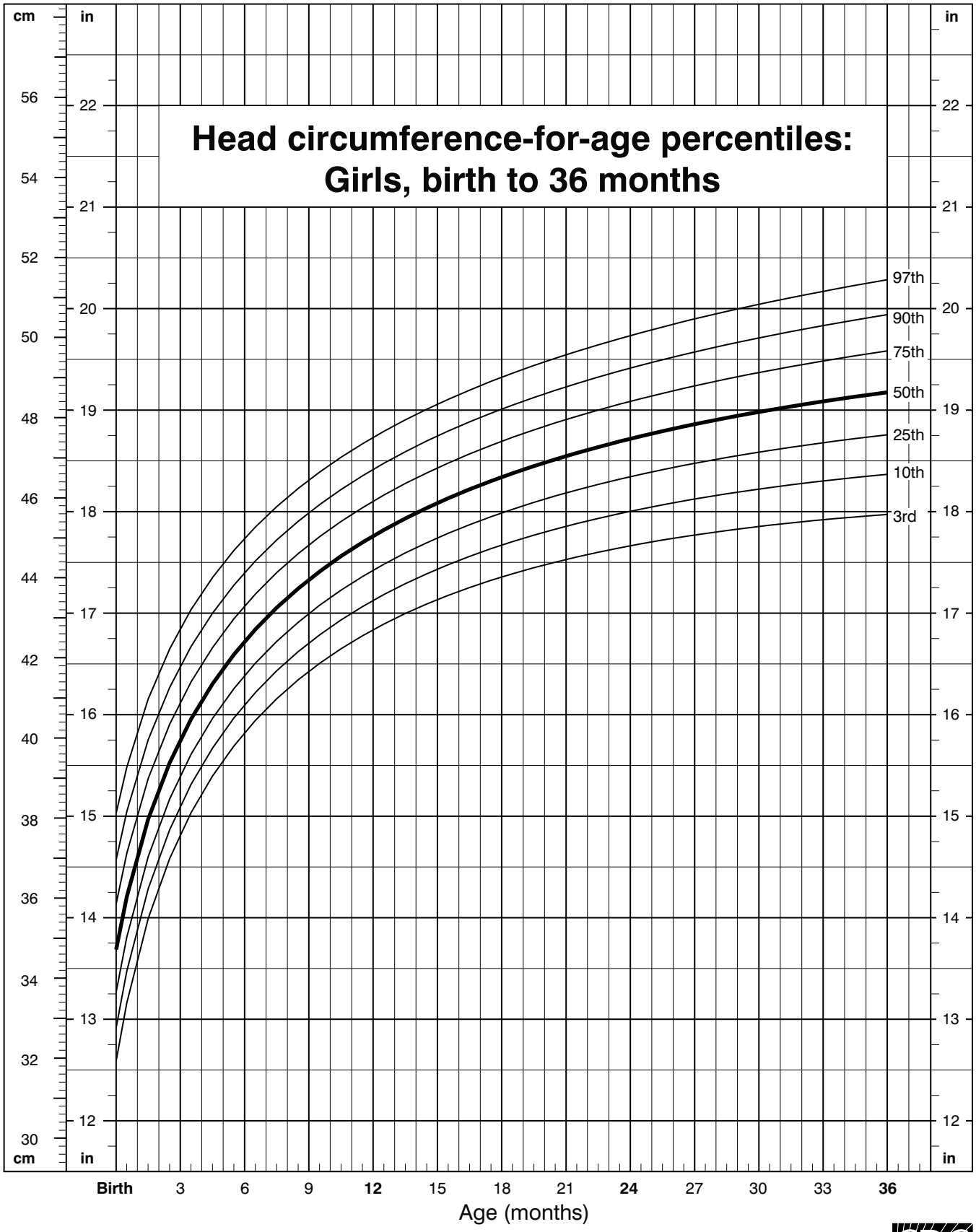
The development milestones for the infant's age group:
• Have all been met ____
• At least one has not been met _____

If one or more milestones for the age group have not been met, check the milestones for the previous age range:
• Have all been met ____
• At least one has not been met _____</td><td></td></tr>
</table>

A: _____

Figure Table

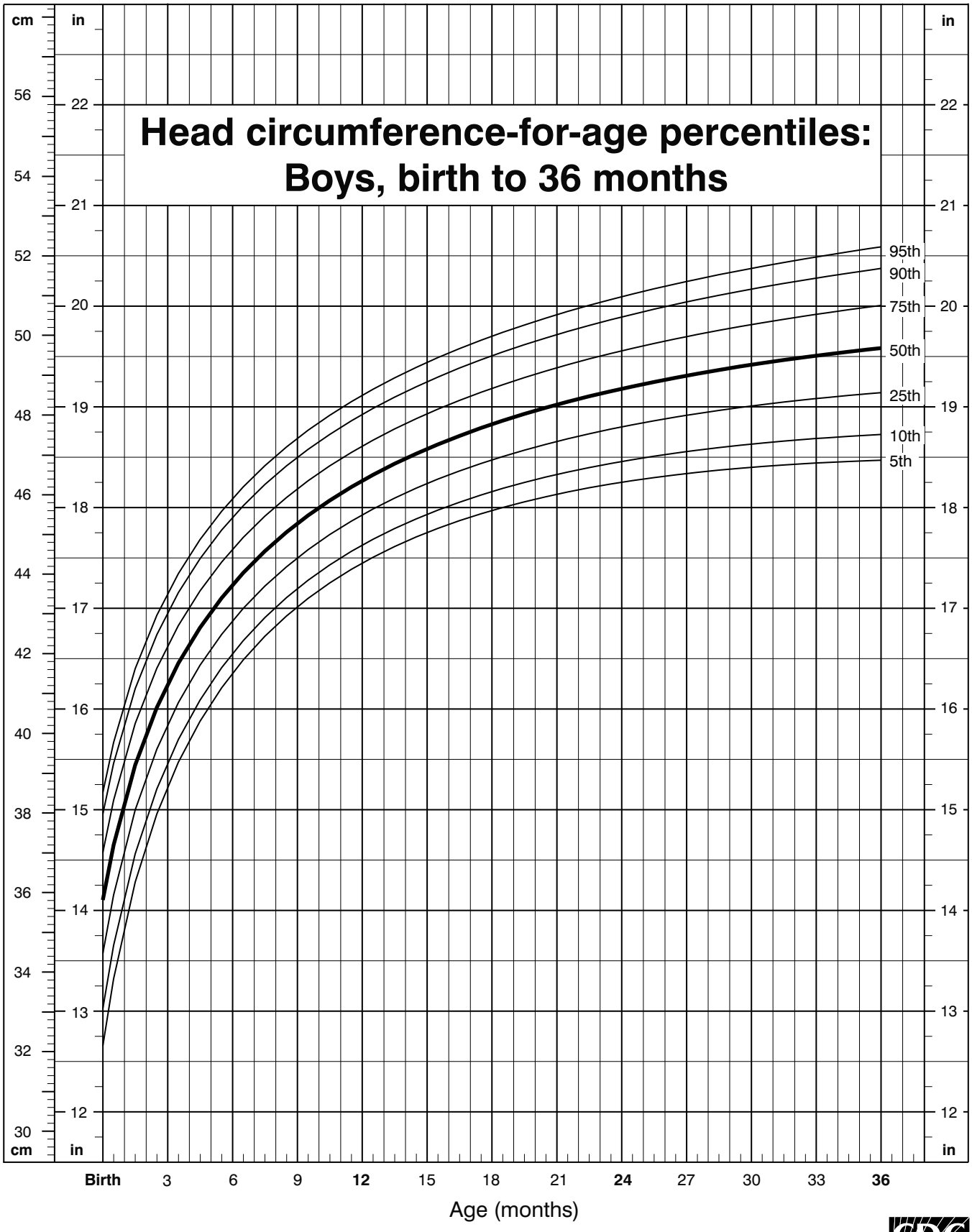
CDC Growth Charts: United States



Published May 30, 2000.

SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).

CDC Growth Charts: United States



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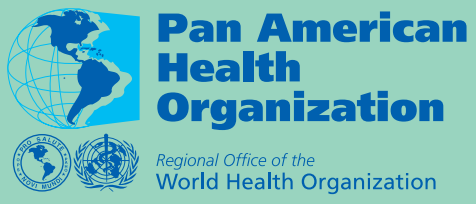

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