10 steps to the development of an Early Childhood Intervention System

Roadmap

Eurlyaid
THE EUROPEAN ASSOCIATION ON EARLY CHILDHOOD INTERVENTION

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Title:
10 steps to the development of an Early Childhood Intervention System - Roadmap

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Contents

Introducing	4
What is ECI?	4
Why intervening early in life?	5
How has ECI evolved over time?	5
How children, with and without disabilities, develop and learn best?	6
The role of families and communities in ECI	6
What other important aspects are relevant to the provision of service?	7
10 steps to the development of a family-centred ECI system	7
References	17
10 step roadmap to ECI System development	18

Introduction

Countries, professionals, civil society organizations, service providers and governmental agencies around the world are searching ways to plan, develop or improve Early Childhood Intervention (ECI) services for vulnerable children under 6 years old, with developmental delays, disabilities or at high risk.

These guidelines intend to provide a simple "roadmap"to facilitate the process of developing services, helping responsible governmental agencies, civil society organizations , other relevant national or regional stakeholders, and parents to collaborate in establishing an ECI conceptual framework.

This roadmap does not intend to dictate or impose any specific strategies to design or implement a "one size fits all" model. In turn, it provides ideas, principles, goals and thoughts regarding how to identify and mobilize national resources to create or improve ECI services.

Each country has its own national values and culture, resources, political realities, economic conditions but all of them are committed in its own way and with different priorities, to maximize services for children with vulnerabilities and their families and to be the builders of their own ECI systems.

It is not possible to dissociate a contemporary ECI system from the evolution and paradigm shift that took place in the last decades. After briefly presenting what is relevant about ECI in the 21st century, based on a long process of research, this paper will explore some of **the implications of this reconceptualization for practice, for policy, and for society, before presenting the flow with the necessary steps to develop a system**.

What is ECI?

For the purpose of this "roadmap" two definitions of ECI will be used. The first from the European Agency for the Development of Special Needs Education says:

> ***"ECI is a composite of services for very young children and their families, provided at their request at a certain time in a child's life, covering any action undertaken when a child needs special support to:***
>
> - ***ensure and enhance her/his personal development,***
> - ***strengthen the family's own competences, and***
> - ***promote the social inclusion of the family and the child.***
>
> ***These actions are to be provided in the child's natural setting, preferably at a local level, with a family-oriented and multi- dimensional teamwork approach".***

Dunst & Espe-Sherwindt provide another definition:

> ***Early childhood intervention (ECI) is the different types of parenting supports provided by early childhood practitioners and other social network members, that provide parents the time, energy, knowledge and skills, to engage their children in everyday child learning opportunities, that promote and enhance both child and parent confidence and competence*** (Dunst, 2000, 2007, 2017; Dunst & Espe-Sherwindt, 2017)

Although the two definitions are similar in some ways and both make clear that ECI involves parents and other primary caregivers, the focus of the first is on services and therapies and the second emphasizes the support provided to families by formal and informal support networks, so that they have time, energy, knowledge and skills to assure their children learning experiences and opportunities promote competencies that enable them to participate meaningfully in natural contexts.

Based on scientific evidence from the last decades, rather than a "medical model" wherein a specific therapy is applied directly to the child for a specific malady, **the paradigm is shifted to a contextual and consultant-based delivery of supports and services to the family and the infant**.

Why intervening early in life?

More than 30 years of research, show that ECI:

- Provides the foundation and trajectory for **children's lifelong learning, development and health outcomes**.
- Builds on and **strengthens the family's and parent´s wellbeing, quality of life and skills**.
- **Empowers parents** to make informed decisions, increasing their sense of confidence and competence.
- **Reduces** the effects of a disability and **prevents** the negative outcomes associated with poor environmental conditions.

(Trivette & Dunst, 2019, Guralnick, 2019; Sameroff, 2010; Mahoney, 2011; Shonkoff & Levitt, 2010)

How has ECI evolved over time?

Our understanding of how healthy development occurs, what is the learning process in the first years of life and how ECI can help in cases where the development is affected by biological or environmental factors, has changed over the last two or three decades, as a result of extensive research, not only in neuroscience, molecular biology and epigenetics but also social science.

The first years of a child's life are a **period of exceptional sensitivity to environmental influences**, designated as a **"critical period"**. It represents a **window of opportunity** during which, experience has a particularly strong influence on the **formation of neural circuits**.

The basic architecture of the brain is built through a process that begins early in life and continues into adulthood. The genes provide the basic blueprint, but experiences influence how they are expressed (epigenetics). Together, they shape the quality of the brain's architecture and establish a stronger or more fragile foundation for all learning, health, and behaviour that follow.

Interventions involving therapies directly applied to children to address their specific developmental conditions (or difficulties), fully adequate for older children and adults, have not scientific basis in case of young children. Among the reasons for this fact are the enormous immaturity and plasticity of the central nervous system and the way the child learns during the first three years.

Over the last years, early childhood intervention evolved from **clinical services provided within a child-centered perspective**, a rapidly growing field informed by a very different conceptual framework, target populations, goals, outcome measures and level of parental involvement.

Science showed that the outcomes of ECI no longer should only target stimulating, correcting, or compensating for functions that are deficient or absent in the child.

Instead, services shall pursue to support families, improve family /child interactions, family well being and empowerment, as well as to expand child learning opportunities in natural environments.

How children, with and without disabilities, develop and learn best?

Translating evidence-based neuroscience into functional application for **"best practice"**, takes in consideration that **learning takes place**:

- through repetition of meaningful activities
- participation in natural learning opportunities that occur in everyday routines and activities as part of family and community life;
- when children are interested and engaged in an activity;

(Dunst, 2020; McWilliam,2010; Bruder & Dunst, 2011, Adams RC, 2013)

The role of families and communities in ECI

- **Families** are partners and decision-makers; they are the experts about their child's and family's needs and should be involved at **ALL levels** of the ECI process.
- The parents/caregivers have the greatest impact on their child's learning since parents know their child best and already support their child's development everyday through planned or naturally occurring learning opportunities.
- **Learning opportunities facilitated within the context of family and community life** have greater impact on child progress than therapeutic intervention sessions.
- Supports and services need to be tailored to meet the unique needs and characteristics of every child and family.
- **Learning does not occur during 1- or 2-hours professional's weekly visits** but between those visits, in every day's regular activities, involving multiple repetitions, lots of practice and child-initiated play.
- **Services and supports** need to be timely, flexible, individualized, and responsive to the changing needs of each child and the child's family.

(Dunst, 2017; Moore 2017; Espe- Sherwindt & Serrano 2019; Mahoney ,2011)

What other important aspects are relevant to the provision of service?

- **Family centered ECI takes place where families and children spend their time (in the home, park, preschool, etc.).**
- **The emphasis of ECI is on building the capacity of families to support the development of their child.**
- **Professionals work together in a transdisciplinary approach with a primary service provider / mediator. The Primary Service Provider approach to teaming means that every child and every family have a full team supporting and available to them, but one person functions as the primary support for the family.**
- The **Individualized Family Service Plan (IFSP)** is the heart of early intervention. A written plan developed by the team (including the family) to identify the family's outcomes for themselves and their child and what they need from us to achieve those outcomes.

10 steps to the development of a family-centred ECI system

The following 10 steps address important requirements for developing an early childhood intervention system. The order in which the different steps are presented does not necessarily imply a sequential process.

STEP 1 - CLEAR DEFINITION OF A CONCEPTUAL FRAMEWORK AND A NATIONAL STANDARD FOR ECI PRACTICE

It's desirable that the different players in the domain of early intervention, from **political decision makers and professionals with management and coordination functions to frontline professionals** that directly intervene with families and other caregivers, **possess a coherent theoretical and conceptual framework, informed to the evidence-based evolution** referred earlier. The framework shall reflect the paradigm shift of the last decades and:

i. The **role of early experiences** and the way children at these ages learn.

ii. The **role of families** and the need services to be family-centred.

iii. The influence of the interaction and experiences provided by the main caregivers, in the children's natural contexts and during daily routines.

iv. **The limitations** in the ability of children at early ages, to benefit from sporadic and intensive and out of natural context interventions (therapy).

v. The role of professionals and transdisciplinary teamwork.

Developing or adopting a set of **guidelines offering a common conceptual framework** for ECI service provision is crucial.

STEP 2 - ADOPT THE CONSENSUAL RECOMMENDATIONS OF THE EUROPEAN AGENCY FOR SPECIAL NEEDS EDUCATION

The European Agency for Special Education Needs highlights the importance of availability, proximity, affordability, interdisciplinary working and diversity of ECI services. According to these well accepted international recommendations, ECI should reach **all children and families in need of support** as early as possible. Services should be **community-based, available as close as possible to families and free of charge**, provided through **public funds** (European Agency for Special Needs Education, 2010).

ECI professionals ideally should come from different agencies and belong to different disciplines, with established mechanisms and accountabilities for facilitating the exchange of relevant information among team members, as well as their community services.

STEP 3 - START WITH THE ALREADY EXISTING RESOURCES

Conduct situational analysis in the country and assess the resources, opportunities and needs in relation to ECI. Start with and build on the available legal basis, institutional and human resources. **Waiting for the ideal context to start can be a waste of time, as it may never happen.** In few situations is Arthur Ashe's famous quote **"start where you are, use what you have, do what you can"**, so appropriate.

STEP 4 - IDENTIFY STAKEHOLDERS AND CREATE AN OFFICIAL PLANNING COMMITTEE

The process of identifying key stakeholders is extremely important. Some stakeholders are obvious, particularly those **public services and sectors** that, with or without formal ECI services, already deal with young vulnerable children and their families'. **This includes ministries that are responsible for health, education and social policy, as well as their regional and local departments**. Depending on the country, especially at a local context, there may be NGO's or private institutions involved in the provision of services to disadvantaged children and families. National or local Parent's organizations should always be included in the process.

Ideally, the **core of stakeholders** should include public providers of health, social and education services. It is important to ensure the participation of parents organisations, in addition to all **civil society institutions** that are somehow involved in providing support to children and families. **Universities and academic experts** should be invited to participate in **planning, coordination and supervision support committees**, not only during the planning stage but also after ECI services begin.

After the identification of relevant stakeholders, an **official Planning Committee** with representatives from the **public and private sectors** involved, should start planning and designing the ECI system. Relevant tasks for the Planning Committee shall include the identification of nationally or regionally, available human resources (different specialists and professionals), material resources (facilities, furniture, office supplies, computers, development assessment material), networks, partnerships and training programs.

These tasks will be followed by the development of a comprehensive strategy for ECI provision that will consolidate collaboration between these different sectoral areas, and adopt evidence-based early intervention practices.

There should be a careful planning of the very basis of the ECI program, **the local ECI teams**. Important considerations shall be the physical location of the teams, their composition, as well as arrangements for supervision and teamwork. **Local teams should be located ideally in a natural context of the community, like a health center or a regular educational facility where all children go. After local teams, the next relevant issues to be discussed are supervision teams and structures for regional and national coordination,** because **good coordination is the "soul" of any cross sectoral system.**

Discussing **strategies, harmonizing the goals and objectives of each of the participant agencies, procedures and standards, as well as defining practical roles and regulations** that in the future, might be included in a **national legislation**, are some of the other important issues to be planned.

4.1 - BOTTOM-UP OR TOP-DOWN?

In fact, building an ECI national system, can be a **Bottom-up or Top-down** process.

Top-down ECI system development starts with the approval of regulations and/or legislation, followed by its implementation.

Bottom-up processes are in general more common and easy to implement. They are the result of bringing together regional public health, education and social services, involving local private institutions dedicated to helping vulnerable children and families, involving regional political organs and developing a **local or regional ECI program**.

Very successful local or regional experiences, able to respond quickly and effectively to local ECI demands **are easier to generalize** and integrate into national political agendas.

STEP 5 - DEFINE EACH STAKEHOLDER'S SPECIFIC ROLE AND FINANCIAL RESPONSIBILITIES

Defining the specific role of each of the participating ministries responsible for health, education and social policy affairs and their financial responsibilities is a critical aspect. **The effectiveness of any cross-sectoral system depends largely on this correct definition**. This collaboration among public services (Social Policy, Education and Health) as well as NGO's, Private Institutions and Parent Organizations should be done through **coordinating structures** at national, regional and local levels (see below)

The financial **contribution of the key ministries provides the basis** for the functioning of the system. Even in countries without a formal ECI system, there are targeted expenditures in each ministry's budget, for health, education and social action, related to children with disabilities or at risk, and their families. The difference is that **with an organized ECI system, the sum of the contributions will be spent in a coordinated way**. Each of the sectors should decide which professionals for the local teams they will be paying. Primary care physicians and nurses, are the professionals already working in local health centers that can give part of their working hours to ECI, for example. Educators, special educators and some psychologists can be paid by Education and other professionals can be paid by Social Affairs. Some of this professionals are already working in the community in private institutions and if financially compensated, and appropriately trained, they can easily integrate into the ECI teams.

5.1 - THE HEALTH CARE ROLE

In the past decades, Health Care (HC) has been evolving beyond clinical process improvement and taking advantage of the opportunities to deliver coordinated services and bridging sectors.

Traditionally HC focused on reducing mortality and morbidity (infectious diseases, vaccines, growth, nutrition) which often had multiple developmental consequences. Now, besides **reducing developmental risks and addressing developmental disabilities. It focus on optimizing healthy child development** before developmental problems arise.

Some health and other services are not directly relevant for ECI, but are important for improving early childhood development in general. These services may also need to be strengthened to reduce developmental risks:

- **Prenatal care (nutritional supplementation, reduction of maternal and infant mortality, low birth weight and prematurity, prenatal education, prenatal diagnosis)**
- **Reduction in adolescent pregnancy, drug abuse**
- **Implementation of universal free well child check-ups.**
- **Reduction in Poverty**

Health professionals are increasingly aware of the ways that **adversity, particularly in the first years of life, is linked to childhood developmental hazards**. The first 3 to 5 years are a period of greatest opportunities but also greatest risk because of the rapid brain development and extreme neuroplasticity. Health care professionals are increasingly aware that **early psychosocial adversity** (poverty, undernutrition, poor health, low parental education, lack of early stimulation), as well as **severe stress and emotional trauma** (substance abuse, neglect, mental illness, household violence) disrupts brain architecture and becomes biologically ingrained in physiology and health behavior, threatening not only children's physical health, but also brain development.

Functionally we can conceptualize HC role, relevant to ECI at two levels:

- **Primary care, in local communities**
- **Secondary and tertiary care in pediatric departments in general hospitals or in pediatric hospitals.**

- **Primary care -** one of the major roles of the health care with regards to **children is the implementation of preventive health care programs** that include regular assessments at key-ages of **child growth and nutrition, vaccines, oral health, developmental risk and developmental screening and monitoring**. Typically in the first three years of life most programs in developed countries propose around 10-12 regular visits. **Typical proposed ages are** 1st wk, 1, 2, 4, 6, 9, 12, 15, 18, 24, 36, 48, 60 Months. This ages are recommended when there are no identified problems, but they are flexible and can be increased in particular situations. For developmental screening and assessment most programs recommend the use of **standardized, age-specific tools during each visit**.

Therefore, primary health care practitioners reach more children under 3 years of age than any other family-facing system and are best positioned to identify very young children with developmental difficulties or biological and even environmental risk factors.

Three other important roles of primary HC include:

- **Referring the most complex children to secondary and tertiary levels for specialized diagnostic and therapeutic procedures;**
- **Referring eligible children to ECI local teams;**
- **Hosting ECI teams in local health care centers is a good option. They are natural contexts and being the headquarters of local teams increases HC involvement in ECI.**

Secondary and Tertiary Care - Some children have complex developmental problems and need specialized assessment by interdisciplinary teams with experience in **cognitive impairment, hearing and vision disabilities, autism spectrum disorder, neurological and behavior problems** and others. After a first assessment performed by the primary health care practitioner, some children will need to be referred to a more specialized diagnosis and intervention. Besides non-medical professionals like **psychologists, speech and language pathologists, occupational and physical therapists**, children might need **neurological**, **genetic, ophthalmological, orthopedic, cardiological, otorhinolaryngological** or other specialties' assessments. Complex genetic, laboratory and imaging studies are sometimes needed as well.

5.2 - THE ROLE OF EDUCATION AND SOCIAL AFFAIRS SECTORS

Unlike Health Care, **Education has no preventive services or universal follow-up of children, similar to the health and development follow-up included in most child health surveillance programs**. The provision of services to children under mandatory school age, only initiates when it is sought by families. **The same goes for social services** unless the family is already benefiting from funds or social support provided to high-risk families. Despite this, in general, **many children are referred to ECI services, typically after 3 years of age**, in milder developmental difficulties that only manifest themselves later in kindergarten and pre-school age. The fact that children attend those educational institutions daily, facilitates identification of milder developmental or behavior problems, difficult to identify during the limited time of a medical consultation.

All educational settings where ECI is provided, should be fully inclusive. Learning happens in everyday routines and not in segregated settings. This was one of the major transformations of the paradigm shift. ECI has to do with environmental enrichment and not with segregation.

STEP 6 - DEFINE A STRUCTURE AND ASSURE COORDINATION

ECI should be developed at **national, regional and local levels, to support the development of ECI services for children up to 6 years old and their families**. ECI is an inter-agency as well as interdisciplinary area of work. Besides other local or regional stakeholders like parent's organizations, private institutions, universities, NGO's, **the central core of stakeholders should include the Ministries of Education, Social Affairs and Health**.

At regional and national levels, there should be official **regional and national coordinating committees, including representatives of the 3 ministries plus members of the other stakeholders** (Carvalho, 2019).

The role of these committees, regionally or nationally, will be:

- **Coordinate actions of the key ministries and plan the participation of other stakeholders;**
- **Ensure the establishment of the network of ECI services;**
- **Monitor, regulate and evaluate ECI system functioning;**
- **Create regulatory instruments, eligibility criteria, corporative image, technical assistance tools, national database according to national data protection policies;**
- **Plan and promote training and research;**
- **Prepare annual plan and activity report.**

In each region supervision teams shall be established. In the beginning it's not easy to implement supervision since **good supervisors are usually professionals with experience, profile and training**. This is an area where experts from universities might help. The role of supervision is:

- **Ensure the application of eligibility criteria;**
- **Technical support and follow-up of Local Team's professionals (monitoring and organization of individual processes, adequacy of support measures, etc.);**
- **Monitoring the adherence of professionals to the conceptual framework;**
- **Support Local Teams in the adoption of a transdisciplinary model.**

The basis of any ECI system are COMMUNITY BASED TEAMS where intervention happens.

STEP 7 - PLAN ECI TEAMS

As referred earlier **Local ECI Teams should be community-based and hosted in a "regular" public service**, ideally a health center. In some countries, traditionally, services for children and adults with disability, even school attendance, were provided in specialized institutions for children with disabilities. Fortunately, today, with the universal acceptance and legal imposition of inclusive education, most of these institutions are still open for adults, but as far as children are concerned, these institutions function as resource centers, providing specialized professionals and technical resources to children, in regular schools. It's not recommended that ECI teams are hosted there, since **despite services being provided in natural contexts** and not in local ECI teams headquarters, occasionally, children and families might need to come for a special assessment.

Some of the roles of Local ECI teams are:

- Conduct eligibility assessments whenever necessary.
- Decide and assign a primary service provider for each child and family among all the professionals
- Development and implementation, together with the family of **Individualized Family Service Plan (IFSP)**, with a clear definition of its components, and full level of family participation, for all the children receiving services. The IFSP should be reviewed periodically, ideally every 6 months.
- Services should be provided in **natural contexts.**
- Identification of resources and needs for the provision of ECI services, in their geographical area.

- Establishment of **collaboration** with other **child and family services in the community.**
- **Transition** to the school setting.

STEP 8 - DEFINE ELIGIBILITY CRITERIA AND ENSURE EFFECTIVE SCREENING, IDENTIFICATION AND REFERRAL AS EARLY AS POSSIBLE

Undeniably, the primordial question in early childhood intervention is to **ensure that every child and family, with their special needs, may effectively benefit from ECI services** that fully and effectively respond to their specific, unique and sometimes complex characteristics. As expressed earlier, the identification of children and families should be done by **primary health care services**, through a universal screening, during regular children follow-up.

The definition of appropriate eligibility criteria is central in the identification process. As far as age is concerned, most European countries accept the 0-6 age range. Typically, children that qualify for ECI services are included in 2 major groups (**table 1**).

Table 1 **Eligibility criteria**

Children between 0 and 6 years and their families, who present conditions, included in the following groups:

1. Confirmed disability or established developmental delay in one or more areas of development: motor, physical, cognitive, communication, social-emotional, and/or adaptative.
2. 'High risk for developmental delay "by the existence of biological or environmental conditions, which imply a high probability of significant delay in child development.

Eligibility criteria include **all children from the 1st group and children from group 2, for whom at least a determined number of factors of biological and / or environmental risk are present.**

Many countries, essentially for economic reasons, only provide services for children presenting developmental delays and disabilities, and not to children at high risk. Others include at-risk children but require an association of 2 or more risk factors to provide ECI services. Effective early intervention works to prevent problems occurring, or to tackle them head-on when they do, before problems get worse. In any case, there's always a preventive component in ECI, but it is much more central when providing support to children only at risk, and without any diagnosable developmental problem.

Tables 2, 3 and 4 show eligibility criteria.

Table 2 **Eligibility based on developmental delay or disability**

1. CHILDREN WITH DEVELOPMENTAL DELAY OR DISABILITY

1.1. Development delay of unknown etiology, covering one or more areas of development (motor, physical, cognitive, language and communication, emotional, social and adaptive, validated by formal appropriate professional assessment.

1.2. Developmental delay related with specific conditions, among others:

- Chromosomal anomaly (e.g. Trisomy 21, Trisomy 18, X Fragile Syndrome);
- Neurological disorder (e.g. Cerebral palsy, neurofibromatosis);
- Congenital malformations (e.g. dysmorphic syndromes);
- Metabolic disease (e.g. Mucopolisacaridoses, glycogenoses);
- Sensory Deficit (e.g., Low vision / blindness, deafness);
- Disorders related to prenatal exposure to teratogenic agents or narcotics, cocaine and other drugs (e.g., Fetal Alcohol syndrome);
- Disorders related to congenital severe infections (e.g., HIV, TORCH group, meningitis);
- Severe chronic disease (e.g., CNS tumors, kidney disease, hematologic disease);
- Atypical development with impact in social interaction and communication (e.g., autism spectrum disorders);
- Severe disorders of attachment and other emotional disturbances.

Table 3 **Eligibility criteria based on biological risk**

2. CHILDREN AT HIGH RISK FOR DEVELOPMENT DELAY

2.1. Children exposed to biological risk factors: Includes children who are at risk of developmental disorders, related to biological conditions that clearly interfere with the provision of basic care, health and development.

Based on a diagnosis related to, among others:

- Family history of genetic abnormalities associated with developmental disorders;
- Intrauterine toxic exposure (e.g. alcohol, drugs);
- Severe prenatal complications (e.g. hypertension, toxemia, infection, bleeding, etc.);
- Prematurity <33 weeks of gestation;
- Very low birth weight (<1.5kg);
- Intrauterine growth retardation (IUGR): Birth weight <10th percentile for gestational age;
- Severe perinatal asphyxia (Apgar after 5 minutes <4 or cord blood pH <7.2 or neurological manifestations or systemic organic neonatal);
- Serious neonatal complications (e.g. sepsis, meningitis, metabolic, seizures);
- Intraventricular hemorrhage;
- Congenital infections (e.g. TORCH group);
- Child HIV positive;
- Severe infections of the central nervous system (e.g. bacterial meningitis, meningoencephalitis);
- Severe head injuries;
- Chronic otitis with high risk of hearing deficit.

Table 4 **Eligibility criteria based on environmental risk**

2. CHILDREN AT HIGH RISK FOR DEVELOPMENT DELAY

2.2. Children exposed to environmental risk factors.

Includes children who are at risk of manifesting limitations in neurodevelopment related to environmental conditions that clearly interfere with the provision of basic care, health and development. These include parental and contextual factors.

2.2.1. Parental risk factors, among others:

- Teen mothers <18 years;
- Abuse of alcohol or other addictive substances;
- Mother HIV positive;
- Chronically disturbed family interaction;
- Psychiatric Illness;
- Disabling or restrictive physical illness.

2.2.2. Contextual factors, among others:

- Isolation (at geographical level with difficulty in accessing formal and informal resources);
- Socio-cultural, ethnic, racial, sexual or religious discrimination; conflict in the relationship with the child);
- Poverty (use of food banks and / or centers of social support, unemployment, families depending on social support);
- Family Disorganization (frequent family conflicts, neglected home environment);
- Neglect in the basic care of the child (health, food, health and education);
- Important concerns expressed by a parent, person providing child care or health care professional regarding the development of the child, the mother or parenting style interaction.

STEP 9 - ENSURE PROFESSIONAL QUALIFICATION

Professional training is the cornerstone of quality ECI services and so, the definition of a **Basic Professional Training Program** should be a relevant pillar of the development of any ECI system. Instead of providing aleatory training actions, that may be appropriate for specific professional groups, it is important to design, with the help of national expertise as well as recognized international experts, a **structured training plan**.

This plan should include opportunities for initial training and continuing professional development, general training for mainstream ECI staff and specialized training, associated with particular conditions (hearing or vision impairments for example).

The commitment to professional qualification should not be limited to in-service training and it is important to involve the universities and other institutions of higher education to provide specific under or post graduate pre-service training on ECI. **Other important characteristics regarding training in this area include:**

- A common core of content for all the professionals involved
- A common conceptual framework
- Bodies of knowledge and skills, as well as values and philosophy
- Team-based training, ideally including families
- Continuous professional's support and supervision

Relevant areas of content and skills that should be included in the training curriculum are:

- Child development and behavior (typical and atypical)
- Developmental screening and assessment
- Specific developmental problems (vision impairments, hearing impairments, motor impairments, Autism Spectrum Disorders, Down Syndrom, X-Fragile Syndrome, etc.)
- Skills in working with young children with developmental problems in natural contexts and learning opportunities
- Supervision
- Core Skills in ECI:
  - Philosophical and conceptual framework of ECI
  - Working with families and family-centred practices
  - Skills in cultural competence
  - Home visiting
  - Transdisciplinary teamwork
  - Developing and implementing the IFSP

STEP 10 - DEFINE QUALITY STANDARDS FOR ECI SERVICES

This is not an easy area to implement in a new ECI system, although evaluation mechanisms that will ensure the compliance with the approved standards and guidelines clearly contributes to the improvement of ECI services. Adopting a culture of **evaluating outcomes, intervention conditions and practices, and of "accountability"**, which is transversal to the different dimensions of the ECI services delivery system, could contribute to taking steps towards the **quality of professional practice with families and children**. **Family Satisfaction Questionnaires** are also important tools to assess the perceived quality of services as well as **Scales of Service Evaluation.**

Building and sustaining a high-quality early intervention system is a complex, sometimes long and ongoing process for professionals, civil society organizations, service providers and governmental agencies. Part of the difficulties are related with the diversity of economic, cultural, and political factors, that vary from country to country.

Based on research and practice, a few recommendations are provided in this roadmap, not in a prescriptive way, but hoping that some of the steps, can be useful to those involved in planning and implementing a National ECI System.

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10 STEP ROADMAP TO ECI

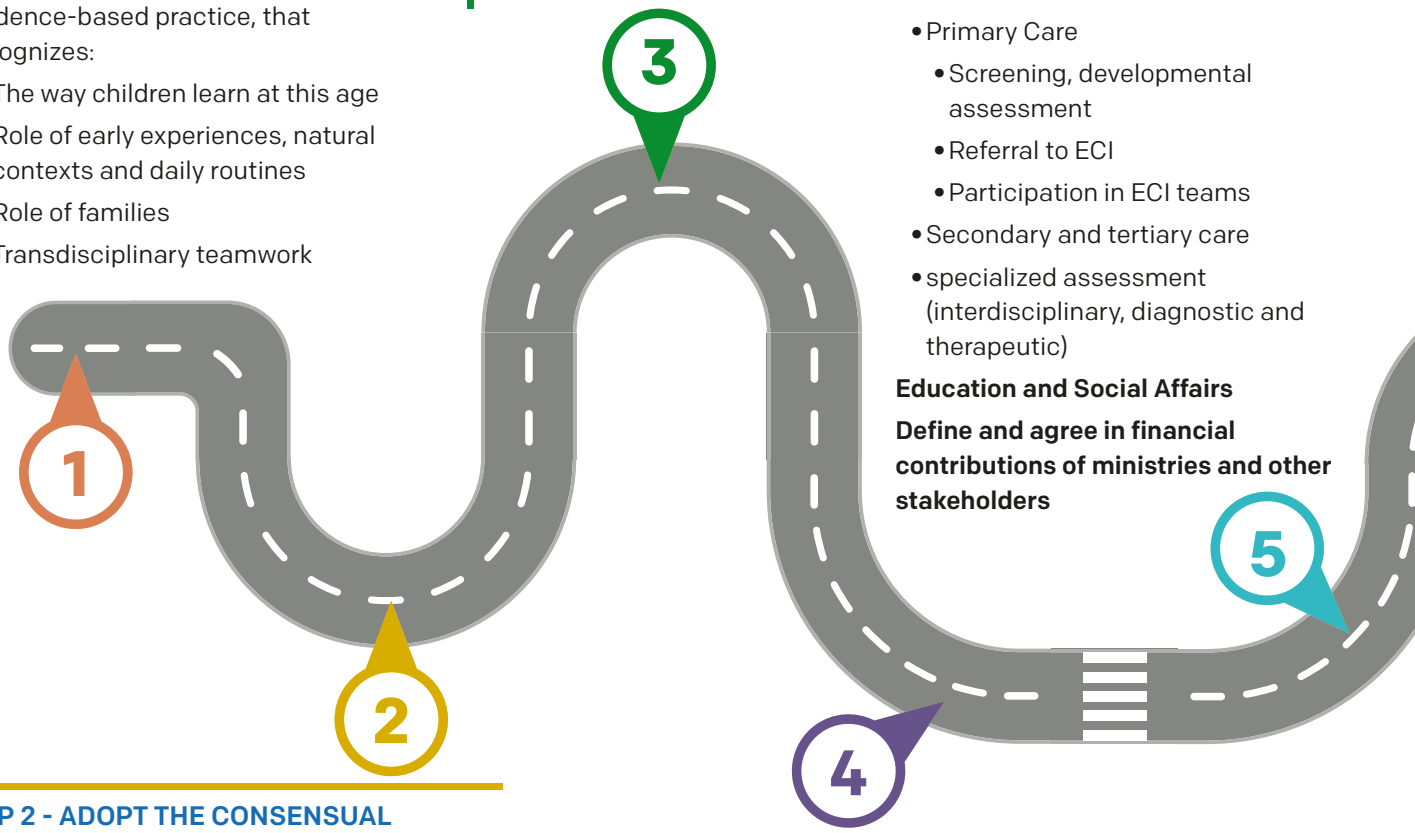
STEP 1 - DEFINE A CONCEPTUAL FRAMEWORK AND A NATIONAL STANDARD FOR ECI PRACTICE

Coherent theoretical and conceptual framework, according to the evidence-based practice, that recognizes:

- The way children learn at this age
- Role of early experiences, natural contexts and daily routines
- Role of families
- Transdisciplinary teamwork

STEP 3 - START WITH THE ALREADY EXISTING RESOURCES

Follow Arthur Ashes quote: "start where you are, use what you have, do what you can".



STEP 5 - DEFINE STAKEHOLDER'S SPECIFIC ROLES AND FINANCIAL RESPONSIBILITIES

Health Involvement

- Primary Care
  - Screening, developmental assessment
  - Referral to ECI
  - Participation in ECI teams
- Secondary and tertiary care
- specialized assessment (interdisciplinary, diagnostic and therapeutic)

Education and Social Affairs

Define and agree in financial contributions of ministries and other stakeholders

STEP 2 - ADOPT THE CONSENSUAL RECOMMENDATIONS OF THE EUROPEAN AGENCY FOR SPECIAL NEEDS EDUCATION

- Availability,
- Proximity,
- Affordability,
- Interdisciplinary working,
- Diversity of services.

STEP 4 -IDENTIFY STAKEHOLDERS AND CREATE AN OFFICIAL PLANNING COMMITTEE

- Central core of stakeholders - ministries of health, education and social services.
- Other stakeholders
  - parent's organizations
  - other civil society institutions and NGO's
  - Universities and academic experts

Official Planning Committee (plan and design the National or Regional ECI system)

- Identifying available:
  - human resources (different specialists and professionals),
  - material resources, specially facilities,
  - networks, partnerships
  - training programs
- Develop a comprehensive strategy for ECI implementation
- Plan Local ECI teams (where, who, how)
- Supervision
- Define goals and objectives of each of the participants
- Define procedures and standards
- Define practical roles and regulations (future legislation)

SYSTEM DEVELOPMENT

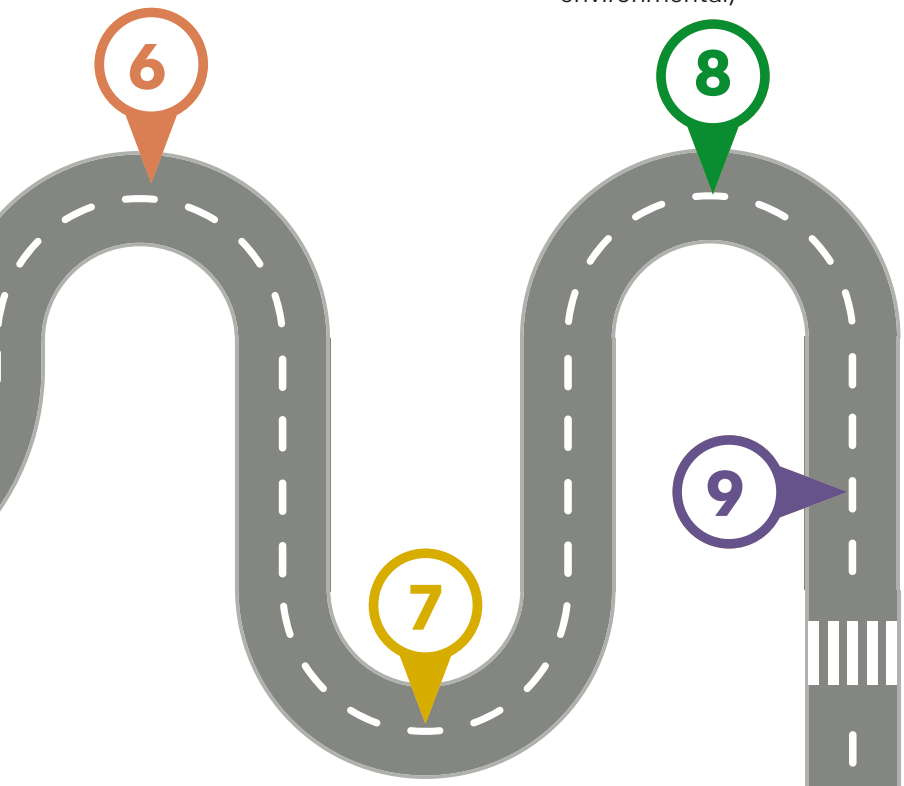
STEP 6 - DEFINE A STRUCTURE AND ASSURE COORDINATION

- National Coordinating Committee
- Regional Coordinating Committees
- Supervision Teams
- Local ECI teams

STEP 8 - DEFINE ELIGIBILITY CRITERIA AND ENSURE EFFECTIVE SCREENING, IDENTIFICATION AND REFERRAL AS EARLY AS POSSIBLE

Children between 0 and 6 years with:

1. Confirmed disability or established developmental delay
2. High risk of developmental delay (biological and/or environmental)



STEP 9 - ASSURE PROFESSIONAL QUALIFICATION AND SUPERVISION

Basic Professional Training Program (inservice)

- A common core of content for all the professional involved
- A common conceptual framework
- Bodies of knowledge and skills, as well as values and philosophy
- Team-based training, ideally including families
- Continuous professional's support and supervision

Preservice training / Post graduation

STEP 7 - PLAN ECI TEAMS

- Community-based and hosted in a "regular" context (Health Center)
- Transdisciplinary teamwork
- Develop and implement IFSP's
- Transition Plan

STEP 10 - DEFINE QUALITY STANDARDS FOR ECI SERVICES

Evaluating

- Compliance with approved guidelines and standards
- outcomes,
- intervention conditions and practices,
- "accountability",
- Family Satisfaction.

Scales of Service Evaluation

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