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The Barcelona Network for Childhood Development and Early Intervention. Strategic alliance

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This paper describes young child care in Barcelona in terms of gender, age, reasons for requesting care and diagnosis, and it introduces the strategic network proposal for quality young child care, a collaborative alliance that provides municipal resources and fosters collaboration, research, training, methodological quality and the exchange of best practices among all the Child Development and Early Intervention Centres (CDIAP) in Barcelona.

1. What is early intervention?

Early intervention is the set of preventive and support actions aimed at the young child population, families and their environment, from when the child is conceived until they turn six years old, with the aim of responding as early as possible to the temporary or permanent needs of young children with any type of developmental disorder, or who are in a situation of risk of developing one. A *developmental disorder* is understood as a transitory or permanent neurological, psychological or sensorial dysfunction presented by a young child during their maturation process which significantly affects their development, as a result of health or relational events that compromise their biological, psychological or social evolution.

The early intervention services provide comprehensive care that takes all aspects of the young child into account through the perspective of professionals from diverse disciplines. It encompasses prevention, detection, diagnosis and therapeutic intervention aimed at achieving the child's maximum level of personal development and integration into their environment. Scientific evidence has shown that early childhood is the stage when neuronal plasticity is at its peak and, as such, this is when prevention and detection interventions to foment quality family relations and prevent possible developmental disorders are most effective. Early intervention is an investment in a child's capacity to progress in the personal, educational, economic and social spheres, and the earlier the intervention the more effective and less costly it is, and the greater the reduction in social costs at later ages. In brief, and as pronounced by the World Health Organisation, the first years of life are a window of opportunity to improve health and equality.

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2. Background in Barcelona

Barcelona City Council led the way among the public administrations of Catalonia and Spain when in 1983, and through the Municipal Institute for Persons with Disabilities (IMPD), they set up two interdisciplinary, public, free, sectorised early intervention teams, which they named *interdisciplinary teams for early childhood* (EIPI). These teams were first located in the districts of Ciutat Vella and Sants-Montjuïc. The latter was later moved to the district of Nou Barris, such that both municipal services were located in the two Barcelona districts with the highest child vulnerability indices in the city: Ciutat Vella and Nou Barris. Different programmes, regulations and recommendations stemming from this first city council initiative have been developed at both a regional and a state level. Some of the most notable in Catalonia are the Health and Social Security Department's Sectorial Early Stimulation Programme (1985); Decree 206/1995⁴, which establishes the level of intervention and, essentially, the implantation of the Child Development and Early Intervention Centres (CDIAP) in the region; and Law 18/2003 and Decree 261/2003⁵, which establish early intervention as a universal right for all young children up to the age of six years old that need it. The two pioneer services in Barcelona were then integrated into the public network of specialist care services of the universal, free Catalan social services system distributed throughout Catalonia. At a national level, the turning point was the publication of the *White paper on early intervention* drafted in 2000 by the Royal Disability Trust of the Spanish Ministry of Employment and Social Affairs.

Once the CDIAP public network was set up in Catalonia, a comprehensive care model with a biopsychosocial perspective was implemented through multidisciplinary teams, and intervention models (early stimulation) focused on rehabilitation and correcting deficiencies were set aside. The child, as the subject of rights, preventive action and intervention in the family, social and community spheres have become key factors of this new system of public care services for young children with developmental problems and those at risk of having them.

3. Early intervention in Barcelona

There are eleven CDIAPs in Barcelona, covering all the city's districts and neighbourhoods. The centres are publicly run or privately run while receiving public funds. The Municipal Institute for Persons with Disabilities (IMPD) manages two of the centres: Nou Barris CDIAP-EIPI and Ciutat Vella CDIAP-EIPI. Passeig de Sant Joan CDIAP is run by the Government of Catalonia, and the other centres are run by specialist entities with extensive experience and expertise in early intervention. The CDIAPs in Barcelona are distributed as follows:

The CDIAP teams are made up of professional specialists in physiotherapy, speech therapy, social work, psychology, paediatric neurology and psychometrics, among others. The multi-disciplinary nature of the teams means that care can be provided for any type of disorder, ensuring integral intervention that meets the child and family's needs. While all the CDIAPs comply with the requirements of the public network, each of them has their own particularities depending on the characteristics of their reference population, the type of management (three centres are public and the rest private), and the composition and specialisation of the professional teams, among others.

4. This Decree is accessible at:

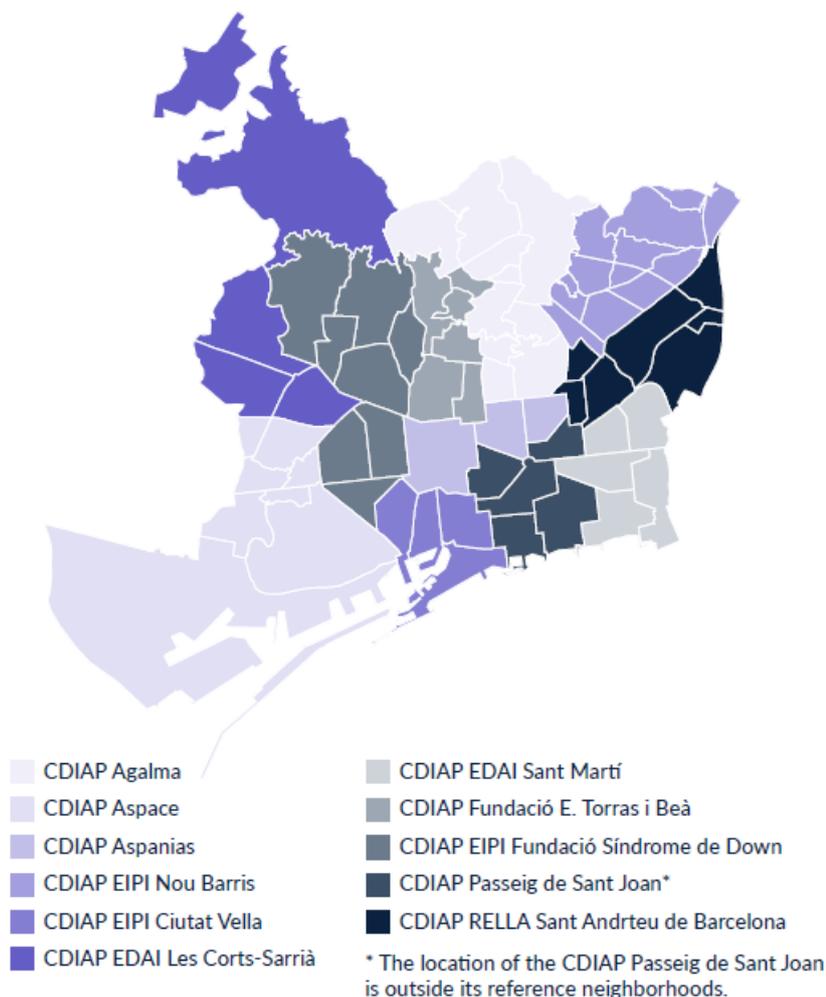
https://portaljuridic.gencat.cat/ca/pjur_ocults/pjur_resultats_fitxa?action=fitxa&documentId=108304

5. The Law 18/2003 and the Decree 261/2003 are accessible at:

https://portaljuridic.gencat.cat/ca/pjur_ocults/pjur_resultats_fitxa/?documentId=329445&action=fitxa, and at:

https://portaljuridic.gencat.cat/ca/pjur_ocults/pjur_resultats_fitxa/?documentId=346199&action=fitxa, respectively

Figure 1. Territorial sectorisation of Barcelona's CDIAPs. Barcelona, 2019



4. The Barcelona Network for Childhood Development and Early Intervention (IMPD)

Within this context, the IMPD is taking a further step towards improving the city's childhood policies, and is inviting Barcelona's CDIAPs, experts and reference entities to create a collaborative alliance to boost and improve the care provided to the most vulnerable young children in the city. To this effect, the *Barcelona Network for Childhood Development and Early Intervention* was set up in 2015, and includes all the CDIAPs in Barcelona, the two reference entities in the field – the Catalan Union of Child Development and Early Intervention Centres (ACAP), and the Catalan Early Intervention Association (ACAP) – and the Nexe Foundation, as an expert in multi-disability care. From its beginnings, the initiative has received the support of the Department of Employment, Social Affairs and Families of the Government of Catalonia. The objectives of the Barcelona Network for Childhood Development and Early Intervention are:

- To provide complementary resources that improve the care provided to young children with developmental difficulties on behalf of the IMPD for the use of all the CDIAPs.
- To boost collaborative management methodologies in the city's shared services and programmes.
- Liaison with other public child care services in the city to improve efficiency among services and community action.

- An interdisciplinary training and consultancy offer for the Network's professionals, which complements the specialist training provision.
- Cooperation and mutual support in intervention and research methodologies.

The first steps of the Barcelona Network for Childhood Development and Early Intervention focused on establishing a firm basis for future projects, seeking cooperation and synergies among the different specialist teams. The network is made up of 40 professionals and experts who actively participate in the working commissions. One of the results of this alliance is that data is available for the first time on the status and evolution of early intervention in Barcelona city. The basic aggregated data of Barcelona's eleven CDIAPs have been provided by the Sub-Directorate General of Care and the Promotion of Personal Autonomy of the Directorate-General of Social Protection of the Government of Catalonia, gathered from the shared registry system of all the CDIAPs of Catalonia and reported by the centres themselves in their annual reports. A summary of the years 2016, 2017 and 2018 is presented for the purpose of this paper, and to illustrate the magnitude of the joint care action of Barcelona city's eleven early intervention services.

4.1. The population served by Barcelona's CDIAPs

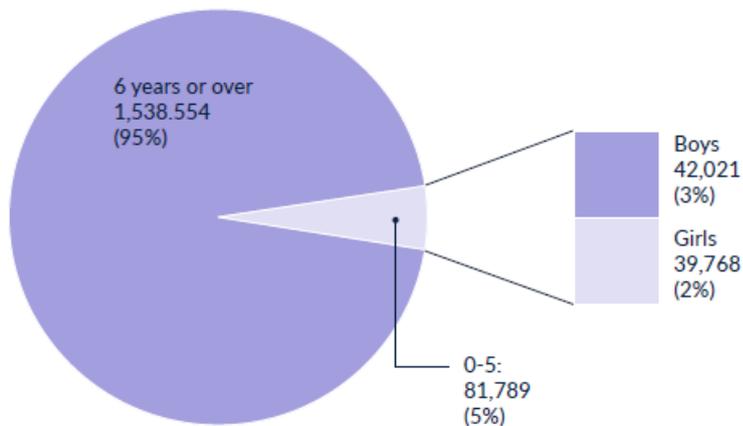
The population aged from 0 to 5 years old in Barcelona city represents 5% of the total population of the city; in 2018, there were 81,789 children in this age bracket. In 2018, Barcelona's CDIAPs provided care for a total of 6,671 young children, 8.16% of all the children in the city between the ages of 0 and 5 years. According to figures provided by the Government of Catalonia, who is fully responsible for early intervention, the target population for early intervention services is 7.5% of the population in the age bracket of 0-5 years. In Barcelona city, this proportion represents 6,134 young children, an average of 606 users per centre. Therefore, in 2018 the number of young children provided with care in the city as a whole was higher than the target population for the city. However, it must be noted that the population characteristics and social realities of the city's neighbourhoods are very different among them and, therefore, the defining characteristic of the distribution of the inequality and vulnerability indices for young children is precisely its heterogeneity, presenting some very marked singularities across territories. While the objective of this paper is not to analyse early intervention in each territory, we believe that we are right in saying that the early intervention needs of some Barcelona neighbourhoods outweigh the standard percentage for all of Catalonia, established at 7.5%

The figures for the evolution of the number of children provided with care in the last three years show a steady increase of 9.41% between 2016 and 2018. These first data on the evolution of demand provide us with tools of reflection and analysis to guide any future action: has the number of service referrals increased further? Are families more aware of and informed about the CDIAPs? Has the detection of disorders improved? Is there a growing trend for any specific pathologies?

a) Distribution by gender

The distribution by gender of children in this age bracket in the general population is the same as can be observed on a world scale, at 1.06 boys for every girl. Expressed as a percentage, in the age bracket 0-5 years old, 51.4% of children are boys and 48.6% are girls.

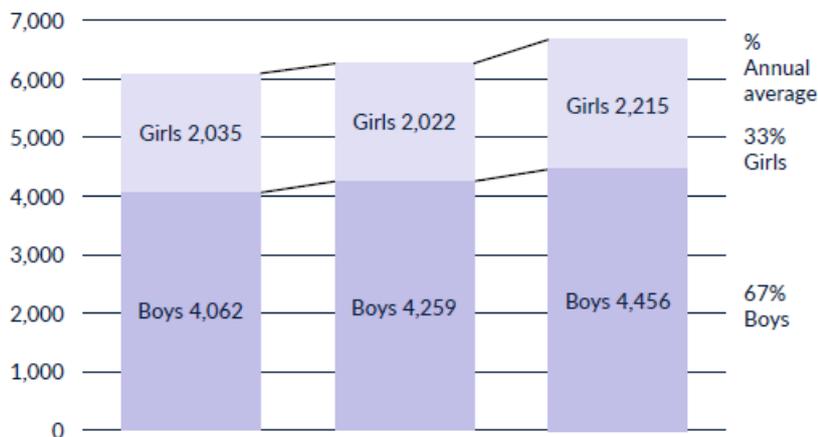
Graph 1. Population aged 0-5 years by gender with respect to Barcelona's total population



Source: Municipal Register, 2018.

The proportion of young children provided with care at the city's CDIPAs is different to the proportion of young children in the 0-5 year age bracket. Over the last three years in the city, as a whole, the distribution by gender has been around 67% boys and 33% girls.

Graph 2. Children aged 0-5 years provided with care at Barcelona's CDIAPs between 2016 and 2018



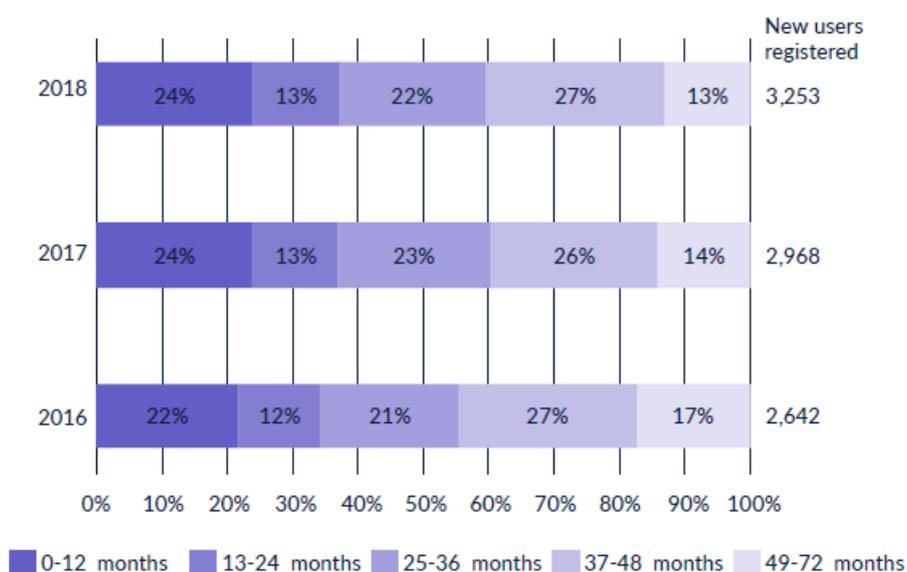
Source: Department of Employment, Social Affairs and Families (IMPD).

This gender pattern is the same in the group of young children that are recognised as disabled: in 2018, 36.5% of the population between 0-5 years with a disability were girls. Although the number of children with the disability certificate is very low, this distribution by gender is maintained throughout childhood and adolescence (0-17 years). In line with the municipal drive against the feminisation of poverty and precariousness, and the promotion of actions against gender inequality implemented through the Strategy, these data provide us with valuable information, based on other specific studies, on what the root causes of this unequal distribution in demand and early intervention in the city between boys and girls might be.

b) Age of the children when they first register with the service

Regarding the age of the children when they first register with the service (3,253 in 2018), for almost 25% of users this is before they are 12 months old. However, almost half of new users at the CDIAPs are between 25 and 48 months old. There is a slight upward trend in the number of new requests for the service from very young children.

Graph 3. Age of the children when they first contacted the service 2016-2018



Source: Department of Employment, Social Affairs and Families (IMPD).

5. Reasons for consultation at Barcelona's CDIAPs

The reason for consultation is the main motivation for requesting care for a child, as expressed by the family or the service that made the referral, at the moment the service is requested. Remember that families can approach the early intervention service independently or by referral from other services involved in child care such as schools, the health service or social services. The reason for consultation does not always coincide with the diagnosis once it is made, but is basically an expression of the observable symptoms or most visible concerns that have prompted the consultation. As shown in the following table, the main reasons for consultation are language development disorders of different aetiologies (around 30% of new consultations), followed by motor development problems and biological risk. The main reasons for consultation have risen in the last three years.

Table 1. Reason for the first consultation at the CDIAPs. Barcelona 2016-2018

	2016	2017	2018
Language/speech	848	853	949
Motor development	441	445	499
Biological risk	212	272	354
Attention/behaviour	291	344	342
Communication and relationships	174	259	264
Emotional development	233	236	252
Others	107	243	240
Delay in overall development	181	158	171
Eating disorder	29	52	57
Sleeping disorder	49	44	49
Social risk	19	13	27
Aspects of upbringing	41	23	23
Cognitive development	9	13	14
Sensorial disorder	8	13	12

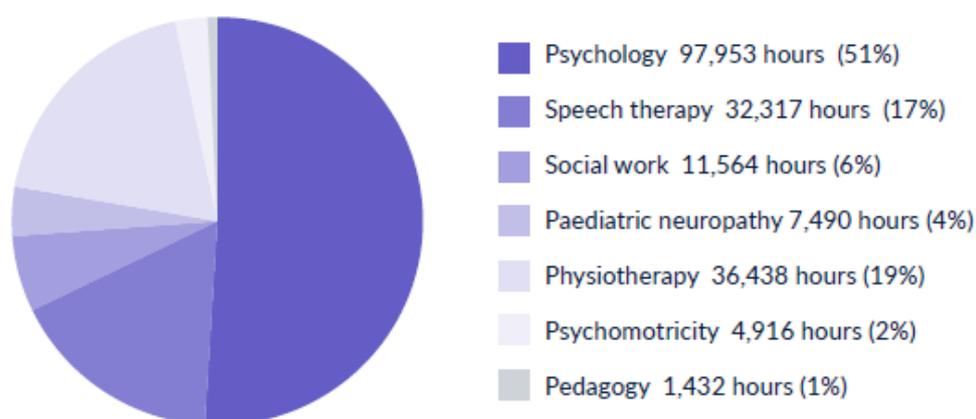
Source: Catalan Ministry of Employment, Social Affairs and Families.

The main centres that refer cases to the CDIAPs belong to the areas of health and education, referring 61.3% and 28.1% of cases, respectively. Only 5% of registered users come to the centres via direct requests from the families.

6. Therapeutic intervention at the CDIAPs

Once the initial formalities at the CDIAP have been completed, the team makes an interdisciplinary diagnosis and develops an individualised therapeutic intervention plan for every child: speech therapy, physiotherapy, psychomotricity, psychological treatment, social work and so on. Below is a graph showing the hours of care received by the young children and their families depending on the type of support and therapeutic needs. Most noteworthy is that over 50% of professional hours correspond to the discipline of psychology, followed by physiotherapy and speech therapy.

Graph 4. Hours of care received at Barcelona's CDIAPs by professional discipline. Barcelona, 2018



Source: Department of Employment, Social Affairs and Families (IMPD).

In cases of a suspected child development disorder, a broad diagnostic approach encompassing different areas and levels is fundamental, given that in most cases the problem presented by the child has multiple aspects. The symptomatology usually has a multi-factor origin resulting from the interaction of genetic factors, health issues, psycho-affective care issues, general environmental conditions and so on. The diagnosis of the difficulties presented by the child will be the outcome of considering several specialist diagnoses in an integral way, identifying both the main and the secondary diagnoses. Hence, the diagnosis does not necessarily coincide with the original reason for consultation at the CDIAP. Data for the years 2016-2018 show that language and motor development disorders of different aetiologies are the most usual diagnoses at Barcelona's CDIAPs. Relational, affective and behavioural disorders have also been frequently diagnosed at the CDIAPs in the last three years.

Table 2. Main diagnoses at the CDIAPs. Barcelona 2016-2018

	2016	2017	2018
The diagnostic process	165	325	441
Language development disorders	226	352	438
Motor development disorders	213	322	400
Relational and communication disorders	136	216	285
Affective and emotional disorders	224	263	266
Variants of normality	149	217	213
Regulation and behavioural disorders	97	146	173
Only risk factors	137	143	173
Other disorders	96	117	150
Psychomotor disorders	62	95	80
Cognitive development disorders	53	39	54
Psychosomatic disorders	23	25	35
Auditory disorders	2	6	5
Vision disorders	6	3	2
Other capacities	3	0	1

Source: Catalan Ministry of Employment, Social Affairs and Families.

There are various reasons for stopping care or no longer using the service: symptom improvement (27%), family decision (20%) or reaching six years old, the age limit for receiving care at the CDIAPs (18%). 9% of young children who leave the service are referred to other intervention centres or services, especially child and youth mental health centres (CSMIJ), among others. Regarding the age of the child when they stop using the service, 52% are over 48 months old and 27% are over 61 months old.

7. Barcelona Network CDIAP support action

The data presented above make difficult work for all the CDIAPs, and they describe a context in which specific action proposals are incorporated that respond to the needs of the city's CDIAPs. The Barcelona Network of CDIAPs, which has a collegiate coordination structure and a participatory working methodology, implements pioneering actions in the areas of health, the relationship between families and professionals, and applied research. Notable among current Barcelona Network actions are:

7.1 The contribution of complementary services to CDIAP resources

The IMPD promotes the contribution of complementary resources to improve the quality of the care provided by participating CDIAPs. To this effect, and via collaboration with the Barcelona Institute of Sports, free access to eight swimming pools has been granted to users to promote therapeutic aquatic activities that increase young children and families' learning and participation opportunities, providing them with highly therapeutic communication and relational experiences they would otherwise not have access to. An average of 125 children participate annually in these activities. The CDIAPs can also now request interpretation and intercultural mediation services for their intervention actions, paid for by the IMPD. Depending on the location of the CDIAP, many of the families registered with them are of foreign origin. In 2018, five of the CDIAPs requested linguistic translation/interpretation support to assist with therapeutic communication for 71 families who

spoke 11 different languages. Regarding the intercultural mediation service, four CDIAPs requested support to provide care for the children of 100 families who spoke five different languages.

7.2 Networking with entities

The Network has secured a collaboration agreement with the Nexe Foundation to provide support, guidance and specialist advice to the families and professional teams involved in the CDIAPs, Specific equipment and games adapted to the needs of young children with multi-disabilities has also been provided. In 2018, 30 young children received specialist intervention in this area. An agreement with the Barcelona Osteopathy Foundation has also been made, providing complementary osteopathy treatments for 30 young children from low income families. Along the line of seeking collaboration among the various stakeholders, families registered with the CDIAPs can now use the Movement Bank, a temporary loan service for support products for people with reduced mobility (crutches, walking frames, walking chairs and so on), which has a bank of equipment specifically for children. Loans have been made to 28 families following assessment by an occupational therapist and an expert in orthopaedics to guarantee the suitability of the equipment for the needs and characteristics of the young child.

7.3 Training and education among professionals

The Network promotes ongoing education aimed at the interdisciplinary teams to complement the specific training provided by the Catalan Early Detection Association (ACAP) for each of the disciplines. Training has been provided on diversity issues to be able to provide care among the multiplicity of cultures and parenting and care patterns of the families that use the city's CDIAPs. In the same line, monographic sessions were organised in 2018 in conjunction with the Care and Wellbeing Association on six cultural communities that are users of the CDIAPs (Chinese, Russian, Pakistani, Armenian, Moroccan and Philippine), in which 134 professionals took part. This year, further training in cultural skills has been provided with the course on intervention with people from different cultural contexts, given by the Transcultural Psychiatry team of Vall d'Hebron Hospital. A total of 25 professionals from the Network's CDIAPs interested in widening their theoretical and technical knowledge to enable them to offer a maximum quality service attended these courses, which provided them with a thorough understanding of the culture, ethnicity and language of their service users. Also in 2019, the Therapeutic Aquatic Activity course was given, which was especially designed to train professionals in the different disciplines involved in the CDIAPs and entities in the Network to be able to offer a therapeutic resource that takes place in water, with a methodology based on games and personal interactions. Again in 2019, and in conjunction with the Municipal Institute of Education (IMEB), training was provided to the education professionals and management teams in municipal nursery schools that aimed to improve their ability to detect infant disorders and ensure fast, efficient intervention. Last, a course on warning signs in 0-12 month-old infants and first interventions was given by a team of professionals from the different disciplines involved in the Barcelona Network CDIAPs, with close to 100 attendees, all of them professionals from the teaching teams at municipal nursery schools.

7.4 Liaison with other early child intervention services

One of the aims of the Barcelona Network is to facilitate liaison with other public early child intervention services in the city to improve efficiency between services and community action. With regard to the protocols set out by the Government of Catalonia in relation to referrals and coordinating cases among the health, education and social care areas, the Barcelona Network is updating coordination with the city's specific services.

The Barcelona Network has taken part in the Nadocat Commission, which brings together entities including the Catalan Early Detection Association, the Nadocat Association, the Neonatal Studies Group, the Catalan Paediatrics Society and the Catalan Union of Child Development and Early Intervention Centres. This commission, which focuses on the needs of premature infants and those at biological risk, has drafted the documents 'The need for networking for the care of premature

infants and those at risk in hospitals, CAP Salut and the CDIAPs'. To this effect, coordination is ongoing between the Special Needs Care Educational Team (EEAEN) of IMEB and those in charge of the Territorial Management of Primary Healthcare in Barcelona of the Catalan Healthcare Institute, and the Perinatal Mental Health team of the Hospital Clinic, among others, to improve detection and prevention in IMEB nursery schools.

7.5 Cooperation and mutual support in intervention and research methodologies

The IMPD, as the promoter of the Barcelona Network, has signed a collaboration agreement with the Affective Bond and Human Development Laboratory of the University of Girona to carry out a joint research project aimed at evaluating the interaction between parents and young children and the quality of the affective bond. This evaluation protocol, in which five CDIAPs have taken part, enables qualitative and quantitative data to be obtained on the quality of the interaction between parents and young children and creating a secure affective bond.

8. Future challenges

In these first years the Network has been in operation, the use of knowing the reality of the city's support network, and the need to work together, promote research and share experiences and intervention methodologies to improve the quality of early child intervention in Barcelona city has been demonstrated.

In the coming years, the Barcelona Network will continue working with this strategic alliance to boost collaboration and cooperation among stakeholders and experts, with the aim of seeking consensus as to the key elements of a high quality early intervention service in the city. Dialogue will continue with other community agents that intervene in the 0-6 years age group, with the clear aim of integrating and promoting the inclusion of young children with developmental disorders in their communities.