Առողջապահության Նախարարություն
Ministry of Health of the Republic of Armenia

ԲԱՐԵԳՈՐԾԱԿԱՆ ՀԻՄՆԱԴՐԱՄ
CHARITY FOUNDATION
ՄԻԱՑՅԱԼ ՄԵՆԿԱՍՏԱՆ
UNITED CHILDREN'S
ԱՐԱԲԿԻՐ
ARABKIR

unicef
for every child

EVALUATION OF REHABILITATION SERVICES FOR CHILDREN IN ARMENIA: Rapid Assessment Analysis and Mapping

Yerevan – 2019

Report on Evaluation of Rehabilitation Services for Children in Armenia

Arabkir Medical Centre – Institute of Child and Adolescent Health

Institute of Child and Adolescent Health
Sergey Sargsyan
Yeva Movsesyan

ArBes Health Center
Gayane Zakaryan
Manushak Yeritsyan

Arabkir United Children's Charity Foundation
Shushan Davtyan

Ministry of Health
Nune Pashayan

UNICEF
Alaa Sebeh, Independent International Consultant. Child Protection, Disability and ECD
Maya Simonyan

This publication was made possible by the support of UNICEF in Armenia. The statements in this publication are the views of the author(s) and do not necessarily reflect the policies or views of UNICEF.

UNICEF works to ensure that every child in Armenia is cherished, nurtured and cared for. Building on more than 70 years of global experience and 25 years of achieving results for children in Armenia, UNICEF is committed to improve the lives of the most vulnerable children living in poverty and isolation.

From the maternity ward to the end of high school, UNICEF teams up with partners so that all children and families in Armenia benefit from improved policies, services and facilities across the country.

UNICEF is funded entirely by the voluntary contributions of individuals, businesses, foundations and governments. For more information about UNICEF Armenia and its work visit www.unicef.am, www.babycef.am and www.Together4Armenia.am or follow us on social media:

Facebook.com/UNICEFArmenia
Instagram.com/UNICEF_Armenia
Twitter.com/unicefarmenia
Youtube.com/user/unicefarmenian

Right photo: UNICEF / Armenia / 2018 / Osipova
The boy with cerebral palsy receives treatment in the pool with his coach at the "Dream House" rehabilitation center.

Left photo: UNICEF / Armenia / 2016 / Pirozzi
A child with cerebral palsy plays with his therapist during a class at Kindergarten No. 92 in Yerevan, where UNICEF has supported the establishment of rehabilitation services.

TABLE OF CONTENTS

Abbreviations

1. **Introduction**

2. **Results from assessment of rehabilitation services for children**

    2.1 Rehabilitation needs

    2.2 Policies, leadership and governance

    2.3 Financing for rehabilitation

    2.4 Infrastructure, types and levels of rehabilitation services

    2.5 Human resources for rehabilitation

    2.6 Assistive products

    2.7 Health information system

3. **Conclusions and recommendations**

    3.1 Rehabilitation needs

    3.2 Policies, leadership and governance

    3.3 Financing for rehabilitation

    3.4 Infrastructure and services

    3.5 Human resources

    3.6 Assistive products

    3.7 Health information system

ABBREVIATIONS

ADL	Activities of daily living
Arabkir MC – ICAH	Arabkir Medical Centre – Institute of Child and Adolescent Health
Arabkir UCCF	Arabkir United Children's Charity Foundation
ASD	Autism Spectrum Disorders
CDRC	Child Development and Rehabilitation Centre
CH	Congenital Hypothyroidism
CP	Cerebral Palsy
DDH	Developmental Dysplasia of the Hip
ECD	Early Childhood Development
ICD	International Classification of Diseases
ICF	International Classification of Functionalities Functioning, Disability and Health
GDP	Gross Domestic Product
MoES	Ministry of Education and Science
MoLSA	Ministry of Labor and Social Affairs
MoH	Ministry of Health
NSS	National Statistical Service
OT	Occupational Therapist
PHC	Primary Health Care
PM&R	Physical Medicine and Rehabilitation
PT	Physical Therapist
PKU	Phenylketonuria
ROP	Retinopathy of Prematurity
UNICEF	United Nations Children's Fund
WB	World Bank
WHO	World Health Organization

SUMMARY

Early child development (ECD) is a key factor for the healthy growth of a child; it determines his or her learning abilities and social inclusion. Epidemiologic trends, changes on conceptual perceptions of ECD and understanding of disability from right-based approaches' perspective stress a crucial need for introduction of relevant health services, aimed at early identification of child developmental disorders, habilitation and rehabilitation.

The capacities of available child rehabilitation services of Armenia have been assessed to identify the gaps in service provision and to develop relevant recommendations. Available data from centers licensed by the Ministry of Health (MOH) for provision of rehabilitation services to children have been gathered, including juridical status, target population and number of served patients, type of services, sources of financing, physical conditions, human resources etc. Secondary data was retrieved from publicly available sources.

In result, comparison of estimates on the children with developmental problems and the capacities of licensed and functioning institutions indicates a significant gap between actual needs and capacities of the relevant services. There is a lack of access to rehabilitation services in many regions or districts and communities of Armenia especially for the children from rural areas, while statistical data indicate to relatively higher figures of prevalence among rural populations. There are no mechanisms for quality assurance; there is a lack of standardized approaches and guides in child rehabilitation, uncertainty of criteria for licensing of institutions providing rehabilitation care. There is a lack of staff, including pediatric rehabilitologists, developmental pediatricians, physical therapists, ergo-therapists etc. Continuing professional development especially for the non-medical rehabilitation staff is not always in place or effective. There is a significant shortfall between the need for and the awareness on and provision of assistive technologies. There is a lack of intersectoral collaboration between health, educational and social sectors, including at policy, technical and community levels.

The proposed key areas for action include:

- revising strategyes for promotion of child development, disability prevention and management,
- strengthening and extending multidisciplinary community-based rehabilitation services,
- increasing the number of rehabilitation personnel through greater investment in education and training programmes,
- strengthening capacity of primary health care providers on early identification and intervention,
- revising the licensing standards, establishing quality assurance mechanisms,
- introducing tools to objectively evaluate child development and functioning,
- introducing WHO ICF as a "common language" for comprehensive assessment of the child,
- promoting models of integrated health, education and social early intervention services, relevant referrals and continuum of care;
- ensuring that development and rehabilitation of children is integrated into health planning and financing processes,
- increasing provision of quality assistive products,
- promoting cross-sectoral data management and information exchange.

1. INTRODUCTION

Background

WHO defines rehabilitation as "a set of interventions designed to optimize functioning and reduce disability in individuals with health conditions in interaction with their environment"[1]. A health condition refers to disease (acute or chronic), disorder, injury, trauma, congenital anomaly, etc. Rehabilitation maximizes people's ability to live, learn to their best potential and improve quality of life.

Box 1. What is rehabilitation?

Rehabilitation is a set of interventions designed to optimize functioning and reduce disability in individuals with health conditions, in interaction with their environment. Health conditions include disease (acute or chronic), disorders, injuries or trauma. A health condition may also include ageing, stress, congenital anomaly or genetic predisposition.

Rehabilitation may be needed by anyone with a health condition who experiences difficulties in, for example, mobility, vision or cognition. It addresses impairments, activity limitations and participation restrictions, as well as personal and environmental factors (including assistive technology) that affect functioning.

In the context of this assessment, we recognize that rehabilitation as a concept is delivered by many different professions and to many different user groups, including children, adults, older people, people who identify as having a disability and those that do not (Fig. 1). However, the focus of this analysis will be on children with disability and/or developmental delays only.

Rehabilitation services are beneficial for health and society, for individuals, communities and national economies[2] Investment in rehabilitation increases human capacity by allowing people with a health condition to achieve and maintain optimal functioning, by improving their health and by increasing their participation in life, thus increasing their economic productivity[3] . For children in particular, rehabilitation optimizes development to achieve their full potential, with far-reaching implications for participation in education, community activities and in later years, work. Rehabilitation can also expedite hospital discharge, prevent readmission and allow people to remain longer in their homes.

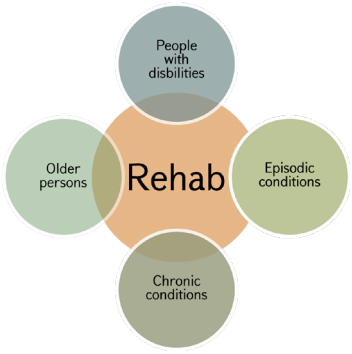


Fig. 1: Rehabilitation for All
Ref.: https://www.paho.org/

It is estimated that globally 43 percent (or 250 million) children under 5 years of age are not achieving their developmental potential[4], due to risks of poverty, poor nutrition and a lack of access to basic services and early enriching opportunities. While 11 to 17 percent of children are at risk of or have disabilities. The prevalence of health conditions associated with severe levels of disability has increased by nearly 23 percent since 2005[5].

Child development is a process of continuous acquisition of new motor skills, intellectual functioning and adaptive behavior throughout childhood. Child development determines healthy growth of a child into adulthood, his or her learning abilities and education outcome and social integration. Developmental delays and difficulties of child development cause lack of one or many functions which in its turn lead to multiple consequences and may cause temporary or permanent disability.

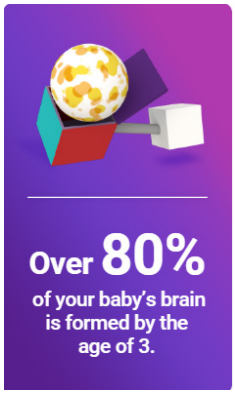
[1] World report on disability. Geneva: World Health Organization and The World Bank; 2011. Available from: https://www.who.int/disabilities/world_report/2011/en/

[2] Disability, poverty and development. London: UK Department for International Development (DFID); 2000. Available from: https://dochas.ie/sites/default/files/dfid%20disability.pdf

[3] WHO Global disability action plan 2014-2021. Better health for all people with disability. Geneva: World Health Organization; 2015. Available from: https://apps.who.int/iris/bitstream/handle/10665/199544/9789241509619_eng.pdf?sequence=1

[4] Maureen M. Black, et al., 'Early Childhood Development Coming of Age: Science Through the Life Course', The Lancet, series 0140-6736, no. 16, 4 October 2016, p. 2. www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(16)31389-7.pdf

[5] World Health Organization. The need to scale up rehabilitation [Internet] Geneva: World Health Organization; 2017. Available from:http://www.who.int/disabilities/care/NeedToScaleUpRehab.pdf?ua=1



Ref. https://www.unicef.org/early-childhood-development

A crucial need for tackling child developmental problems is stressed by two critical considerations: the latest epidemiologic trends and changes on conceptual perceptions of Early Childhood development (ECD) an and understanding of disability from right-based approaches. ECD encompasses physical, socio emotional, cognitive and motor development between 0-8 years of age. The early years are critical, because this is the period in life when the brain develops most rapidly and has a high capacity for change, and the foundation is laid for health and wellbeing throughout life.

Today health workers in Armenia as elsewhere in everyday practice meet cases of developmental disorders such as cerebral palsy (CP), spina bifida, intellectual disabilities, mental retardation, autism spectrum disorders (ASD), etc. In line with that, the perception of child disability has significantly changed over the last decades. While isolation for those children was common in the past, nowadays there is increased recognition of disability as a result of the interaction between an individual (with a health condition) and environmental factors. ECD interventions are cross-sectoral in nature and very important for fulfilling child potential and preventing complications. Their effective implementation relies on their integration into programmes across multiple sectors, including health, nutrition, education and social protection[6].

The UN Convention on the Rights of the Child and Convention on the Rights of Persons with Disabilities promotes statesdevelop policies in health, education and social sectors which target full inclusion; these concepts raise many new challenges for involved sectors and push them for better collaboration and coordination of efforts. Inclusion requires an accessible, barrier-free physical and social environment. It is a two-way process that promotes the acceptance of persons with disabilities, their participation and encourages society to open up and be accessible to persons with disabilities[7].

Box 2. UN CRPD (Art. 26)

States Parties shall organize, strengthen and extend comprehensive habilitation and rehabilitation services and programmes, particularly in the areas of health, employment, education and social services, in such a way that these services and programmes:

(a) Begin at the earliest possible stage, and are based on the multidisciplinary assessment of individual needs and strengths;

(b) Support participation and inclusion in the community and all aspects of society, and are available to persons with disabilities as close as possible to their own communities…

A need for joint and integrated interventions should become a usual practice for line ministries (MoH, MoLSA and MoES) and be reflected in relevant policies of all sectors. However, the first "frontline" sector which meets a child with developmental delays and disabilities is the health sector. Therefore, health institutions have a crucial role in early identification of developmental delays, early intervention, rehabilitation and, thus, prevention of childhood disability. The international community, particularly WHO, WB, UNICEF recognize the significant benefits of ECD and called on the UN member states to develop relevant policies to build proper capacities, and overall, increase investments in ECD programmes as a critical foundation for equitable development and economic growth[8].As key instruments in reaching mentioned objectives, some global frameworks have been developed at the international level. The WHO has introduced International Classification of Functioning, Disability and Health: children and youth version (ICF-CY) as a key tool for organizing and documenting information on functioning and

[6] UNICEF's Programme guidance for early childhood development. New York: UNICEF; 2017. Available from: https://www.unicef.org/earlychildhood/files/FINAL_ECD_Programme_Guidance._September._2017.pdf

[7] The Convention on the Rights of Persons with Disabilities Training Guide. New York and Geneva: United Nations; 2014. Available from: https://www.ohchr.org/Documents/Publications/CRPD_TrainingGuide_PTS19_EN%20Accessible.pdf

[8] Nurturing Care. UNICEF, World Bank Group and World Health Organization; 2018. Available from: https://nurturing-care.org/resources/Nurturing_Care_Framework_en.pdf

disability[9]. UNICEF and WHO have developed the overall concepts of ECD and community-based services, while the WB has analyzed high cost-effectiveness of early interventions and introduction of ICF based on data from different studies.

During the last few years, the Government of Armenia started disability policy reform focused on the revision of the disability assessment and certification process through application of the WHO International Classification of Functioning, Disability and Health (ICF). The WHO ICF has been translated in Armenian and approved as a National Standard in 2014. Moreover, MoLSA has developed the concept paper on introduction of the "human-rights" based model for disability assessment using ICF approach instead of the current "medical" model. According to the National Strategy on Social Inclusion of Persons with Disabilities for 2017-2021 social sector will use the ICF-based new model of disability assessment and service provision in the nearest future. In the education sector, an ICF-based approach is used to assess development, special education, and the learning needs of the child.

Overall, since indepedence, child protection practices in Armenia have significantly improved. However, still many challenges remain in policies and practices. Coordination across line sectors, such as health, education and social security still need to be improved. There is an obvious lack of services, especially in some regions of the country and at the community level. To address those challenges all stakeholders, including policy-makers and nongovernmental organizations, should combine efforts, harmonize policies and practices and strengthen collaboration. In the social protection sector major reforms are underway to operationalize the ICF framework for disability assessment, determination of eligibility for services and benefits, as well as the development of individual rehabilitation planning aimed at making the services available and more targeted.

In order to improve the quality of services available in the country for children and their families, there is a need to conduct a rapid assessment of health system capacities that provide rehabilitation services for children with disabilities and developmental delays in order to identify the gaps in service provision and develop recommendations for expansion to make it accessible for all children through the country.

This rapid assessment is also intended to support the country's response to the World report on disability for Member states to "develop, implement, and monitor policies, regulatory mechanisms, and standards for rehabilitation services, as well as promoting access to those services"[10] (p. 122); to implement objective 2 of the WHO global disability action plan 2014–2021, "to strengthen and extend rehabilitation, habilitation, assistive technology, assistance and support services, and community-based rehabilitation" [11] (p. 3); and to take appropriate measures to organize, strengthen and extend rehabilitation services and programmes, stated in the United Nations Convention on the Rights of Persons with Disabilities (Article 26).

Purpose and methodology of the study

Purpose of the study was *to identify available rehabilitation services for children with developmental delays and disabilities in Armenia and identify gaps in provision of services.*

Study design and methodology

This study was implemented in 2018. For the study,a simplified questionnaire was developed (Annex 1) in collaboration with the MoH to collect information from centers licensed by the MOH for provision of rehabilitation services to children. Secondary data was retrieved from publicly available sources, such as legislative framework and relevant reports of different local and international organizations dealing with protection of rights and provision of services to children with disabilities.

The following information was collected during the assessment of existing services and their needs:

- juridical status of organization,
- population and territory (country-wide, region, community) served,
- type of provided services,
- sources of financing,
- physical conditions, equipment and supplies, including primary needs,

[9] International classifications of functioning, disability and health: children and youth version (ICF-CY). Geneva: World Health Organization; 2007. Available from: http://www.who.int/iris/handle/10665/43737/

[10] World report on disability. WHO and the World Bank; 2011. Available from: https://www.who.int/disabilities/world_report/2011/report/en/

[11] WHO global disability action plan 2014-2021. Geneva: World Health Organization; 2007. Available from:https://www.who.int/disabilities/actionplan/en/

- human resources, their basic education, specialization and post-diploma education,
- number of patients served,
- categories of patients by payment mode,
- duration of rehabilitation courses,
- duration of rehabilitation courses,
- reporting and accountability.

Study targets

The approved questionnaire together with the official letter from MOH was submitted to all facilities which have been licensed by MoH for provision of paediatric rehabilitative services(overall,28 organizations and their units).

Responses from 16 facilities were received (57%). There was outreach to the centres which did not submit their reports in order to understand their reasons for not completing the questionnaire. Some of the responses included:

- Two NGOs did not respond.
- Kapan Child Rehabilitation Centre was built, equipped, and the staff has been properly trained . The centre was issued a license in 2012, but due to absence of finances did not provide services during the assessment.
- Six medical facilities (2 clinics of Yerevan State Medical University, Surb Grigor Lusavorich Medical Center, Erebuni Medical Centre, Irving Medical Centre, Scientific Centre for Radiation Therapy and Burns, and Wigmore Medical Centre) have been issued a license but de-facto do not provide comprehensive paediatric rehabilitation services.
- Yerevan City Polyclinic #13 responded that they do not provide comprehensive paediatric rehabilitation services.

2. RESULTS OF ASSESSMENT OF THE REHABILITATION SERVICES FOR CHILDREN

2.1 Rehabilitation needs

In many parts of the world, the size of the rehabilitation workforce is insufficient. Factors contributing to the unmet need for rehabilitation services include poor accessibility, transport barriers, high out-of-pocket expenses and long waiting times12. An additional factor is a lack of awareness of the need for rehabilitation; what it is, what it does, and whom it may benefit. Rehabilitation comprises a set of interventions designed to reduce disability and to optimize functioning in individuals with health conditions so as to enable them to better interact with their environment.

The reports from NSS and MoLSA show that the prevalence rate for certified disability among children from 0 to 18 is 1.1%, while globally it is estimated that real number of childhood disability is higher[13]. During the last years the prevalence rate of childhood disability and number of children annually is almost the same around 8,000. The disaggregation of certified childhood disability by type of diseases is presented in in Table 1. According to the WHO, the prevalence of health conditions associated with severe disability has increased by 23% since 2005[14]. The rate of adult disability is significantly higher and is approximately 6-7 %.

[12] Rehabilitation medicine in countries of Central/Eastern Europe. Eldar R, Kullmann L, Marincek C, Sekelj-Kauzlarić K, Svestkova O, Palat M. Disabil Rehabil. 2008; 30(2):134-41.

13 World report on disability. Geneva: World Health Organization and The World Bank; 2011. Available from: https://www.who.int/disabilities/world_report/2011/en/

[14] WHO Rehabilitation 2030 A Call for Action. WHO; 2017. Available from: https://www.who.int/disabilities/care/Need-to-scale-up-rehab-July2018.pdf?ua=1

Table 1.
Diagnosis and Child disability in Armenia (2017)[15]

Diagnosis	Total	Girls	Boys	Prevalence per 100 000
Pathology of neural system	2,245	749	1,496	330
Mental health diseases (mental and behavioral disorders)	1,915	482	1,433	281
Endocrine and metabolic diseases	452	184	268	66
Eye diseases	463	133	330	67
Ear diseases	472	184	288	68
Congenital malformations, deformities and chromosomal diseases	1,308	469	839	192
Circulatory diseases	77	23	54	11
Traumas	138	30	108	20
Respiratory diseases	117	14	103	19
Tuberculosis	47	18	29	69
Gastroenterological diseases	48	9	39	69
Musculoskeletal and connective tissue diseases	195	72	123	28
Diseases of the genitourinary system	88	21	67	13
Others	249	48	201	37
Total:	8,016	2,514	5,502	1,178

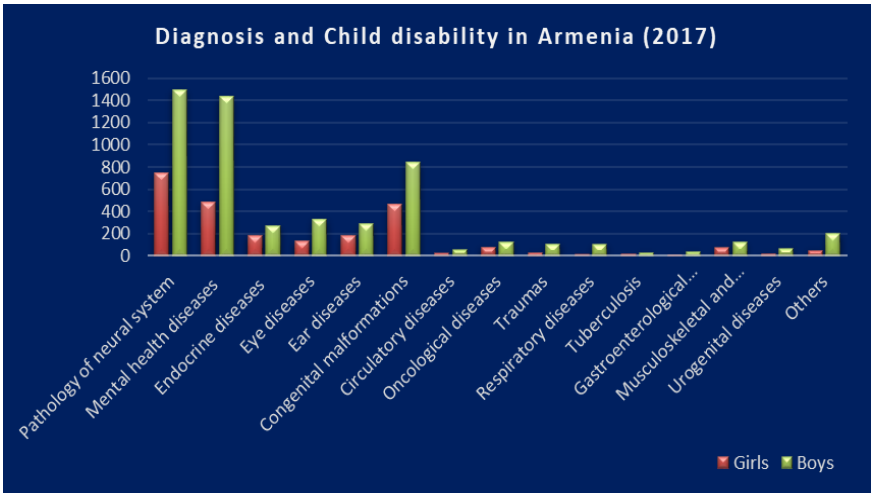


Fig. 2: Number of children with disabilities disaggregated by medical diagnosis, 2017

[15] National Statistical Service, 2017, https://www.armstat.am/en/

Figure 2 demonstrates that child developmental problems constitute the majority of causes of childhood disability in Armenia. However, the prevalence of disability does not fully reflect the current situation with developmental disorders. A UNICEF survey conducted in Armenia in 2005 revealed that around 11 percent of children from 0 to 8 have one or many developmental delays or disorders including mental, motor, hearing and vision[16].

A household assessment done by Arabkir MC in Tavush marz[17] in 2013 showed that 4 percent of children are at risk, while the other study at district level identified that on average 2 percent of children need more specialized assessment and long-term rehabilitative interventions to prevent complications of disability or to restrict its consequences for child health. The most prevailing disorders which require interventions are mental and speech disorders; while the most common reason for long-term physical rehabilitation is cerebral palsy. Overall, at least in each third case combined interventions should be targeted to address both mental and motor functions. This is in line with the international practice, which emphasizes that a single treatment is not effective, for many children need a combination or sequence of interventions[18] .

According to MoLSA in 2017 the number of children in orphanages was 632, out of them 352 children living in specialized orphanages. It should be mentioned that the number of children with disabilities staying at orphanages decreased compared to the previous years. No data on types of disabilities and severity status of children in specialized orphanages is publicly available.

Analysis of regional data shows that prevalence of childhood disability is relatively higher in regions where rural population prevails, which may be a result of higher prevalence of poverty and less accessible health and early intervention services (Table 2).

Table 2.
The prevalence of certified cases of disability in regions of Armenia[19]

Marz (region)	Number of children with disabilities	Number of children 0-18	Prevalence of disability (%)
Yerevan	2,261	244,830	0.9
Aragatsotn	370	33,926	1.1
Armavir	702	67,237	1.0
Ararat	890	66,176	1.3
Lori	803		1.4
Shirak	753	60,651	1.2
Kotayk	692	65,722	1.0
Syunik	411	32,616	1.6
Vayots Dzor	118	12,072	1.0
Tavoush	321	31,071	1.0
Gegharkunik	695	60,363	1.1
Total	***8,016***	***731,500***	***1.1***

[16] Childhood disability in Armenia. Situational Analysis. Ministry of Health, National Statistical Service of Armenia, UNICEF, Armenian Relief Society, Yerevan, 2005

[17] Report on survey of health status and services for children with developmental disorders and rehabilitation services in Tavush region of Armenia. Hakobyan A., Sargsyan S., Movsesyan Y., Hovhannisyan L. Arabkir MC – Institute of Child and Adolescent Health. Yerevan, 2013. 66 pages (arm)

[18] National Academies of Sciences, Engineering, and Medicine. 2016. Ensuring Quality and Accessible Care for Children with Disabilities and Complex Health and Educational Needs: Proceedings of a Workshop. Washington, DC: The National Academies Press. https://doi.org/10.17226/23598. Available from: https://www.nap.edu/read/23598/chapter/6#38

[19]National Statistical Service, 2017, https://www.armstat.am/en/, and National Institute of Health of the Ministry of Health of Armenia, 2017

It is a well-known fact that socioeconomic status is a key factor for affecting the population's status, health and social care. The World Bank considers Armenia as an upper-middle income country; as of 2017 the per capita GDP is as much as approximately four thousand US dollars[20] . According to official statistics, every third person lives in poverty; every tenth person lives in very or extreme poverty. The risk for poverty is slightly higher among rural population and is the lower in the capital city of Yerevan. The poverty rate is higher in the families with three or more children and in families that have children with a disability. UNICEF Integrated Living Conditions Survey[21] showed that 64 percent of children under 18 are deprived in 2 or more dimensions, especially in rural areas. More than one in four children are both multi-dimensionally deprived and live in consumption-poor households, while more than one in three are deprived but do not live in poor households.

2.2 Policies, leadership and governance

Disability is a multidimensional problem that requires an integrated and intersectoral approach. Mainly three line-ministries - Ministry of Health, Ministry of Labor and Social Affairs, Ministry of Education and Science - are responsible and involved in organization and provision of services and support to children with disabilities and developmental delays.

To coordinate efforts of different actors, the Government established an Interagency Commission on Child Protection with representation from the Ministry of Health, Ministry of Education and Science, Ministry of Labour and Social Affairs, and Ministry of Territorial Administration and Development. The Commission is actively involved in the de-institutionalization, expansion of the inclusive education and transformation of special schools into pedagogical psychological support centres for children with special education needs.

The National Council on Disability Issues consisting of government officials, regional representatives, persons with disabilities and their representatives (NGOs and organizations of persons with disabilities) was established in 2008. The establishment of an intersectoral Coordinating Committee on Reform directed to update the Needs Assessment System of Persons with Disabilities is in the process.

The MoLSA has the Department of Disability Related Issue with five staff in charge of developing policy and regulations related to the benefits, provision of services and support to persons with disabilities, including provision of assistive devices. Currently the MoES structure is under revision.

However, coordination of efforts of involved ministries and other stakeholders at technical level is not satisfactory and is not relevant to the current needs. Also, there are no well-designed mechanisms for regular data gathering, analyzing and reporting as well as mechanisms for cross-sectoral data management and information exchange between ministries. The individual rehabilitation plan with the right for free rehabilitation services is provided to every child with disability, but there are no national reporting processes and monitoring frameworks to follow up if the services have been provided.

Currently, there is a National Strategy on Social Inclusion of Persons with Disabilities and the National Strategy on Child's Rights Protection and Plans of Action for 2017 – 2021, as well as every year the Government approves the Annual Workplan on Social Inclusion of Persons with Disabilities. These documents emphasize the need to align national sectoral legislation to UNCRPD and establish a multisector approach for provision of services that provide support to children with disabilities and for monitoring implementation.

During the last decades, significant policy changes have been initiated also in the education and social support sectors.

Since the 2000s, inclusive education has become one of the key priorities of the Armenian government. The country took responsibility to have fully inclusive mainstream education by 2025. This implies that all mainstream educational schools of the country will provide inclusive education. To promote inclusion, a network of Pedagogical Psychological Support Centres are being established now; these centers swill provide support and services for children with special education needs in schools and preschools. Special educators, psychologists and teacher assistants work alongside general teachers to adapt content and teaching methodologies based on their students' unique learning needs. Nonetheless, the progress towards fully inclusive system is still low due to gaps between state regulations and physical conditions of the educational institutions, financing

[20] https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=AM

[21] Child poverty in Armenia. UNICEF Country office in Armenia: 2016. Available from: http://www.un.am/up/library/Child_Poverty_Armenia_N-MODA_Report_2016_eng.pdf

and scope of the requested services, as well as insufficient knowledge and skills of teachers to teach children with disabilities. multiple disability needs require more care, such as a personal assistant, and some specific assistive devices, which are not available in schools.

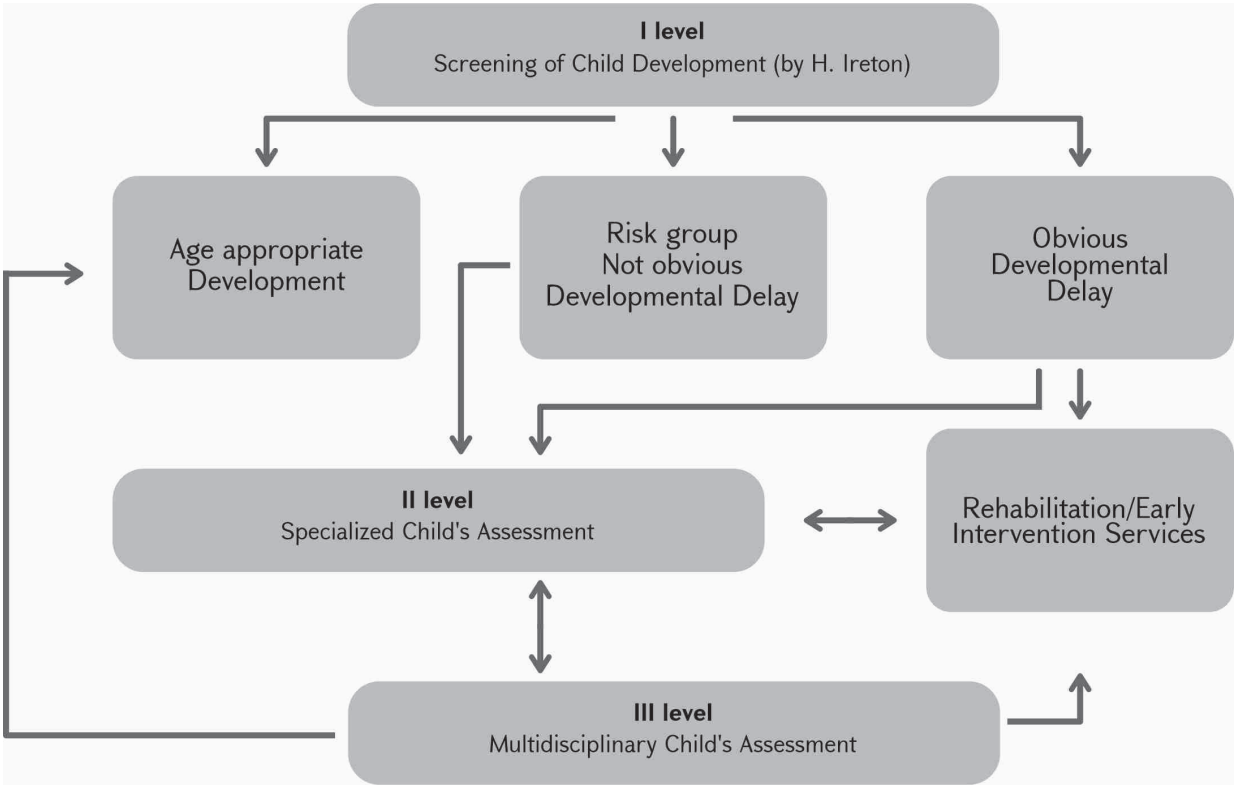
In parallel, the MoLSA in the frame of de-institutionalization support reorganization and transformation of night-care institutions into the Child and Family Support Centers.

Within the Ministry of Health, the Mother and Child Health Department is in charge of the policy development, including regulations on child rehabilitation. The MoH has approved a list of advisors (which is voluntary work)on different specializations, such as pediatrics, pediatric rehabilitation, pediatric traumatology and others. Mentioned advisors responsible for analyzing situations in respective areas and making suggestions for development.

The concept outlined a 3-level system of early identification, assessment and rehabilitation of children with developmental disorders. As a next step, a special chapter on early intervention and rehabilitation was included in the National Strategy for Child and Adolescent Health and Development and Plan of Actions for 2015-2020.

Pediatricians, family doctors and nurses conduct screening and assess children using Child Developmental Inventory by Ireton[22]. The screening is being performed during well-child visits (partially combined with other screenings and vaccinations) and consists of clinical examination and questionnaire to be filled out by health workers and parents. Proper implementation of the screenings leads to identifying the children at-risk and in need of future reassessment and / or referral to other levels of care.

Fig. 3:
Three-level model of identification and intervention in health care system for children with developmental delays in Armenia



[22] Assessing children's development using parents' reports. The Child Development Inventory. Clin Pediatr (Phila). 1995 May;34(5):248-55. Ireton H, Glascoe FP.

The latest large-scale study conducted in Armenia revealed that children with disabilities face strong disadvantages in accessing kindergartens, schools, health and rehabilitation services. Eighteen percent of the surveyed children do not attend schools, 71 percent do no attend kindergartens (80 percent in rural areas); only 1 in every 4 children with disabilities (23 percent) receives services envisaged by Individual Rehabilitation Plan (IRP); only 80 percent of children with disabilities are under the supervision of a pediatrician or family doctor; and 27 percent of children with disabilities received a technical assisting device[23] .

A key reform in in the child protection field is the deinstitutionalization of children by preventing the flow of children into residential institutions, reintegration of de-institutionalized children into family environments, and development of alternative family-based care and community-based services for vulnerable children. So far, community-based social, rehabilitation and alternative family-based care services have been established in a limited number of communities. Educational, social institutions, as well as some NGOs provide some rehabilitation services for children with developmental delays and disabilities.

Some general principles and requirements for technical and professional qualifications, standards for provision of care and services, terms and conditions that should be met by centers delivering services and care have been developed (Ex. requirement for MoH licensing or MoLSA requirements for NGOs providing services and care).

However, there is no monitoring and data on the quality of services provided to children with disabilities and developmental delays by NGOs.

Although, there are sufficient legal grounds for improving care for children with disabilities in Armenia. Service provision outside Yerevan, remains a major issue in absence of state policy for service provision, lack of funds, lack of professional staff in the regions (and incentives to bring this staff to the regions) and lack of equipment and assistive technology.

2.3 Financing for rehabilitation

Being a country with upper-middle income Armenia has spent unsatisfactory resources on health. In 2018 the state budget allocated for health was 79.6 billion drams which comprised approximately 1.3% of the FDP. In 2016 total health expenditure from all sources per capita have been estimated by WB as much as 359 US dollars. In general, one third of these resources were spent on primary health care and approximately half was spent on hospital care. The rest was spent on public health, preventive services, etc.

The state funds allocations for rehabilitation services, neonatal screening programmes and hospital treatment of children with disabilities and developmental disorders were approximately 1.1 billion AMD (2.3 million USD) in 2016 from MoH. In 2016, for only rehabilitation services the state paid 765. 7 million AMD (1.6 million USD) which is less than 1% of entire state health expenditures in Armenia (State Health Agency of the Ministry of Health).

In addition to health care expenditures, there are also state allocations for psychosocial rehabilitation and care of children with disabilities in the social welfare system, including the specialized social care institutions and day care centers. The number of specialized social care institutions is limited and those are mainly concentrated in urban areas. In order to fill the gap with provision of services the MoLSA is outsourcing to NGOs the delivery of some services and support to children with disabilities, youth and adolescent with mental disabilities. The MoLSA is also responsible for provision of limited types of assistive devices, such as wheelchairs, walkers, some prosthesis, hearing devices and other. Since 2017 the MoLSA initiated the process of provision of some assistive devices through delivering the Certificates. The eligible person himself chooses the organization to obtain the necessary device which enhances the tailored support and assistance.

The MoES received financial support from the State budget for financing inclusive education at mainstream schools, for special education and social care services provided in special schools. In addition, Pedagogical-psychological support centers receive state-financing for functional assessment of children and provision of services.

In Armenia primary health care is free for all groups of the population. Hospital and specialized care is free for the children under seven, pregnant women and some social groups of the population, including children and adults with certified disability. MoH is also responsible to provide free of charge orthesis, splints and other devices used in orthopedics for children with certified disability,

23 It's about Inclusion: Access of the Children with Disabilities to Education, Health and Social Protection Services in Armenia. UNICEF (2012), Yerevan

while for children without disability certification the devices provided based on payment.

The State guarantees rehabilitation treatment for children 0 to 7 years old and those from the certain social groups (the list is approved by the Decree of Government as of 04.03.2004 N 318-N of RA) in specialized rehabilitation centers and recreation facilities if referred by their district pediatricians/ family doctors and/or specialized medical centers. Children with registered disability receive rehabilitation treatment according to the individual rehabilitation program issued by the medico-social expert commissions.

Acording to the approved standards included in the State Basic Package (MoH Order N 70-N as of 01.11.2013) for medical care, children with certain conditions including motor, mental, hearing and other developmental disorders receive rehabilitation treatment in out-patient or day care facilities that have a license issued by the State. Institutionalized children receive care in their facilities under financing of MoISA. As per request, treatment can be organized as in-patient care (if there are obvious difficulties with transportation and visits on a daily basis).In-patient care is provided to children who require acute rehabilitation services according to the list of diseases/conditions approved by MoH (Order N 70-N as of 01.11.2013). These cases can be observed in specialized medical centers by relevant invited specialists.

Box 3. Benefits of rehabilitation

In addition to health benefits, rehabilitation provided in primary care has broader social benefits. Early intervention can greatly reduce the prevalence and slow the onset of the disabling effects of chronic conditions among adults and children; for example, optimizing functioning and family support for children with cerebral palsy, Down syndrome, etc.

Rehabilitation provided close to people's homes enables them to remain in education and in the workforce, and to remain independent of care and financial supports for longer. In addition, by helping to mitigate the risk of preventable complications and secondary conditions, rehabilitation at the primary care level can help avoid costly hospitalizations and re-admissions.

However, restricted financial resources and lack of proper services and staff largely hinder the response to the needs of children with disabilities.

2.4 Infrastructure, types and levels of rehabilitation services

Community and primary care rehabilitation (first level)

In general, at the first level, out-patient care in rural areas is provided by recently retrained family doctors (former GPs), who served the adult population only and pediatricians working in rural "ambulatories" normally located in some large villages[24] . They also provide services for people in surrounding smaller villages where the first contact person is a nurse or "feldsher" (senior nurse) who works in a health post.

In the cities, the PHC services are provided by the polyclinics and some private health centres[25]. According to the national regulations, each parent has a right to make a choice of the PHC facility and doctor; however, in the majority of cases, the prevailing factor in such a decision is proximity (ie, patients are served by local facilities and physicians are responsible for their area of residence). The polyclinic's health care staff includes GPs, "therapeutists" (physician), and pediatricians who have a defined population under their care. Particularly, in the case of the pediatrician, the size of served children's population (age 0-18 years) varies from 600-1200 depending on such factors as location and availability of pediatricians.

The State guarantees a PHC service package for every child. It includes free counseling, child growth monitoring, out-patient care for cases of diseases, vaccinations. In line with that, the package includes child developmental assessment (screening by Ireton). In case of mild disabilities and developmental delays, the health staff has to provide the counseling and follow up. Some city polyclinics also provide speech-therapist and psychologist services. In cases of moderate-to-severe disabilities, the children should be referred by a pediatrician or family doctor for further assessment and care to the next level of rehabilitation.

Overall, there is no structured system of community-based rehabilitation services in Armenia. There are several NGOs acting at community level in some regions and providing

[24] There are 240 rural ambulatories (National Institute of Health, 2017)

[25] Total number of PHC units in cities is 102 (NIH,2017)

basic rehabilitation services, however there is a lack of information about NGO activities and they do not provide rreports to any governmental bodies are not supervised unless they receive state financing. However, the number of such NGOs is very small and capacity in terms of human and financial resources, and geographical coverage is still low.

Specialized rehabilitation (secondary and tertiary level)

The developmental assessment and care at the secondary level is provided by multidisciplinary teams, which includes rehabilitologists, occupational therapist (OT), physiotherapist (PT), speech-therapists, psychologists, and other specialists depending on the child's needs located in regional CDRCs. Based on the assessment the team develops the individual intervention plan for every child with developmental delay or disorder. If there is no approved delay or the child has condition that can be improved in home settings, then the child referred back to the primary care providers with proper recommendations. The priority is given to children of younger age groups from 0 to 3.

The State through the MoH covers rehabilitation course consisting of 30 visits for children with motor disorders, and 70 visits for children with mental disorders. According to state regulations some sessions can be held without parents' active participation. During other sessions, parents have to participate in treatment sessions and learn under supervision of the relevant specialists.

The results of this assessment revealed that all pediatric rehabilitation centers have a long waiting list. As a consequence, there are delays in service provision which is critical in terms of losing important time for child development. Number of children in waiting lists in different rehabilitation centers varies from 18 to 195. While for some children who finally receive services the number of state-budgeted visits is not enough to improve and support their developmental achievements. As a result, some parents resort to paid services, while those who don't have additional resources remain alone in caring for their needs. Figure 4 shows the scarcity of licensed pediatric rehabilitation centers in the country. Some regions do not have these centers at all, and for those who have the geographical and service coverage is still limited.

Fig. 4: Map of Children Rehabilitation Centers

In severe cases children are referred to more specialized (tertiary) level of rehabilitative health care (e.g. Republican Children's Rehabilitation center, ArBeS Health Care Centre) where the child is comprehensively assessed by multidisciplinary team of specialists, including developmental pediatrician, rehabilitologist, neurologist, orthopedician, etc.

According to the assessment there are seven regional Child Development and Rehabilitation Centers providing services mainly to children from their region. Three large centres, such as ArBeS, Republican Children's Rehabilitation Centre, Armenak and Anna Tadevosyan's Medical Centre–Foundation; two recreational centres: Arabkir MC – ICAH's Aparan Recreation summer camp and Ararat Mother and Child Spa Centre; and Kharberd Specialized Orphanage which provide care for the children from all over the country.

Some results of the assessment of pediatric rehabilitation centers presented below:

- Juridical status of organizations: among 16 facilities five institutions are owned by the state (either central or regional governments), one organization by its status is a Foundation and the rest are private-owned (including corporate governance).
- Age groups: most rehabilitation centers serve children from 0 to 18 age groups. Aparan camp serves schoolchildren from ages 6 to 18. Kharberd orphanage provides care to children from 6 to 18 years of age and young people above 18 years. Gyumri Rehabilitation Centre also provides care to young people

above18 years of age. Ararat Spa Centre serves children above 3 years old; Aparan Recreation summer camp provides care to children from 7 to18 years of age.

- Sources of financing: organizations for pediatric rehabilitation services are financed by the Government mainly through health budget; some also provide services on private payment. Nine centres have financial support from different donors including international and local organizations, and private donors. Only 2 centers (Republican Pediatric Rehabilitation Centre and ArBeS Centre) cooperate with insurance organizations.
- Physical conditions and infrastructures: the number of specialized rooms for services provided by abovementioned specialists of the multidisciplinary teams varies from 4 to 10. Most centers have been renovated the past 3-5 years. Physical conditions of centers are relatively satisfactory, however for some centers renovation is needed. Environmental adaptation is relatively done however there is a need to make the centers more child-friendly, and to add some equipment for relevant rooms (sensory room, relaxation therapy room, pools, playground, sport facilities etc). Designated purpose-built spaces, including gyms, pools, kitchens and bathrooms for ADL assessment and intervention are not available in assessed facilities, except Ararat Mother and Child Spa Centre (there is a pool and gym).
- Human resources: the majority of centers have a team of rehabilitation care specialists consisting of pediatrician-rehabilitologist, physical therapists (kinesiotherapists), ergo-therapists (occupational therapists), special educators, speech therapists, psychologists and surdo-therapists. All centers except for the rehabilitation service at the Gyumri-Austrian pediatric clinic (which provides rehabilitation care mostly to children with mental health disorders) and Kharberd Orphanage have physical therapists/kinesists. In Kharberd the functions are partially taken by nurses with specialization in rehabilitation care.
- Salaries: salaries of main rehabilitation staff vary from 200 to 400 USD depending on location, burden and proportion of paid services. The salary of medical doctors involved in rehabilitation care is about 300 -500 USD which is higher than salaries in PHC facilities but less than income of hospital doctors.
- Rehabilitation workforce education is based on the general graduation process in relevant universities and further specializations.No plan for rapid scale up exists. The doctors graduated from the Yerevan State Medical University or other high medical schools and have been specialized in pediatric rehabilitation. They also participated in different continuing medical education courses and trainings. Physical therapists have diplomas from the Yerevan Institute of Physical Culture and Sports.All special educators and speech therapists graduated from the Armenian State Pedagogical University after Kh.Abovyan or its regional branches with specialization of “defectologist”, “oligophrenopedagogue” and “logopedists”, “pre-school educator”. The terms “defectologist” and“oligophrenopedagogue” have been used in Soviet time and still exist the staffing lists of some special schools .
- Psychologists graduated from the Armenian State Pedagogical University or Yerevan State University with specialization of “pedagogical approaches and psychology in special care”. Therapists graduated mainly from the relevant medical colleges. Ergo-therapists have specialization in “correction pedagogue and psychology”. The faculty of special education recently has been closed and ergotherapy exists as magister course. Most of the staff participated in different post-graduate trainings.
- The Republican Pediatric Rehabilitation Center serves as an educational clinical base for students of the State Institute of Physical Culture and Sports and the State Pedagogical University. ArBeS Health Center of Arabkir MC-ICAH is also served as a clinical base for the students of special education faculty of the State Pedagogical University.
- Equipment and supplies: comprehensive information about equipment and supplies from the centers has not been obtained. However, available data indicates that equipment in most of the centers differs. License standards for pediatric rehabilitation care approved by the relevant Decree of the Government N 1936-N (as of 05.12.2002) are related to the pediatric rehabilitation

department and not to out-patient services. Therefore, the regulations for equipping should be revised and updated according to the different profiles of the existing centers (in-patient care, day care, out-patient care, spa and recreation care) and recent technological advancements. There is a need for minimum standards for the environment, rehabilitation equipment and consumables for enhancing the quality of services.

- There are no functioning monitoring systems or regular service user feedback analysis; however some centers use feedback boxes for their internal use.
- In 2017 rehabilitation treatment courses have been provided to overall 3423 cases (excluding number of children who receive recreation care). This is the number of services provided by cases, while the number of children who receive those services might be repeated as the same child can have 2 or 3 rehabilitation courses during a year. The annual number of served cases/children per centre varies from 37 (Centre at Children's Policlinic N9, Yerevan) and 87 (CDRC in Spitak) to 755 (Republican Rehabilitation Centre, Yerevan) and 531 (ArBeS, Yerevan) children.

Average monthly number of the served children varies from 26 to 63. Annual number of consultations in 2017 was 3841[26]. The total number of children served free of charge under the state financial support in 2017 was 2577. In 348 cases the cost of rehabilitation treatment was covered directly by patient's families. The rest of cases were covered by insurance or within the frames of different humanitarian projects.

- Republican Pediatric Rehabilitation centre as well as "Armenak and Anna Tadevosyan Medical Center-Foundation" provide services for the children with complex needs on in-patient basis.
- Ararat Mother and Child Spa Centre and Aparan summer camp also provide accommodation, food and recreational care.
- Rehabilitation services are provided in some extent in large pediatric facilities such as "Arabkir" Medical Center and "Surb Astvatsamayr" Medical Center, but for short period only. They serve mainly the patients who are hospitalized by other reasons or after condition as they treated (like after traumas).
- Duration of courses: According to the State standards duration of an in-patient treatment course is 24 days in case of in-patient treatment for patients with motor and mental problems and for "day-care" patients 18 days. In case of "Armenak and Anna Tadevosyan Medical Center-Foundation" duration of course is 23 days, In case of Cerebral Palsy (CP) it can last for up to 30 days. In case of out-patient centers: ArBeS – 30 visits twice a year for children with motor problems, and for children with mental problems the duration is 70 visits for the first year and 40 visits during the next year. Duration of the course in Kharberd Orphanage is from 3 to 12 months; Other specialized orphanages provide some rehabilitation courses, but they are not licensed by MoH. Duration of the rehabilitation course in the Republican Pediatric Rehabilitation Center is up to 40 days. It can be provided several times during a year, but no more than 2 subsequent shifts of courses per annum.
- Both the Republican Pediatric Rehabilitation Center and "Armenak and Anna Tadevosyan Medical Center-Foundation" also provide accommodation and food to care-givers of children with registered disabilities for 0 to 5 age groups. According to the child diagnosis and severity rehabilitation care can be organized 3-4 times per year, but no more than two subsequent shifts of courses per annum.
- Free of charge sanatory and recreation treatment is provided in the institutions licensed by and contracted with the MoH. Children from 0 to 7 age who are from socially vulnerable groups are eligible to receive recreation treatment if they are referred by the district pediatrician or narrow specialist who considers indications and contraindications to recreation treatment. Reference to sanatorium care for the same patient can be provided once a year. Duration of a course for recreation care in Aparan Summer Camp is 14 days; in Ararat Mother and Child Spa Center – from 18 to 30 days depending on a diagnosis. State also provides accommodation and food to care-givers of children from socially vulnerable families. Overall 220 children received recreation care

[26] Not all consultations (assessments) led to provision of rehabilitation services.

in sanatoriums in 2017.

Community-based integrated model

In order to ensure "the full enjoyment by children with disabilities of all human rights and fundamental freedoms on an equal basis with other children"[27], includes:

- the right to live with family,
- the right to education,
- the right to early intervention and services designed to minimize and prevent further disabilities,
- the rights to comprehensive habilitation and rehabilitation services and programmes as close as possible to their own communities, particularly in the areas of health, education and social services,
- support for participation and inclusion in the community and all aspects of society
- a community-based intersectoral and integrated model, which was piloted in 2012, to facilitate social inclusion of children with moderate, severe and multi-disabilities, support their families and to create an environment where children can play and communicate with their peers regardless of their disability status. with their peers regardless their disability status.

The model was designed based on the WHO Community Based Rehabilitation (CBR) Matrix (Fig. 5) by the Arabkir Medical Centre – Institute of Child and Adolescent Health (Arabkir MC-ICAH) and UNICEF Armenia country office with parents of children with severe and multi-disabilities and

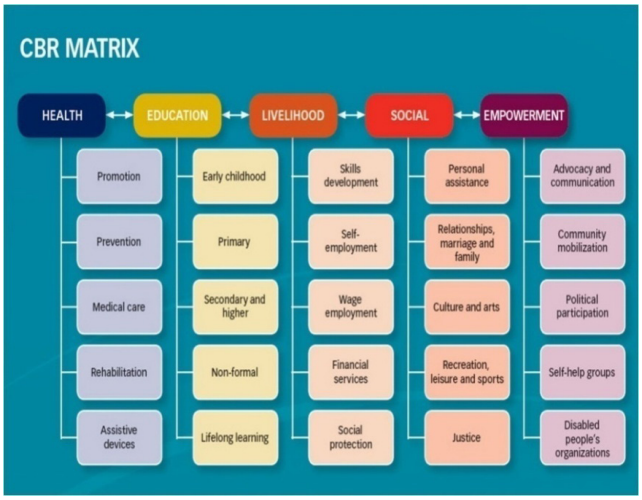


Figure 5. WHO Community Based Rehabilitation Matrix guidelines/en/

supported by the MoLSA, the MoH, the MoES and Yerevan municipality. The project called to strengthen cooperation between healthcare, education, social services and family for the best interest of the child. The model was established in Malatia-Sebastia district of Yerevan, and includes district polyclinic, district social protection services and community kindergarten. The staff of district polyclinics and community social workers have been trained on early identification and referrals. District social workers have been actively involved in identification of children with disabilities and developmental delays, case management and referrals. Rehabilitation services have been established in the district polyclinic to support early intervention, minimize and prevent further disabilities, the pediatrician-rehabilitologist of the polyclinic provides services for the whole district and follow up children with severe and multi-disabilities in the kindergarten if needed. The community inclusive kindergarten has been partially renovated and environmentally adapted to provide early childhood education, care and services, such as physiotherapist, ergo-therapist, speech therapist and psychology, for children (3-6 age group) with moderate, severe and multi-disabilities and developmental delays.

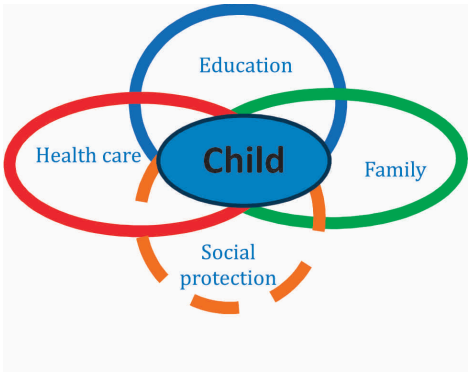


Fig. 6:All sectors collaborate around Child

Neonatal screenings

Since 2005, Armenia in collaboration with partners and sponsors (Zurich Kinderspital, Japan Government, Jinishian Memorial Foundation, "Armenian Eye Care Project Charitable Foundation, etc.) started implementation of neonatal screenings. Currently maternity wards can provide 5 neonatal screenings: for congenital hypothyroidism, PKU, hearing and some vision disorders and congenital hip dislocation.

From 2005 till the end of 2018, overall 429,229children have been screened for congenital hypothyroidism (CH) from which 142 children have been identified; diagnosis has been

[27] UN Convention on the Rights of Persons with Disabilities

confirmed by additional diagnostics in line with the current international protocols. The prevalence rate is appx 1:3000 which is similar to world-wide date obtained from neonatal thyroid screening programs. Currently, in Armenia CH screenings are provided countrywide in all maternity hospitals.

As of today, the screening for PKU also has 100% coverage. In 2008–2018, overall 311,089 cases were screened and 50 children with different forms of PKU were identified (prevalence rate is appx 1:6000). The State provides those young children with special food; however, there are significant problems with nutrition in older age.

Since 2008, the neonatal hearing screenings are being gradually expanded to all regions of the country and currently, is conducted in all regions and 3 large maternity hospitals of Yerevan. The coverage is about 60% of the total population. About 200 children have been identified so far (prevalence is 1:800). The specialized national reference center for hearing disorders was established in Arabkir MC – ICAH, where children received comprehensive treatment and care.

Screenings for developmental dysplasia of the hip using ultrasound examination was introduced in some maternity hospitals of Armenia in 2010. The project's coverage is still limited.

The screening for retinopathy of prematurity was launched in Armenia back in2010 in the frame of "Armenian Eye Care Project". The neonates have to be screened if they are born at gestation age <32 weeks and weight <1500g. Overall in 2018, 3,133 cases were screened, from which 27 children received laser and 28 other types of interventions. The relevant follow-up and treatment scheme has been developed in line with modern evidence-based approaches. The prevalence of retinopathy of prematurity in the group of children with birth weight less than 1,500 g is 1:50, which is also in line with the international statistics.

Specialized rehabilitation for target population groups

There are several special schools in Armenia, such as schools for children with motor, vision, hearing impairments, and mental disabilities that provide specialized services. Those schools are funded by the Ministry of Education and Science. Children with disabilities are referred to these schools based on the conclusions from pedagogical psychological assessment[28].

The children with severe vision problems attend the special school for children with vision impairments. The schools have special equipment and relevant staff (typhlo-pedagogs/special educator). The children with hearing problems are served by the special surdology service and receive free hearing aids; they also attend the surdo-pedagogical services. Some children underwent cochlear implantation surgery; the number of these children is on rise thanks to support of donors and the State. Children with full deafness and severe forms of hearing disorders attend the special school for children with hearing problems; the rest of children with mild forms attend the inclusive schools.

There is no accurate data on the rehabilitation needs for specific target population groups. According to the current disability assessment process children certified as "children with disability" based on medical diagnosis, and their severity status as well as their specific needs are not registered, except the needs for some limited assistive devices (ex. wheelchairs, walkers, hearing devices and other) provided by MoLSA. Currently under the umbrella of transformation towards inclusive education all children in special schools will be assessed by the Pedagogical-Psychological centres for their needs.

Quality of rehabilitation services

Information on the quality of provided rehabilitation services in existing facilities of different sectors is not available since the system does not have national clinical practice guidelines on rehabilitation for children, models of care, standards and protocols that support delivery of effective evidence-based rehabilitation services.:

Monitoring mechanisms for quality of delivered services, such as quality assurance programmes and regular service user feedback analysis are not in place.

Referral systems

Intersectoral collaboration is very weak. Referral processes, care pathways, case management and case coordination are conducted mainly in the frame of different projects. Some regulations for referral mechanisms are developed but need improvement.

Other factors that influence referral rates

[28] Some special schools are in the process of closing.

include availability of rehabilitation services (with particular challenges in regions, rural areas and smaller communities), whether the referring service is public or private, co-location of services, the individual's burden of illness, the socioeconomic status of patients, and staff attitudes towards rehabilitation.

Outcome of the early identification process at primary level is not always satisfactory. Among GPs and other members of primary care team under-diagnosis and under-referral for rehabilitation is a major barrier Observations show that in many cases health workers at primary level conduct screenings by Ireton not appropriately and fulfil in requested forms incompletely. Therefore, child developmental status is not assessed and recorded properly and not identified early. There have been cases when GPs lack knowledge of rehabilitation needs for their clients, even for conditions such as Down syndrome or Autism for which timely intervention are critical and should be an obvious option. Meetings with responsible health workers revealed some possible reasons for inaccuracy, such as work overload, lack of time, focus on more explicit problems, such as acute respiratory infections.

At the second and third levels there are queues in almost all rehabilitative facilities due to limited resources and lack of staff. Overall, due to the lack of specialists and funding, services in some regions cause significant difficulties for provision of care for the children of target groups in Armenia.

Box 4. HR for rehabilitation

Rehabilitation services referred to in health systems include those provided by rehabilitation professionals such as physiotherapists, occupational therapists, speech and language therapists, and orthotic and prosthetic technicians. Rehabilitation interventions may be also provided by psychologists, social workers, audiologists and community-based rehabilitation workers. Where integrated into primary health care, rehabilitation services may be provided by primary care workers such as general practitioners, primary care nurses or community health workers.

2.5 Human resources for rehabilitation

At primary health care level there are speech therapists and psychologists who provide rehabilitation to children with certain impairments. Atmore specialized levels of care a team of rehabilitation care specialists mainly consist of pediatrician–rehabilitologist (doctor of PM&R), physical therapists (kinesiotherapists), ergo-therapists (occupational therapists), speech therapists, psychologists, special educators, in some place audiologists, prosthetists and orthotists. There are narrow specialists, such as surdo-pedagogues and typhlo-pedagogues, working at special schools for children with severe forms of disabilities. Specialists, such as prosthetists and orthotists are available only in Yerevan; they have private practice with the state license.

2.6 Assistive products

Assistive products (e.g. walking aids, wheelchairs, prosthetic and orthotic devices for persons with mobile impairments; white canes, and software for computer-screen magnification or reading for persons with visual impairments; hearing aids and cochlear implants for persons with hearing impairments; speech synthesizers and communication boards for those with speech impairments; and symbol pictures and calendar pill boxes for persons with cognitive impairments) or simple time-management devices should be an essential component of rehabilitation[29]. A range of basic products can be provided with minimum training and can have a significant effect on a person's functioning; such products are needed by an increasing number of people and should be available close to the person's home.

It is estimated that globally only 1 in 10 people have access to the assistive products they need[30].

In Armenia, as a part of the Basic Benefit Package, children with certified disabilities should be provided by assistive devices such as walkers, wheelchairs, standing tables, hearing aids and etc. through the budget of MoLSA. However, some assistive equipment (child wheelchair, walkers, standing tables) are not available and parents

[29] Khasnabis C, Mirza Z, MacLachlan M. Opening the GATE to inclusion for people with disabilities. Lancet. 2015;386:2229–2230, Available at: https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)01093-4/fulltext, accessed 28 Feb 20119)

[30] Priority Assistive Products List: Improving access to assistive technology for everyone, everywhere. Geneva: WHO; 2016. Available from: https://www.who.int/phi/implementation/assistive_technology/EMP_PHI_2016.01/en/, accessed 27 February 2019.

purchase it by themselves or receive it from humanitarian organizations. Also, modern and expensive HighTech devices such as software programs, Alternative Augmentative Communication are not available. Some of the assistive equpment is produced locally (such as orthesis, prosthesis etc). The standards for the provision of assistive products are set by the MoLSA. The list of assistive devices ensured by the MoLSA is attached as Annex1.1). Provision of assistive devices by MoLSA is conducted based on the assessment and an individual rehabilitation plan developed for the child with certified disability status. Starting 2017 the MoLSA provides some assistive devices, such as wheelchairs and hearing devices through the Certificates with certain financial resources. With the Certificate a person is not obligated to take the device with defined specificity but can choose the same device with other specificity and if needed cover additional cost from out of pocket.

Box 5. Assistive products

Assistive product is "any product (including devices, equipment, instruments, and software), either specially designed and produced or generally available, whose primary purpose is to maintain or improve an individual's functioning and independence and thereby promote wellbeing".

Orthesis, splints and other devices used in orthopedics for children of 0-7 age group and children with certified disability status provided by the MoH, while for the rest of children it is a paid service.

Access to assistive products is commonly lacking in primary care and, where access does exist, affordability and quality are often a challenge. Additionally, there is a lack of feedback mechanism from users and some of them complain about the quality of provided devices.

2.7 Health information system

One of the essential problems is that robust and effective data on rehabilitation is lacking in the country. Health information system gathers only restricted data on services patients served based on per case calculation. etc. Data of NGOs, social institutions providing rehabilitation services also are not included in the information system. The NGOs that provided services to children with disabilities submitted monthly reports to the MoLSA only if they received state financing, but the reporting form needs improvement to monitor the quality of provided services.

Information on the number of children with disabilities receiving services is very limited and does not reflect the real situation. . The data on rehabilitation services submitted by Child Development and Rehabilitation Centers to the MoH is calculated based on number of provided services and does not reflect the real number of children, as a result the same child can be calculated more than once.

In addition, there is no data-exchange between ministries, and therefore it is not possible to check the number of children with disabilities who receive services; moreover it is not possible to check if the same child receives similar services from both sectors or to identify those children who are not involved in service provision at all.

Hence, policy-makers lack the information they need to identify the population's needs, and to allocate resources effectively; planners lack the necessary information to design more effective rehabilitation services; managers lack the necessary information to monitor and evaluate these services; and primary care professionals (where rehabilitation services are not available) lack the necessary information to provide high-quality and evidence-based care.

In addition, systems-level information about all aspects of the delivery and financing of rehabilitation services is needed. This includes information on inputs for rehabilitation (e.g. policy, financing, human resources and infrastructure); outputs from rehabilitation services (e.g. service availability and quality); and rehabilitation outcomes (e.g. service coverage and use).

3. CONCLUSIONS AND RECOMMENDATIONS

3.1 Rehabilitation needs

Officially recognized and licensed rehabilitation centres provide services to a relatively small number of children which is much less than the number of those who have certified disability and children with developmental delays who need timely habilitation and rehabilitation to prevent further complications.

There is a significant gap between actual needs and capacities of the relevant licensed

and functioning institutions to provide qualified habilitation and rehabilitation services to children with developmental delays and disabilities.

Areas for actions:

- Organizing, strengthening and extending comprehensive habilitation and rehabilitation services and programmes for children, particularly in the areas of health, education and social services, in such a way that these services and programmes begin at the earliest possible stage, are based on the multidisciplinary assessment of individual needs and strengths and complement each other
- Promoting community-based integrated services, including health, education and social services, to bring the services as close as possible to the families and make them accessible, free and affordable.
- Mobilizing civil society to advocate for rehabilitation services for children by promoting campaigns that emphasize the personal, social and economic impact of rehabilitation, so that the need for rehabilitation resonates with decision-makers and budget holders.

3.2 Policies, leadership and governance

Provision of services in Armenia underwent serious changes. In contrast to the past "soviet" practices, the focus was shifted towards out-patient interventions which led to reduction of unnecessary hospitalizations and optimization of scarce financial resources. The extension of out-patient services should be continued especially in regard to establishing new services.

Discrepancy between the number of clients in interviewed licensed centres and waiting lists of children needed habilitation and rehabilitation services, causes risks that the significant number of children receive care in other than licensed institutions or privately (which is a common practice in Armenia) if parents can afford payment for the services and consistency of intervention may be jeopardized.

In that case a quality of services and customer satisfaction is not monitored, and no information is available if the provided services are comprehensive and consistent with the licensed provision and what is their impact on child further development and functioning.

Areas for actions:

- *Creating and strengthening leadership and political support for comprehensive rehabilitation services for children at national and subnational levels.*
- *Developing and implementing strategic plans and monitoring frameworks for rehabilitation (which can be based on the WHO Rehabilitation Support Package and other relevant tools).*
- *Improving coordination and collaboration between partner sectors health, education and social welfare, improving standardized referral mechanisms to promote efficient, consistent and person-centered rehabilitation service delivery and to facilitate a smooth continuum of care for children who require multiple services and prolonged care.*
- *Developing and piloting an efficient service delivery models, including referral systems across the different levels of the health system and between sectors (health, education and social protection).*
- *Ensuring that rehabilitation of children is integrated into health planning and financing processes, and into countries' efforts to achieve Universal Health Coverage through the inclusion of essential care packages.*
- *Developing an "essential package of age-, gender- and disability-sensitive rehabilitation interventions for children suitable for community settings.*
- *Strengthening early identification and intervention providing services designed to minimize and prevent further disabilities among children.*
- *Integrate rehabilitation into both community- and hospital-based services.*
- *Implement financial and procurement policies to ensure that high-quality assistive products (as well as training in their proper use) are available to all who need them.*
- *Ensure that health insurance (where it exists or is to be implemented) covers rehabilitation interventions.*
- *Improving education and certification pathways for dedicated rehabilitation providers.*
- *Promoting introduction of WHO ICF as a "common language" for comprehensive assessment of the child and data exchange on individual need-based services between*

line sectors (health, education and social welfare).

- *Promoting introduction of the standardized tools to objectively evaluate different areas of child development and functioning and design intervention plan. Some of standardized tools are GMFCS (Gross Motor Function Classification System), MACS (Manuel Ability Classification System), CFCS (Communication Function Classification System), and EDACS (Eating and Drinking Ability Classification System).*
- *Establishing a quality assurance mechanism to promote qualified, integrated and comprehensive services for child habilitative and rehabilitative services, in collaboration with the MoES, and the MoLSA as well as local authorities.*
- *Mobilizing parents to become partners to reduce fragmented and redundant services, for example, decreasing the need for parallel evaluations and focusing on the same problem.*

3.3 Financing for rehabilitation

Up to now, the most prevalent source of financing of "regular" rehabilitation services is the Government. This could be expected, as families of many children with disabilities and developmental delays belong to socially vulnerable families. Non-satisfactory financing of services causes limitations in provision of services, generates the waiting lists and on another hand results in low salaries and affects the rehabilitation staff's motivation. Existing discrepancy between the number of registered and expected patients indicates that many parents use paid and "private" services, even though these expenditures affect the life of the entire family.

Areas for actions:

- *Analyzing the government resources for financing rehabilitation services for children and ensuring that rehabilitation is integrated into planning and financing processes (through health, social protection and education).*
- *Assessing quality of services provided in NGO-based and private facilities and promoting state funding through introduction of certification for rehabilitative services.*
- *Raising awareness of the added value of rehabilitation across a wide range of health conditions, through compiling evidence of both the effectiveness of rehabilitation interventions and their cost-effectiveness.*
- *Engaging in and disseminating economic studies the return on investment of rehabilitation interventions across society.*

3.4 Infrastructure and services

The child comprehensive and multi-disciplinary rehabilitation services in Armenia are provided by a relatively smaller number of facilities,which has an unequal geographical distribution in the country. Therefore, there is a crucial need to improve access to habilitation and rehabilitation for all children, including from rural areas.

The number of the organizations having license of the MoH for provision of multi-disciplinary rehabilitation services to children and the organizations receiving financial support from the MoLSA or providing services for children differs from the list of centres which provide services de-facto.

License standards for pediatric rehabilitation services approved by the MoH according to the Government Decree N 1936-N (as of 05.12.2002) are related to the pediatric rehabilitation department as an in-patient service and not to the out-patient services.

Areas for actions:

- *Promoting revision of the licensing standards, including equipping and staffing requirements to update according to different profiles of the existing centers (in-patient, out-patient and day-care services, spa and recreation services).*
- *Promoting well-distributed community rehabilitation services taking into account factors such as geography, transport, cultural and social attitudes and demographics.*

3.5 Human resources

There is a lack of staff, including pediatric-rehabilitologists, physical therapists and ergo-therapists. There is no good institutionalized process of specialization and continuing professional development especially for the non-medical rehabilitation staff. Therefore, the system of on-job trainings and supportive supervisions should be established. Also, the specialties' characteristics should be revised in order to correspond to current internationally adopted definitions.

Areas for actions:

- *Increasing the number of rehabilitation personnel through greater investment in education and training programmes, and through incentives for practice in the community. For example, including degree programmes for rehabilitation disciplines in universities, or establishing student exchange arrangements with international training programmes; ensuring rehabilitation personnel are paid competitive salaries.*
- *Using innovative workforce modelling to more efficiently and effectively distribute rehabilitation competencies among the workforce in accordance with population needs and country resources. For example, re-evaluate traditional curricula and explore options for new cadres, such as rehabilitation assistants, or dual disciplines.*
- *Increasing the capacity of local health care providers: pediatricians and GPs on early identification and early intervention by integrating rehabilitation competencies into their training and certification, in accordance with the needs of the population. For example, ensuring that GPs can provide first-level rehabilitation interventions for prevalent conditions.*
- *Increasing the capacity of community health workers to deliver rehabilitation interventions through the integration of training in the provision of protocol-directed care for prevalent rehabilitation needs.*
- *Optimizing rehabilitation workforce performance and retention by investing in supportive practice environments, such as sound supervisory structures, professional development opportunities and active professional associations.*
- *Establishing education and certification pathways for dedicated rehabilitation providers.*
- *Promoting training of professionals and staff working with persons with disabilities in the rights recognized in the UN Convention on CRC and Convention on CRPD so as to better provide the assistance and services guaranteed by those rights.*

3.6 Assistive products

Increased awareness, interest and use of assistive technology presents substantial opportunities for many citizens to become, or continue being, meaningful participants in society. However, there is a significant shortfall between the need for and the awareness on and provision of assistive technologies, which is patterned by a range of social, demographic and structural factors.

Areas for actions:

- *Creating and strengthening leadership and political support for the provision of assistive products in primary care and building this provision into strategic plans and monitoring frameworks for health care.*
- *Increasing provision of quality assistive products.*
- *Ensuring that the provision of assistive products is integrated into health planning and financing processes, and into countries' efforts to achieve Universal health coverage through the inclusion of a "priority assistive products list". As WHO and UNICEF have developed a model list of priority assistive products for children that can be adapted according to national needs.*
- *Ensuring that procurement systems are in place with a sustainable supply of high-quality assistive products that are appropriate for the local environment in which they will be delivered.*
- *Equipping primary care personnel with the knowledge and skills needed to provide a range of basic assistive products, with inclusion of the following steps: assessment and selection, fitting, user training and follow-up, including maintenance and repairs.*

3.7 Health information system

Accurate information is needed for policymakers to identify the rehabilitation needs of the population, to allocate resources effectively; for planners to design more effective services; for managers to monitor and evaluate services; and for professionals to provide high-quality and evidence-based services.

Areas for actions:

- *Promoting cross-sectoral data management and information exchange.*
- *Enhancing rehabilitation data collection and ensuring that information is integrated into information management systems.*
- *Ensuring that system-level information about all aspects of the delivery and financing of rehabilitation services is collected and used, alongside information on population needs for health system planning.*
- *Equipping statistical departments of ministries with the knowledge and skills needed to collect, analyse and use data for policy decisions.*

Annex 1

ASSESSMENT FORM OF PEDIATRIC REHABILITATION SERVICE
(according to data of 2017)

	Assessment form of pediatric rehabilitation service	***All data to be filled in this column as a text or put "X"***
1	**Name of the organization**	
2	**Address**	
3	**Type of the service according to the license**	
4	**Start of the functioning/Date of licensing (if different)**	
5	***Status of the organization***	
5.1	*State*	
5.2	*Private*	
5.3	*NGO / Foundation*	
5.4	*Branch of the international organization*	
5.5	*Other (detail)*	
6	***Characteristics of services:***	
6.1	In-patient	
6.2	Out-patient	
7	***Territory served:***	
7.1	*Community (name)*	
7.2	*Region (name)*	
7.3	*Marz(name)*	
7.4	*Republican*	
7.5	*Other/ additional information*	
8	***Main age categories served, indicate*** *(may be more than 1 answers)*	
8.1	*0 - 3*	
8.2	*3 -6*	
8.3	*6 - 18*	
9	***Main groups financed by the State, indicate*** *(may be more than 1 answers)*	
9.1	*Reference for State 0- 7*	
9.2	*State - social group / special category group*	
9.3	*Reference from central of marz commission*	
9.4	*Other, indicate*	
10	Other sources of financing, indicate (may be more than 1 answers)	
10.1	State budget	
10.2	Local/ regional budget	
10.3	Private, paid by parents	
10.4	Insurance	
10.5	Beneficiary	

11	***Physical conditions***	
11.1	Total territory (squ.m)	
11.2	Number of rooms used by specialists	
11.3	Date of last renovation	
12	***Equipment and supplies***	
12.1	List of available equipment, put on sheet 2	
12.2	If required list equipment of the first necessity	
13	***Human resources: number of staff positions, number of present personnel***	
13.1	Paediatrician / rehabilitologist	
13.2	Physical therapist/ kinesiotherapist	
13.3	Ergo-therapist/ Occupational therapist	
13.4	Logoped/ Speech therapist	
13.5	Psychologist	
13.6	Special educator	
13.7	Other/ mention	
13	***Basic education of the staff and main specialized post-diploma education courses attended during last 5 years, put on sheet 3 (add specialists if necessary)***	
15	***Patients***	
15.1	Number of consultations	
15.2	Annual number of patients received rehab treatment (in 2017)	
15.3	Average number of served patients per month	
15.4	Average number of served patients per day	
15.5	Number of patients served free of charge	
15.6	Number of paid patients served	
15.7	Number of patients in a queue (for Aug.1, 2018)	
16.1	Duration of a course: number of visits for physical disorders	
16.2	Duration of a course: number of visits for mental disorders	
16.3	Duration of a course: number of visits for other types of disorders	
17	Reports, report forms used (indicate forms and the reporting organization)	
18	Presence of the database	
19	Other important information which might contribute to assessment of the service	
20	Recommendations to improve service	