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FEATURES OF DISABILITY FORMATION IN A CONTINGENT OF THE CITY CHILDREN'S POLYCLINIC OF THE REGIONAL CENTER OF THE SUBARCTIC TERRITORY

ABSTRACT

Formation of indicators of disability of children of a city children's polyclinic of the regional center of subarctic territory is dictated by necessity of an estimation of results of daily practical work of the pediatrist.

The analysis of the disability of children in 2011-2015 on the basis of the medical documentation of the Syktyvkar city children's polyclinics №3, Komi Republic, Russia was carried out.

In the structure of the causes of disability prevail: diseases of the nervous system - 34.74±3.55% ($p<0.001$); congenital anomalies, chromosomal abnormalities - 29.46±9.63% ($p<0.001$); diseases of the ear and its adnexa - 9.88±2.22% ($p <0.001$); diseases of the endocrine system, eating and metabolic disorders - 8.44±2.07% ($p<0.001$) and neoplasms - 7.21±1.93% ($p<0.001$). The share of these five classes of diseases is 84.69% of the total structure.

The frequency of determination of disability in children annually increases by +1.09 units with a growth rate of + 0.91% and a growth rate of 100.91%.

The incidence of diseases that caused disability in children was highest in the following classes: diseases of the nervous system - 42.06±4.29 ($p<0.001$); congenital anomalies, chromosomal abnormalities - 29.57±3.88 ($p<0.001$); diseases of the ear and its adnexa - 11.96±2.69 ($p<0.001$); diseases of the endocrine system, eating disorders and metabolic disorders - 10.21±2.51 ($p<0.001$) and neoplasms - 8.74±2.33 ($p<0.001$).

A stable annual growth rate of children with disabilities at 4.52% suggests that the process will continue in the future.

Complex treatment carried out within the framework of individual programs for rehabilitation / habilitation of disabled children allowed to completely restore health in 43 children (4.77%), improve the condition - 52 (5.77%), stabilize the pathological process - 90.24%. Weight gain occurred in 4 people (0.44%) due to the progression of the disease.

Keywords: indicators, children, disability, city children's polyclinic, regional center, subarctic territory.

INTRODUCTION

Regional patterns of the formation of children's disability determine not only the basic indicators of public health of the population, but also the prospects for the development of the state as a whole. So in industrial cities with a high man-caused load and rural settlements among the causes of general and primary children's disability 1st rank is occupied by congenital anomalies (Q00-Q99), 2nd place - diseases of the nervous system (G00-G99), 3rd place - disorders of the psyche and behavior (F00-F59), 4th place - diseases of the eye and adnexa (H00-H59). Has its own characteristics and disability in children of subarctic territories, which occupy a significant part of the Russian Federation, which until now remains poorly understood. [2, 3]

Formation of indicators of disability of children of the city children's polyclinic of the regional center of subarctic territory is dictated by the necessity of using a daily statistical tool that:

1) Discloses the role of children's disability indicators for the evaluation and analysis of the health status of the child population;

2) Promotes the adjustment of medical and social programs aimed at improving the health of the child population;

3) Evaluates the perspective of the end results of the pediatric health system;

4) Allows foreseeing both the main tendencies of morbidity and disability of the adult population, and the factors that determine them;

5) Stimulates the adoption of managerial decisions.

Material and methods

The aim of the work was to form the disability indicators of the children of the urban regional center of the subarctic territory, which should become the initial statistical tool for comparing and objectifying such phenomena.

A comprehensive analysis of the disability of 901 children (including primary disability of 112 children) in 2011-2015 was carried out. on the basis of the medical documentation of the SBAH of RK "Syktyvkar Children`s Clinic No 3": the register of directions for ITU; directions for medical and social expertise by the organization that provides medical and preventive care (form No. 0888 / y-06) and return coupons of the FCU «GBE ITU in the Komi Republic» of the Ministry of Labor of Russia Bureau of Medical and Social Expertise No. 4.

The studied contingent does not include children with mental disorders who are sent to a specialized IEC and undergo rehabilitation at the psycho-neurological dispensary, and thus do not appear in the institution's reports.

When working on the material, methodical approaches were used: system, complex, integration, functional, dynamic, process, normative, quantitative, administrative and situational. Methods of analysis included: historical, analytical and comparison. For the analysis, methods were used: grouping, absolute and relative values, average values, dynamic series, continuous and selective observations, detailing and generalization.

Formation of the standard of diseases that caused the emergence and definition of disability in children of the city polyclinic of the regional center of the subarctic territory includes the analysis of the indicators for five years: the determination of absolute numbers, the rank of each class of diseases, the proportion in the overall structure and the frequency factor for 10 000 children. For this purpose, the average annual values were calculated and the statistical significance of the differences was analyzed.

The study was conducted in the SBAH of RK "Syktyvkar Children`s Clinic No 3", which is the basic, specialized polyclinic of the city designed for 600 visits per shift. Currently, the polyclinic serves more than 16,000 children and adolescents. SBAH of RK "Syktyvkar Children`s Clinic No 3" assists: preventive, therapeutic and consultative, organizational, methodological, social and legal. It

Primary and general disability of children in the Children's Clinical Hospital of the Komy Republic «Syktyvkar Children's Polyclinic No.3» in 2011-2015 (in absolute numbers, ranking places,% and frequency per 10 000 children)

Type of disability	Primary							General						
	2011-2015				annually			2011-2015				annually		
	abs. num.	rank.	%	fr. coef.*	abs. num.	rank.	%	fr. coef.*	abs. num.	rank.	%	fr. coef.*	abs. num.	rank.	%	fr. coef.*
Total	112	I-XIII	100,00	15,05	22,40	I-XIII	100,00	15,05	901	I-XIII	100,00	121,08	180,20	I-XIII	100,00	121,08
Infectious and parasitic diseases	1	IX-XIII	0,89	0,13	0,20	IX-XIII	0,89±2,03	0,13±0,30	0		--	--	0	--	--	--
Neoplasms	12	III	10,71	1,61	2,40	III	10,71±6,68	1,61±1,01	65	V	7,21	8,74	13,00	V	7,21±1,93	8,74±2,33
Diseases of the blood and the immune system	4	VI-VII	3,58	0,54	0,80	VI-VII	3,58±4,02	0,54±0,61	14	VIII	1,55	1,88	2,80	VIII	1,55±0,92	1,88±1,12
Diseases of the endocrine system, eating disorders and metabolic disorders	11	IV	9,82	1,48	2,20	IV	9,82±6,43	1,48±0,97	76	IV	8,44	10,21	15,20	IV	8,44±2,07	10,21±2,51
Психические расстройства	--	--	--	--	--	--	--	--	--		--	--	--		--	--
Diseases of the nervous system	34	I	30,35	4,57	6,80	I	30,35±9,93	4,57±1,50	313	I	34,74	42,06	62,60	I	34,74±3,55	42,06±4,29
Diseases of the eye and adnexa	4	VI-VII	3,58	0,54	0,80	VI-VII	3,58±4,02	0,54±0,61	38	VII	4,22	5,11	7,60	VII	4,22±1,50	5,11±1,83
Diseases of the ear and mastoid process	1	IX-XIII	0,89	0,13	0,20	IX-XIII	0,89±2,03	0,13±0,30	89	III	9,88	11,96	17,80	III	9,88±2,22	11,96±2,69
Diseases of the circulatory system	1	IX-XIII	0,89	0,13	0,20	IX-XIII	0,89±2,03	0,13±0,30	13	IX-X	1,44	1,75	2,60	IX-X	1,44±0,89	1,75±1,08
Diseases of the respiratory system	--	--	--		--	--	--	--	9	XI	1,00	1,21	1,80	XI	1,00±0,74	1,21±0,88
Diseases of the digestive system	1	IX-XIII	0,89	0,13	0,20	IX-XIII	0,89±2,03	0,13±0,30	2	XIII	0,23	0,27	0,40	XIII	0,23±0,36	0,27±0,43
Diseases of the skin and subcutaneous tissue	--	--	--		--	--	--	--	0		--	--	0		--	--
Diseases of the musculoskeletal system and connective tissue	7	V	6,25	0,94	1,40	V	6,25±5,23	0,94±0,79	45	VI	4,99	6,05	9,00	VI	4,99±1,62	6,05±1,97
Diseases of the genitourinary system	1	IX-XIII	0,89	0,13	0,20	IX-XIII	0,89±2,03	0,13±0,30	4	XII	0,44	0,54	0,80	XII	0,44±0,49	0,54±0,60
Pregnancy, childbirth and the puerperium	--	--	--		--	--	--	--	0		--	--	0		--	--
Individual states of the perinatal period	--	--	--		--	--	--	--	0		--	--	0		--	--
Congenital anomalies, chromosomal abnormalities	33	II	29,46	4,43	6,60	II	29,46±9,85	4,43±1,48	220	II	24,42	29,57	44,00	II	24,42±3,20	29,57±3,88
Symptoms, signs, revealed during examination	--	--	--		--	--	--	--	0	--	--	--	0		--	--
Injuries, poisonings and other environmental influences	2	VIII	1,80	0,27	0,40	VIII	1,80±2,87	0,27±0,43	13	IX-X	1,44	1,57	2,60	IX-X	1,44±0,89	1,57±1,02

* Frequency coefficient.

includes a city rehabilitation center, an intermunicipal diagnostic center, a health center for children and adolescents. SBAH of RK "Syktyvkar Children`s Clinic No 3" is the holder of the high title WHO / UNICEF «Child-friendly polyclinic» since 2002. In 2004-2006, the polyclinic worked in the International Project «Mother and Child».

Results

The attached children's population of the SBAH of RK "Syktyvkar Children`s Clinic No 3" for 5 years increased by 2,107 people from 13,986 in 2011 to 16093 in 2015, amounting to 14,882.20 children per year. The number of disabled people in these years fluctuated annually from 166 in 2011 to 198 in 2015 (Table No. 1.)

Out of the number of patients in the SBAH of RK "Syktyvkar Children`s Clinic No 3" in 2011, a disability was determined by 166 children. The distribution of ranked classes of disease classes as reasons for determining disability in children was as follows. On the I rank place - diseases of the nervous system, II - congenital anomalies, chromosomal abnormalities; on III - diseases of the ear and mastoid process, IV - diseases of the endocrine system, eating disorders and metabolic disorders, V - diseases of the musculoskeletal system and connective tissue.

In the structure of the classes of diseases that caused the disability in children, prevailed: diseases of the nervous system - 31.33%; congenital anomalies, chromosomal abnormalities - 24.10%; diseases of the ear and mastoid process - 10,84%, diseases of the endocrine system, eating disorders and metabolic disorders - 9.04%, diseases of the musculoskeletal system and connective tissue - 8.43%. These five classes of diseases account for more than every four disabilities out of five (83.74%). The remaining 7 classes were a minority: neoplasms - 4,22%; eye diseases and its adnexa - 3.61%; diseases of the circulatory system and trauma,

poisoning and other environmental effects - by 2.41%; respiratory diseases - 1,81%; blood and immune system diseases - 1.20%; diseases of the genitourinary system - 0.60%.

The incidence of disability by classes of diseases that caused the disability of 10 thousand children in the service area was high: diseases of the nervous system - 37.18; congenital anomalies, chromosomal abnormalities - 28.60; diseases of the ear and mastoid process - 12,87, endocrine system diseases, eating disorders and metabolic disorders - 10,73, diseases of the musculoskeletal system and connective tissue - 10,01. The frequency of the remaining classes did not exceed: neoplasms - 5.01; eye diseases and its adnexa - 4.29; diseases of the circulatory system and trauma, poisoning and other environmental effects - by 2.86; respiratory diseases - 2,15; blood and immune system diseases - 1.43; diseases of the genitourinary system - 0.72.

The number of children with disabilities in 2012 reached 169. The absolute increase in disabled children in 2012 was +3 people with a growth rate of 1.81% and a growth rate of 101.81%.

If the sequence of distribution of ranking places of diseases that caused disability in children has not changed, in their structure the indicators have changed more significantly. There was an increase in the proportion of tumors - 2.88%; diseases of the nervous system - + 1.80%; blood diseases and immune system - + 0.58%; eye diseases and its adnexa - + 0.53%; congenital anomalies, chromosomal abnormalities - + 0.16%. The share of the remaining classes decreased from 1.96% (ear and mastoid disease) to 0.04% (trauma, poisoning and other environmental effects).

The incidence rate of disability in children in 2012 increased by +2.15 units with a growth rate of 1.81% and a growth rate of 101.81%.

The incidence of disabilities in children increased with neoplasms - 1.72 times; diseases of the blood and the immune system - by 1.50 times; eye diseases and its adnexa - 1.17 times; diseases of the nervous system - 1.08 times and congenital anomalies, chromosomal abnormalities - 1.03 times. When injuries, poisonings and other environmental influences remained without dynamics, in other classes it decreased from 1.51 with respiratory diseases to 1.07 times with endocrine system diseases, eating disorders and metabolic disorders.

The number of children with disabilities in 2013 increased by 10 people and amounted to 179. The absolute increase in disabled children in 2013 was +10 people with a growth rate of 5.92% and a growth rate of 105.92%.

There were no significant changes in the distribution of ranked diseases that caused the disability. Leading positions have been preserved: diseases of the nervous system (+9 people), congenital anomalies, chromosomal abnormalities; diseases of the endocrine system (+4), diseases of the ear and mastoid process (+2) and neoplasms (+2).

Structural changes have affected all classes of diseases as causes of disability. Further growth and, accordingly, an increase in the share in the overall structure occurred in classes: diseases of the nervous system - 36.30%; congenital anomalies, chromosomal abnormalities - 24.58%; diseases of the ear and mastoid process - 9.50%, neoplasms - 7.82%, eye diseases and adnexa - 4.47%. The share of these growing four classes of diseases in the overall structure was 82.67%. The proportion of other classes declined from 2.07% (diseases of the musculoskeletal system and connective tissue) to a mild 0.46% (endocrine, nutritional and metabolic disorders).

The incidence rate of disability in children in 2013 increased by +0.07 units with an increase rate of 0.06% and a growth rate of 100.06%.

The incidence of diseases that caused the disability was also insignificant, but nevertheless increased in classes: diseases of the nervous system and neoplasms - 1.10 times; diseases of the ear and mastoid process - 1.07 times and eye disease and its adnexa - 1.06 times. In other classes, this indicator decreased.

With the increase in the total number of children served by the contingent in 2014 by 739 people, the number of disabled children increased to 189.

The absolute increase in children with disabilities in 2014 was 10 people with a growth rate of 5.59% and a growth rate of 105.59%.

It should be noted that within three years a stable annual positive dynamics of the growth in the number of children with disabilities among the serviced contingent was formed in the number of 10 people.

Absolute increase occurred in the following classes of diseases that caused disability in children: congenital anomalies, chromosomal abnormalities; diseases of the endocrine system (+4); diseases of the nervous system (+3 people); diseases of the ear and mastoid process (+2); neoplasms (+1); blood disease and immune system (+1); disease of the endocrine system, eating disorders and metabolic disorders (+1); diseases of the digestive system (+1). In two classes, the absolute increase was negative: diseases of the musculoskeletal system and connective tissue (-2) and trauma, poisoning and other environmental influences (-1). Absolute indicators of diseases as causes of disability in children remained at the 2013 level in three classes: diseases of the circulatory system, respiratory diseases, diseases of the genitourinary system. This distribution of the absolute increase in disability was reflected in the ranking of the first five classes of diseases that caused the disability in children. They remained the same. In the second half of the list, some classes switched places, but no more than a plus-minus one position.

This increase in absolute indicators has made changes in the structure of disability. In this case, the growth in the specific gravity of individual classes did not range from + 0.12% (neoplasms and endocrine system diseases, eating disorders and metabolic disorders) to + 0.82% (congenital anomalies, chromosomal abnormalities, endocrine system diseases) . With negative dynamics, it decreased from -0.03% (respiratory diseases and genitourinary system diseases) to - 1.33% (diseases of the musculoskeletal system and connective tissue).

The frequency of disability determination in children in 2014 increased by +0.69 units with a growth rate of 0.57% and a growth rate of 100.57%.

The intensive indicator of the incidence of diseases that caused the disability of children in the case of growth in 2014 did not exceed + 1.04-1.43%, and at a decrease it reached -1.00-2.11%.

The final 2015 of the period under review was characterized by a continuing steady absolute growth in the number of children with disabilities. The absolute increase in disabled children in 2015 was +9 people with a growth rate of + 4.76% and a growth rate of 104.76%.

Classes of diseases that caused disability and gave an increase in indicators, included: diseases of the nervous system (+4 people); diseases of the endocrine system, eating disorders and metabolic disorders (+3); neoplasms (+2); blood disease and immune system (+1); diseases of the eye and its adnexa (+1); diseases of the ear and mastoid process (+1); diseases of the respiratory system (+1); injuries, poisoning and other environmental effects (+1). Just as in 2014, in only two classes, the absolute increase was negative: diseases of the musculoskeletal system and connective tissue (-4) and congenital anomalies,

chromosomal abnormalities; disease of the endocrine system (- 1). In this case, the class of diseases of the musculoskeletal system and connective tissue for two consecutive years gives a significant reduction from 9 to 3 patients, that is, 3 times.

In the general structure of diseases, as causes of disability, there have been minor changes, both in the direction of increasing and decreasing their shares. The indicators gave positive growth in classes: endocrine system diseases, eating disorders and metabolic disorders (+ 1.15%); neoplasms (0.65%); injuries, poisoning and other environmental influences (+ 0.48%); blood and immune system diseases (+ 0.43%); diseases of the nervous system (+ 0.38%); diseases of the eye and its adnexa (+ 0.32%) and diseases of the ear and mastoid process (+ 0.05%). The proportion of other classes decreased: diseases of the musculoskeletal system and connective tissue (-2.18%); congenital anomalies, chromosomal abnormalities; diseases of the endocrine system (-1.67%); diseases of the circulatory system (-0,05%); diseases of the digestive system (-0.02%) and diseases of the genitourinary system (-0.02%).

The coefficient of frequency of disability determination in children in 2015 increased by +1.43 units with a growth rate of + 1.18% and a growth rate of 101.18%.

The incidence of diseases, as the cause of disability of children in 2015 compared with 2011, has undergone significant changes. She grew 2.11 times with neoplasms; 1,74 - diseases of blood and immune system; , 3 - diseases of the eyes and its adnexa; 1,2 times - diseases of the nervous system; 1,04 - diseases of the endocrine system, eating disorders and metabolic disorders, and 1.02 - congenital anomalies, chromosomal abnormalities. The decrease in the frequency in the other classes was more significant. So, it decreased by 5.38 times with diseases of the musculoskeletal system and connective tissue; 2.3 - diseases of the circulatory system and injuries, poisonings and other environmental influences; 1,73 - diseases of the respiratory system; 1,16 - diseases of the genitourinary system and 1,04 - diseases of the ear and mastoid process.

Discussion

The weak point of the study is the total number of patients who were diagnosed with a disability - 901 children. This figure is not entirely objective, as it reflects the total number of observed disabled children in accordance with annual reports, including Form No. 19 (Order of Rosstat of December 25, 2014 No. 723). But at the same time she does not take into account that most of them are repeated invalids. To objectify the research (Table. No 1) shows the indicators of primary disability for the same years.

In the city polyclinic of the regional center of the subarctic territory 180 children with disabilities are rehabilitated annually. In 2014-2015 years their number is steadily growing. This is due to the increase in the contingent served, both at the expense of increasing the birth rate, and the migration of the population, including children. [4, 5] The absolute increase in disabled children annually makes up +8 people with a growth rate of + 4.52% and a growth rate of 104.52%.

At the first ranked place are diseases of the nervous system (62,60); second - congenital anomalies, chromosomal abnormalities (44,00); the third - diseases of the ear and its adnexa (17,80); the fourth - diseases of the endocrine system, eating disorders and metabolic disorders (15,20); the fifth - neoplasms - (13,00). On the sixth to thirteenth places: diseases of the musculoskeletal system and connective tissue (9.00); diseases of the eye and its adnexa (7.60); blood and immune system diseases (2.80); diseases of the circulatory system (2.60); trauma, poisoning and other environmental effects (2.60); respiratory diseases (1.80); diseases of the genitourinary system (0.80) and diseases of the digestive system (0.40).

In the structure of the causes of disability prevail: diseases of the nervous system - 34.74 ± 3.55% (p <0.001); congenital anomalies, chromosomal abnormalities - 29.46 ± 9.63% (p <0.001); diseases of the ear and its adnexa - 9.88 ± 2.22% (p <0.001); diseases of the endocrine system, eating disorders and metabolic disorders - 8.44 ± 2.07% (p <0.001) and neoplasms - 7.21 ± 1.93% (p <0.001). The share of these five classes of diseases is 84.69% of the total structure. The specific weight of the remaining classes of diseases that caused the disability in children was: diseases of the musculoskeletal system and connective tissue - 4.99 ± 1.62% (p <0.001); eye diseases and its adnexa - 4.22 ± 1.50% (p = 2.813); blood and immune system diseases - 1.55 ± 0.92% (p = 1.685); diseases of the circulatory system - 1.44 ± 0.89% (p = 1.617); injuries, poisoning and other environmental effects - 1.44 ± 0.89% (p = 1.617); respiratory diseases - 1,00 ± 0,74% (p = 1,351); diseases of the genitourinary system - 0,44% and diseases of the digestive system - 0,23%. In the last two classes, the differences in indicators were statistically insignificant. The frequency of determination of disability in children annually increases by +1.09 units with a growth rate of + 0.91% and a growth rate of 100.91%.

The incidence of disability in diseases that caused its occurrence in children was highest in the following classes: diseases of the nervous system - 42.06 ± 4.29 (p <0.001); congenital anomalies, chromosomal abnormalities - 29.57 ± 3.88 (p <0.001); diseases of the ear and its adnexa - 11.96 ± 2.69 (p <0.001); diseases of the endocrine system, eating disorders and metabolic disorders - 10.21 ± 2.51 (p <0.001) and neoplasms - 8.74 ± 2.33 (p <0.001). They significantly exceeded the frequency in the remaining classes: diseases of the musculoskeletal system and connective tissue - 6.05 ± 1.97 (p <0.001); diseases of the eye and its adnexa - 5.11 ± 1.83 (p = 2.792); blood and immune system diseases - 1.88 ± 1.12 (p = 1.679); diseases of the circulatory system - 1.75 ± 1.08 (p = 1.620); trauma, poisoning and other environmental effects - 1.57 ± 1.02 (p = 1.539); respiratory diseases - 1,21 ± 0,88 (p = 1,375); diseases of the genitourinary system - 0.54 and diseases of the digestive system - 0.27 per 10 000 children. In the last two classes, the differences in indicators were statistically insignificant.

As reasons for children to disability in the SB RAS «SDP # 3» for 5 years were not established: skin and subcutaneous tissue disorders; pregnancy, childbirth and the puerperium; individual conditions of the perinatal period; symptoms, signs, revealed during examination.

In solving the problems of preventing childhood disability, priority should be given to the development of fertility planning services, the improvement of antenatal and perinatal care, the preventive work with healthy but deviant children, the development of medical genetic services, and the introduction of screening programs for various pathologies [1].

Conclusions

The formed indicators of the disability of children of the city children's polyclinic of the regional center of the subarctic territory is a statistical tool for everyday use.

In the structure of the causes of disability prevail: diseases of the nervous system - 34.74 ± 3.55% (p <0.001); congenital anomalies, chromosomal abnormalities - 29.46 ± 9.63% (p <0.001); diseases of the ear and its adnexa - 9.88 ± 2.22% (p <0.001); diseases of the endocrine system, eating disorders and

metabolic disorders - 8.44 ± 2.07% (p <0.001) and neoplasms - 7.21 ± 1.93% (p <0.001). The share of these 5 classes of diseases is 84.69% of the total structure.

The frequency of determination of disability in children annually increases by +1.09 units with a growth rate of + 0.91% and a growth rate of 100.91%.

The incidence of diseases that caused disability in children was highest in the following classes: diseases of the nervous system - 42.06 ± 4.29 (p <0.001); congenital anomalies, chromosomal abnormalities - 29.57 ± 3.88 (p <0.001); diseases of the ear and its adnexa - 11.96 ± 2.69 (p <0.001); diseases of the endocrine system, eating disorders and metabolic disorders - 10.21 ± 2.51 (p <0.001) and neoplasms - 8.74 ± 2.33 (p <0.001).

A stable annual growth rate of children with disabilities at 4.52% suggests that the process will continue in the future.

Complex treatment carried out within the framework of individual programs for rehabilitation / habilitation of disabled children allowed to completely restore health in 43 children (4.77%), improve the condition - 52 (5.77%), stabilize the pathological process - 90.24%. Weight gain occurred in 4 people (0.44%) due to the progression of the disease.

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