

DEVELOPMENT OF HUNGARIAN ONE-DAY SURGICAL CARE IN THE PUBLIC-FUNDED NATIONAL HEALTHCARE SYSTEM FROM 2010 TO 2023

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OBJECTIVES

The role of one-day surgery is pivotal in today's modern healthcare system. Technological advances and continuing price increases require cost-effective care alternatives that can support sustainable financing. In the 2010s, one-day surgery was marginal in Hungary, but its share among surgical cases has been increasing from 2015 onwards. This study aims to identify the development of one-day surgical care through key performance indicators from 2010 to 2023 in the publicly funded Hungarian healthcare system.

METHODS

The research database was provided by the National Health Insurance Fund Administration of Hungary, which has a monopoly status in Hungarian healthcare financing. The database included the number of patients, cases, and DRG cost-weights of one-day surgical procedures financed between 2010 and 2023 by DRG major groups and medical fields as well. The study determined the annual one-day surgical number of patients and cases, as well as DRG cost-weights. Furthermore, the Case-Mix Index (CMI) on annual basis, and by medical specialties was also evaluated.

RESULTS

In the study period, the health insurer accounted for a total of 3,082,294 patients, 3,533,462 cases and 1,990,856 DRG cost-weights for one-day surgical care. In 2023, a 2.13-fold increase in the number of patients, a 2.36-fold increase in number of cases, and a 3.30-fold increase in DRG cost-weights compared to 2010 was observed. In the CMI, a 1.39-fold increase was registered in the same period. The obstetrics-gynecology medical field delivered the largest number of patients (n=975,642), while the ophthalmology field performed exceptionally well in the number of cases (n=1,172,860) and DRG cost-weights (768,803). The CMI was the highest for the cardiology cases (CMI=1,112).

CONCLUSIONS

The key performance indicators related to one-day surgical care increased significantly over the study period. The rate of improvement declined in the years covered by COVID-19, but a spectacular rebound can be identified thereafter.

Year	Nr. of patients	Nr. Of cases	DRG cost-weights	CMI
2010	121.536	131.026	57.834	0,441
2011	168.322	182.095	90.419	0,497
2012	189.632	207.943	106.415	0,512
2013	195.500	217.376	114.927	0,529
2014	202.540	226.889	121.926	0,537
2015	219.781	251.499	136.361	0,542
2016	239.167	276.097	154.686	0,560
2017	268.394	309.933	182.311	0,588
2018	283.988	329.861	195.514	0,593
2019	298.483	347.489	206.713	0,595
2020	215.407	246.837	142.141	0,576
2021	178.958	209.771	118.726	0,566
2022	240.827	286.792	171.824	0,599
2023	259.759	309.854	191.058	0,617
Total	3.082.294	3.533.462	1.990.856	0,563

Table 1.
Fundamental turnover data of the Hungarian public-funded one-day surgical care between 2010-2023

Rank	Medical field	Nr. of patients	Nr. Of cases	DRG cost-weights	Mean CMI
1.	Obstetrics and Gynaecology	945.974	975.642	237.694	0,244
2.	Ophthalmology	854.160	1.172.860	768.803	0,655
3.	Surgery	254.244	267.472	126.991	0,475
4.	Traumatology	232.966	239.674	134.039	0,559
5.	Cardiology	218.633	220.587	245.302	1,112
6.	Urology	166.606	225.437	201.667	0,895
7.	Orthopecies	124.563	128.074	85.353	0,666
8.	Otholaryngyology	61.571	64.362	36.455	0,566
9.	Pediatric surgery	38.045	38.555	15.957	0,414
10.	Vascular surgery	36.927	38.676	22.778	0,589
Other		148.605	162.123	115.816	0,714
Total		3.082.294	3.533.462	1.990.856	-

Table 2.
Patient turnover and financed DRGs by medical fields in the Hungarian one-day surgical care (2010-2023)

DRG Main group	Nr. of cases	Nr of patients	DRG cost-weights	Proportion nr of cases (%)	Proportion nr of patients (%)	Proportion nr of DRG cost-weights (%)
Eye diseases	1.186.683	865.839	778.259	34%	28%	39%
Women's reproductive system diseases	503.662	492.726	115.078	14%	16%	6%
Pregnancy, childbirth, cot	491.474	472.464	125.962	14%	15%	6%
Homogeneous disease groups without major groups	315.398	252.530	198.971	9%	8%	10%
Circulatory system diseases	311.630	305.099	297.171	9%	10%	15%
Musculoskeletal and connective tissue diseases	276.093	270.212	181.248	8%	9%	9%
Digestive system diseases	168.741	165.446	81.406	5%	5%	4%
Diseases of the ear, nose, throat and maxillofacial region	116.725	109.170	82.246	3%	4%	4%
Male reproductive system diseases	73.392	70.446	46.591	2%	2%	2%
Nervous system diseases	56.011	51.684	51.602	2%	2%	3%
Kidney and urinary tract diseases	29.067	22.216	27.325	1%	1%	1%
Injuries, poisonings	3.709	3.599	4.487	0%	0%	0%
Liver and pancreas diseases	454	444	268	0%	0%	0%
Brucellosis and skin diseases	278	274	125	0%	0%	0%
Endocrine, nutritional and metabolic diseases	108	108	85	0%	0%	0%
Respiratory system diseases	37	37	32	0%	0%	0%
Total	3,533.462	3,082.294	1,990.856	100%	100%	100%

Table 3.
Patient turnover and financed DRGs by DRG main group in the Hungarian one-day surgical care (2010-2023)

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