

Financial aspects of community pharmacies in Slovakia (2009-2014)

Finančné aspekty verejných lekární na Slovensku v rokoch 2009-2014

Original research paper

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Abstract Community pharmacies play an important role in the process of ensuring public health. Pharmacists provide pharmaceutical care that includes acquiring, storing, preparing, reviewing and dispensing medicines, medical devices and dietary food to the inhabitants; providing them with information and advice; acquiring, storing and dispensing additional assortment; carrying out physical and biochemical testing for primary prevention and monitoring of drug efficacy and safety. At present, there are constant changes which have direct or potential and often negative impact on community pharmacies. For providing affordable and good quality pharmaceutical care, it is important to continuously monitor and analyse the developments in the financial data in community pharmacy business management. The data file from 2009-2014 on financial performance of selected community pharmacies were obtained from the Register of Financial Statements at Ministry of Finance Slovak Republic. A group of 194 community pharmacies were selected that represented more than 10 percent of all pharmacies. The selection criteria respected the territorial division of the Slovak Republic on districts, the size of municipalities (cities and villages) and location (at or near health centres, shopping centres, housing estates, etc.). The evaluation parameters were gross profit, net profit, revenue from sales of goods and services, operating expenses, total assets, inventory, short-term receivables, total receivables, financial assets, owner's equity, total liabilities, current liabilities and their characteristics (25th, 50th, 75th percentile, minimum, maximum, mean). The financial parameters obtained and their characteristics presented the basic information on the management of community pharmacies. The data also provided information for further assessment on factors that might have an impact on their value and direction of evolution.

Slovak abstract Verejné lekárne zohrávajú dôležitú úlohu v procese zabezpečenia verejného zdravia obyvateľov. Lekárnici zabezpečujú, uchovávajú, pripravujú, kontrolujú a vydávajú lieky, zdravotnícke pomôcky, dietetické potraviny pre obyvateľov, poskytujú informácie a odborné rady, zabezpečujú, uchovávajú a vydávajú doplnkový sortiment, vykonávajú fyzikálne a biochemické vyšetrenia zamerané na primárnu prevenciu a sledujú účinnosť a bezpečnosť farmakoterapie. V súčasnej dobe dochádza k neustálym zmenám s priamym alebo potenciálnym vplyvom s často negatívnym dopadom na verejné lekárne. Na ich pochopenie a pozitívne využitie v poskytovaní cenovo dostupnej a kvalitnej lekárenskej starostlivosti, je dôležité priebežne sledovať a analyzovať vývoj finančných údajov manažmentu verejnej lekárne. Súbor údajov z obdobia 2009-2014 o finančnej výkonnosti vybraných verejných lekární bol získaný z Registra účtovných závierok Ministerstva financií Slovenskej republiky. Vzorku vybraných lekární tvorilo 194 verejných lekární, čo predstavovalo viac ako 10 percent všetkých lekární na Slovensku. Výberové kritériá zohľadnili územné členenie Slovenskej republiky na okresy, veľkosť obcí (mesto, dedina) a umiestnenie (zdravotné stredisko, nákupné centrum, sídlisko). Hodnotené boli parametre hrubý zisk, čistý zisk, tržby z predaja tovaru a služieb, prevádzkové náklady, celkové aktíva, zásoby, krátkodobé pohľadávky, celkové pohľadávky, finančné aktíva, vlastné imanie, celkové krátkodobé záväzky a ich deskriptívne charakteristiky (25., 50., 75. percentil, minimum, maximum, priemer). Získané finančné parametre a ich charakteristiky prezentujú základné informácie o obchodovaní verejných lekární a poskytujú informácie pre ďalšie hodnotenia faktorov, ktoré by mohli mať vplyv na ich hodnotu a smer vývoja.

Keywords community pharmacy – management – financial aspects

Kľúčové slová: verejná lekáreň – manažment – finančné aspekty

INTRODUCTION

Pharmaceutical care is one of the core areas of health care. Pharmaceutical care provides citizens with access to medicines, medical devices, dietetic food and supplementary

products, usually within 24 hours, at least 5 days a week. Along with the aforementioned, it also provides expert advice on the correct use of medicines (Clifford et al., 2006,

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Blenkinsopp et al., 2000, Mináriková et al., 2015a), dietetic food, proper use of medical devices (Morrow et al., 1993, Malovecká et al., 2014, Malovecká et al., 2015a, Malovecká et al., 2015b) and expert advice in the field of prevention (Cain et al., 2001, O'loughlin et al., 1999), nutrition (Howard et al., 2001, Mináriková, 2015b), diet and a healthy lifestyle (Chewning and Schommer 1996, Kapoor, 2007). In recent years, community pharmacies have undergone a significant transformational change (Malovecká et al., 2015c). Prevailing among them are private properties and independent management of their business (Malovecká et al., 2015d). Provision of pharmaceutical care is solely the decision of the owner and that, like any business entity, is managed with the long-term sustainability of a community pharmacy (Malovecká et al., 2015e).

Pharmaceutical care in European countries is provided in a regulated or a deregulated system. The type of the regulation of pharmaceutical care has an impact on its availability, quality and economic stability of the community pharmacies. The introduction of deregulation in the establishment of community pharmacy was to ensure adequate availability of pharmaceutical care, evenly distributed between regions, especially between urban and rural areas (such as, England, Ireland, Netherlands, Norway and Sweden). In countries, such as Norway and Sweden, the introduction of deregulation has led to an increase in the number of community pharmacies, and in particular, to their uneven distribution within the country (more in cities, much less in the countryside) (Westerlud et al., 2006, Balgard, 20112, Todd et al., 2014, Wagner et al., 2009). In countries with deregulated pharmaceutical care, intervention in the ownership rules (concession or lack of ownership rules) has led to the establishment of a new structure that provides pharmaceutical care through a network of community pharmacies and vertical integrations with large international wholesale companies owning pharmacy chains that often control the market (seen mainly in Norway) (Vogler et al., 2012). This situation may affect the availability of medicines in pharmacies, as well as overall patient satisfaction with pharmaceutical care (Mináriková, 2015c, Mináriková et al., 2015d). Therefore, the presence of measures relating to the availability of medicines in stock (FIP/WHO, 2012) and the time taken by the pharmacy to provide medications (present in some countries such as Austria, Denmark, Finland, Norway and Spain), could help to prevent a shortage of medicines and shorten the long waiting times for patients (Vogler et al., 2006). Equally important in this context is the electronic health system, which increases the overall level of pharmacy services and patient satisfaction with the help of electronic prescription service and provides other benefits as well (Minarikova and Panayiotis, 2015e).

In Slovakia, there are no demographic and geographic regulation criteria for the establishment of a community pharmacy, and therefore, Slovakia can be included among countries with deregulated pharmaceutical care (Ministry of Health Slovak Republic, 2011).

The presented article provides an assessment of the financial development in community pharmacies in deregulated pharmaceutical care in the horizon of six years (2009-2014), and its aim is to highlight the evolution of financial parameters which could be used in the description of community pharmacies' management.

METHODS

Data source

The data files from 2009-2014 on the financial performance of selected community pharmacies were from the Register of Financial Statements (profit and loss statement and balance sheet) at Ministry of Finance of the Slovak Republic (Ministry of Finance of the Slovak Republic, 2015). The financial statements for the time span 2009-2011 were in scanned form (typewriter or handwritten), and the financial statements for the time span 2012-2014 were in electronic spreadsheets. The financial data was available only for the community pharmacies that were running their business in a legal form as limited liability companies (Ltd.).

Selection criteria

A selected group of pharmacies consisted of 194 community pharmacies and represented more than 10 percent of all the pharmacies in Slovakia. The selection criteria respected the territorial division of the Slovak Republic. There are 79 districts in Slovakia. From each district, 2 community pharmacies were selected (hence, a total of 158 pharmacies) and subsequently, the group was supplemented by community pharmacies from districts with higher populations (36 pharmacies). The selection process took into account the size of municipalities (city or village) and location (at or near health centres, shopping centres and housing estate).

Valuated parameters

The data file on financial performance of selected community pharmacies was evaluated on gross profit, net profit, revenues from sales of goods and services, operating expenses, total assets, inventory, short-term receivables, total receivables, financial assets, owner's equity, total liabilities, and current liabilities. Microsoft Excel was used to process the data. The outcomes of the evaluation were organised and presented in tables.

RESULTS AND DISCUSSION

In the assessed period 2009-2014, the valuation revealed that 25% (25th percentile) pharmacies reached **gross profit** from -2119 to 533 euro, next 50% (75th percentile) pharmacies reached from 34 016 to 45 606 euro, and the last 25%

Table 1. The characteristics of community pharmacies by gross profit, net profit, revenues from sales of goods and services, and operating expenses in the years 2009-2014 (in euro)

Characteristics / Years	2009	2010	2011	2012	2013	2014
Gross profit						
Mean	31 138	45 229	24 910	20 393	23 939	24 473
Median	6 077	11 383	11 383	3 332	13 390	11 047
Maximum	1 440 286	1 490 174	1 490 174	1 000 168	337 477	254 877
Minimum	-248 791	-105 815	-105 815	-927 603	-159 160	-181 426
25th percentile	-349	533	533	-2 119	-353	-892
75th percentile	37 405	45 606	45 606	34 016	36 912	35 484
Net profit						
Mean	24 236	32 843	13 204	15 231	17 370	19 483
Median	3 687	9 579	7 877	2 553	10 033	8 143
Maximum	1 137 775	1 088 040	1 235 623	616 017	258 815	373 673
Minimum	-249 954	-105 815	-3 319 209	-327 603	-162 447	-173 194
25th percentile	-349	532	501	-2 119	-828	-2 577
75th percentile	30 733	41 876	37 895	25 810	28 365	27 775
Revenues from sales of goods and services						
Mean	815 225	914 589	1 031 862	923 748	1 005 378	1 000 871
Median	693 482	758 778	807 154	754 987	762 735	773 027
Maximum	6 949 428	4 695 606	14 847 567	6 623 654	7 397 353	6 997 364
Minimum	-4 501	-216	-2 619	2 434	0	0
25th percentile	341 738	380 431	380 499	404 686	421 549	402 216
75th percentile	1 111 373	1 201 721	1 285 224	1 240 575	1 294 112	1 232 108
Operating expenses						
Mean	795 808	822 197	1 018 059	874 036	994 727	989 613
Median	634 541	652 969	745 015	695 439	754 319	751 378
Maximum	7 123 156	4 797 196	18 162 063	6 138 078	7 344 317	6 922 814
Minimum	0	0	0	9 232	24	0
25th percentile	324 406	331 039	373 119	355 594	408 809	404 852
75th percentile	1 111 197	1 105 940	1 263 736	1 179 309	1 255 667	1 216 923

(maximum) pharmacies reached from 254 887 to 1 490 174 euro per year. Since 2011, the maximum value of the gross profit was falling (from 1 490 174 euro in 2011 to 254 877 euro in 2014). Mean gross profit (from 20 393 to 45 229 euro) was above the median (from 3 332 to 13 390 euro), and that showed that more pharmacies ran their businesses with lower gross profits.

From the group of community pharmacies, 25% (25th percentile) reached the **net profit** from - 2 577 to 532 euro, next 50% (75th percentile) pharmacies from 25 810 to 41 876 euro, and the last 25% (maximum) pharmacies up to 258 815 – 1 235 623 euro per year. Since 2011, the maximum net profit fell from 1 235 623 euro in 2011 to 373 673 euro in 2014. Mean (from 13 204 to 32 843 euro) was again above the median (from 3 687 to 10 033 euro) and pointed out that more pharmacies run their business with lower net profit.

The assessment of **revenues from sales of goods and services** showed a big gap between 75th percentile (from 1 111 373 to 1 294 112 euro) and maximum (from 4 695 606 to 14 847 567 euro) per year. It means that only some pharmacies could generate high revenue from the sales of

goods and services. Half of the pharmacies (50th percentile/median) generated revenue from sales of goods and services in the range of 693 482 to 807 154 euro per year.

Valuation of **operating expenses** reported on a big gap between 75th percentile (from 1 105 940 to 1 263 736 euro) and maximum (from 4 797 196 to 18 162 063 euro) per year. It means that some pharmacies had very high operating costs. Other pharmacies kept their operating expenses lower (50th percentile, from 634 541 to 754 319 euro) and some pharmacies operated with much lower expenses (25th percentile, from 324 406 to 408 809 euro) per year.

The evaluation of **total assets** revealed that maximum of the valuated characteristics had an increasing trend (from 1 502 264 euro in 2009 to 4 307 081 euro in 2014). Other valuated characteristics of parameter were almost stable (25th percentile from 126 656 to 139 988 euro; 50th percentile from 233 256 to 262 247 euro; 75th percentile from 448 778 to 482 807 euro).

The maximum of **inventory** fell slightly from 389 781 in 2009 to 316 476 euro, but in 2014, it increased up to 555 353 euro.

Table 2. The characteristics of community pharmacies by total assets, inventory, short-term receivables and total receivables in the years 2009-2014 (in euro)

Characteristics / Years	2009	2010	2011	2012	2013	2014
Total assets						
Mean	326 886	376 996	395 603	378 534	385 069	380 474
Median	238 662	252 202	262 347	233 256	237 126	240 619
Maximum	1 502 264	2 711 992	3 420 231	3 310 664	4 158 475	4 307 081
Minimum	0	0	11 099	15 035	2 898	0
25th percentile	130 027	139 988	138 793	126 656	134 948	132 086
75th percentile	448 778	491 027	503 447	483 495	482 807	494 298
Inventory						
Mean	60 940	68 614	72 678	71 437	70 937	74 471
Median	53 425	57 848	56 718	58 471	60 536	64 447
Maximum	389 781	376 661	390 385	387 752	316 476	555 353
Minimum	0	0	0	0	0	0
25th percentile	28 189	34 887	36 080	34 323	36 332	33 440
75th percentile	78 091	90 177	91 534	91 748	87 961	89 445
Short-term receivables						
Mean	128 737	15 1028	169 739	147 031	148 060	142 338
Median	95 771	97 390	121 156	95 341	98 005	90 884
Maximum	1 074 495	1 951 133	2 362 549	22 519 72	3 083 673	3 315 942
Minimum	0	-18 884	0	-11 278	-3 622	-8 046
25th percentile	40 625	42 129	57 972	42 268	48 762	42 122
75th percentile	163 672	183 975	211 236	172 482	160 848	161 176
Total receivables						
Mean	134 056	157 830	176 382	151 293	152 933	146 966
Median	103 177	102 626	125 517	98 292	98 074	96 080
Maximum	1 076 654	1 951 133	2 362 549	22 519 72	3 083 673	3 315 942
Minimum	-173	-18 884	1 148	-11 278	-3 622	-8 046
25th percentile	50 203	51 081	60 032	48 610	49 778	43 683
75th percentile	166 394	202 709	217 327	190 851	163 150	163 842

Up to 75% (75th percentile) pharmacies kept inventory from 78 901 euro to 91 748 euro; 50% (50th percentile) from 53 425 to 64 447 euro and 25% (25th percentile) from 28 189 to 36 332 euro.

The maximum of **short-term receivables** increased considerably from 1 074 495 euro in 2009 to 3 315 942 euro in 2014. In contrast, since 2011, all the remaining valuated characteristics were falling (75th percentile from 211 236 to 161 176 euro, 50th percentile from 121 156 euro to 90 884 euro, 25th percentile from 57 972 euro to 42 122 euro).

The **total receivables** followed the same pattern as the short-term receivables. This was due to the fact that total receivables were predominantly made up of short-term receivables. The maximum of total receivables rose from 1 076 654 euro in 2009 up to 3 315 942 euro in 2014, but the rest of the valuated characteristics since 2011 fell (75th percentile from 217 327 to 163 842 euro, 50th percentile from 125 517 to 96 080 euro, 25th percentile from 60 032 to 43 683 euro).

The assessment of **financial assets** exposed that maximum of the valuated parameters had an increasing trend (from 446

232 euro in 2009 to 834 320 euro in 2014). The 25th percentile was nearly stable (from 6 863 to 9 414 euro). Higher oscillation expressed 50th percentile (from 21 387 to 30 448 euro) and the highest oscillation had 75th percentile (from 45 257 to 73 310 euro).

The **owners' equity** expressed a remarkable evolution. The slight changes in 25th percentile that reached values from 6 031 to 8 951 euro and 50th percentile that reached values from 26 699 to 47 125 euro were in contrast with the mean (69 224 to 136 332 euro) and 75th percentile (79 299 to 172 704 euro), where we recorded a significant increase. That points to the fact that owners were showing lower interest in loans and were increasingly financing their businesses from their own resources.

In the assessed period, the **total liabilities** showed a decreasing trend in almost all valuated characteristics (25th percentile from 90 601 in 2009 to 79 525 in 2014, 50th percentile from 174 944 euro in 2009 to 162 175 euro in 2014, 75th percentile 364 313 in 2009 to 342 953 euro in 2014). Contrary to the presented characteristics of parameter is

Table 3. The characteristics of community pharmacies by financial assets, owner's equity, total liabilities and current liabilities in the years 2009-2014 (in euro)

Characteristics / Years	2009	2010	2011	2012	2013	2014
Financial assets						
Mean	54 430	57 488	48 924	51 846	56 373	61 771
Median	28 601	30 448	21 387	21 755	26 974	24 409
Maximum	446 232	530 620	653 468	694 315	820 912	834 320
Minimum	-48 315	-76 788	-49 792	-43 962	-32 318	-14 074
25th percentile	7 903	9 414	7 525	6 871	6 863	6 905
75th percentile	68 246	69 279	45 257	58 461	66 153	73 310
Owner's equity						
Mean	69 224	91 840	85 148	77 824	118 451	136 332
Median	26 699	38 398	47 125	39 163	42 152	42 717
Maximum	1 166 573	2 132 270	2 142 819	2 117 949	2 094 620	2 595 958
Minimum	-320 689	-248 302	-3 557 662	-4 485 266	-194 999	-146 592
25th percentile	6 230	7 852	8 951	6 362	8 198	6 031
75th percentile	79 299	99 957	128 330	128 558	159 396	172 704
Total liabilities						
Mean	259 734	282 672	313 351	303 687	301 591	285 896
Median	174 944	188 606	198 104	169 578	174 580	162 175
Maximum	1 822 953	2 614 204	5 176 998	4 518 491	4 518 547	4 335 779
Minimum	-1 672	-3 521	2 337	1 734	148	-790
25th percentile	90 601	104 948	103 856	88 359	86 512	79 525
75th percentile	364 313	363 292	379 350	364 253	335 733	342 953
Current liabilities						
Mean	221 669	239 853	264 364	292 335	253 190	236 793
Median	146 835	165 962	163 917	138 132	148 804	128 875
Maximum	1 815 381	2 368 508	5 156 333	9 114 421	4 497 815	4 315 030
Minimum	-2 713	-4 574	0	286	0	0
25th percentile	78 205	92 572	84 157	70 021	63 497	67 863
75th percentile	300 807	310 298	300 198	290 270	275 311	269 946

maximum, that rose in 2009-2011 from 1 822 953 to 5 176 998 euro and then slightly dropped to 4 335 779 euro.

The **current receivables** expressed nearly the same proceedings as the total liabilities in case of 25th, 50th and 75th percentiles. These characteristics showed a decreasing trend (25th percentile from 78 205 to 67 863 euro, 50th percentile from 146 835 to 128 875 euro, 75th percentile from 300 807 to 269 946 euro). Only the maximum of current liabilities expressed an inclining trend in 2009-2012 from 1 815 381 to 9 114 421 euro. In the following period 2013-2014, a declining trend was recorded to 4 315 030 euro.

The evaluation of financial parameters and their characteristics presents the basic information on the financial development, performance and management of selected community pharmacies in the period 2009-2014. They provide us with unique information that has never been the subject of investigation and publication of any national, private or professional association on such a large sample of community pharmacies, neither in the Slovak Republic nor in Europe. The presented data can be used for further assessment of factors

(such as legislation, demographic development, health needs of population, etc.) that might have an impact on their value and direction of evolution. Unrepresentative sample of observed pharmacies could cause huge differences between pharmacies in all financial parameters. Practical findings will be required for further analysis in this field.

The work assesses the areas that should be the subject of follow-up and in-depth evaluation, or that can be the basis for the proposal of additional research. The evaluation of community pharmacy operations and overall performance is nowadays very crucial as the European Union countries are more or less facing the consequences of the financial crisis, recession and serious socioeconomic and political changes.

CONCLUSIONS

The European community pharmacy sector is a highly regulated area with various degrees of liberalization in individual countries. Liberalization in community pharmacy usually comprises of liberalization of the establishment

rules for new pharmacies, ownership and OTC medicines' sale outside the pharmacies. Liberalization in community pharmacy in Slovakia, according to the legislative changes valid from the year 2004, brought new conditions of establishment of new pharmacies without any demographic and geographic criteria. The impact of this liberalization on medicine prices or on availability of medicines is expected, but the evidence about this impact on the pharmacies market

is still absent. Independently, from the extent of regulation in community pharmacy, the policy-makers are recommended to monitor and evaluate the impact of the policy measures, and wherever required, to take an action in order to ensure equitable accessibility of medicines, enhance sustainable competition and avoid negative implications to the detriment of patients and community pharmacies as profitable entities.

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