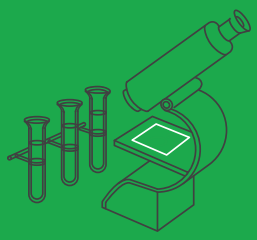
GROUP DSM

Russian pharmaceutical market

2017



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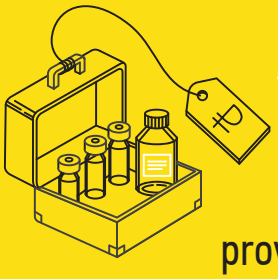

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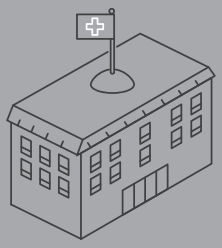

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Summary

Most innovations in the healthcare system are related to develop of information technologies. Hereby legislative initiatives can concern all market segments and all participants.

First of all the question is about the law on marking of drugs, which must become obligatory from January 1st, 2020. The pilot project started on February 1st, 2017 in six regions of Russia and will last until the end of 2018. Manufacturers, distributors, and pharmacy chains are involved in the project.

The new system of control of prices in state purchases of drugs for beneficiaries is introduced from 2018. This system is developed so that to block conclusion of state contracts for drug procurement at excessive prices automatically.

An electronic prescription, electronic sick list, electronic card and unified state healthcare information system must become obligatory in everyday work of a doctor.

Online cash registers became obligatory for large and medium pharmacy retail sector from July 1st, 2017, and small trade must also transfer to online cash register equipment from July 1st, 2018.

The question on permission of online sale of drugs is raised with permanent regularity. But adoption of this law is postponed with the same permanence, not until January 1st, 2019.

"Survival" of participants in post-crisis concisions became the main question in 2017 in the pharmaceutical market. Despite the fact that in 2017, the market demonstrates the positive trend, there are "losses" amount distributors and pharmacy chains.

In 2017, the volume of the Russian pharmaceutical market reached 1,629 billion rubles, which is 8% higher than the previous year. Sales of drugs in physical terms grew by 6% and made 6.3 billion packages. Positive dynamics in packages in 2017 is indicative of improvement of the purchase power of the population and reduction of influence of the social and economic factors on the pharmaceutical market.

The main contribution to market growth was made by the commercial segment of drugs. The retail market dynamics continued 2016 positive trend in packages. Market growth in rubles is lower than in 2016. This was also affected, among other things, by low flu and ARVI morbidity level, which did not lead to growth of the demand for the "seasonal" drugs. Two main trends in consumption of drugs include growth of the share of domestic drugs and consumer's switch to generics. But if the consumer switches to branded generics mainly, in state procurement volumes of generics sold under International Non-proprietary Name (INN) are also growing.

The share of imported drugs in the overall market in the end of 2017 was 70% in money

and 38% in packages. Import substitution works mostly in the state procurement segment +2% to 2016 share. In the commercial segment the share of the domestic drugs is growing in slower rated +0.5%. Thus, the top places in the manufacturer's ranking belong to the foreign companies: Sanofi, Novartis, Bayer.

The consolidation and unification process in the pharmacy markets builds up speed, which leads to enlargement of the market players and increases their market share. The share of TOP-20 has grown by two times since 2014 and made 51%. The Association of Independent Pharmacies "ASNA" achieved the best results in uniting pharmacies and pharmacy chains with 13.8% of the market and representing 8,365 sales outlets. Among the "traditional" chains, the pharmacy chain "36.6" has the largest share (4.8%). With a small break off the top three leaders are rounded out by "Rigla" with the share of 4.7%.

In 2017, the positive concentration trend in the distribution segment changed for the negative one. TOP-10 companies accounted for about 72% (-8% to 2016 figure). Diversification and expansion of the distributors' business sphere, vigorous growth of companies from the "Second dozen". Financial difficulties of the market leaders – all this changed the rating of pharmaceutical "wholesalers" noticeably. In 2017, "Protek" distributor retained the first position, having occupied 18.1%. Distributor «Katren» occupied the second line with a share of 17.6%. In 2016, TOP-3 is rounded out by "Pulse" distributor with the share of 12.4%.

1. Pharmaceutical Market Volume in Russia

Officially healthcare expenses of the budgetary system in percentage to GDP make 3.6% (as per 2016 data). Hereby this figure has positive dynamics: since 2013 it has grown by 0.4%. And if we look at financing plans up 2020, the opposite picture can be observed. RF consolidated budget expenses for the healthcare industry will make as follows: in 2017 — 2.877 trillion rubles, in 2018 — 3.106 trillion rubles, in 2019 — 3.259 trillion rubles, which totals 3.3% to GDP. These forecast figures contradict the President's message to the Federal Assembly: to increase healthcare financing up to 4-5% of GDP.

Additional financing must be appropriated, among other things, for development и modernization of the system of medical aid to old people, oncological service, preventive medical examination, telemedicine, as well as increase of availability of medical services in remote districts and doctors' salary level. But the main task is to increase longevity – it's a task, which will be included in the draft Presidential decree, approving national goals and strategic objectives of Russia up to 2024. According to the Ministry of Health, in 2017 the longevity of Russians reached 72.6 years. It is said in the list of the President's orders that the figure of 78 years must be reached by 2024 and 80 years by 2030.

Most innovations in the healthcare system are related to development of information technologies in medicine.
By the end of 2018 all polyclinics and hospitals must be connected to high-speed Internet and the Unified State Information System in the sphere of Healthcare (USISH) must be incorporated. Due to this system, access to medical documents — cards, extracts, prescriptions — can be obtained from any polyclinics. Also doctors will be able to issue sick lists and drug prescriptions electronically within USISH.

An electronic prescription is convenient, because you need not have it issued in hard copy, bring it to the pharmacy, it gets to the pharmacist via Internet immediately after it is issued. Ordinary electronic prescriptions can be issued already from January 2018, electronic prescriptions for narcotic, strong and poisonous drugs will be in effect from January 1, 2019.

An electronic sick list is introduced across the entire territory of Russia from July 1, 2017. In accordance with Federal Law No 86-FZ at option of the insured person (employee) an electronic disability certificate (sick list) can be issued to him/her upon referral to a medical organization. Early in March 2018 the number of electronic disability certificates issued in Russia exceeded 500,000.

It is officially permitted by the law to render medical aid remotely from 2018. Basic provisions of the law on telemedicine will come into force on January 1, 2018. During the primary online appointment a doctor can only make a decision, whether a patient needs personal visit. Also, within telemedicine, the doctors that have already seen the patient will be able to adjust the therapy assigned earlier, to observe the state of chronic patients remotely.

A new price control system is introduced from 2018 in government procurement of drugs for beneficiaries. Ministry of Health and Rostec State Corporation developed the information analysis program (IAS), which will monitor drugs procurement. Hereby the system itself will form the list of reference or comparative prices (based on analysis of the cost of similar drugs with different suppliers in different regions). This system is developed in order to block conclusion of state contracts for drugs procurement at excessive prices automatically. Most often, price manipulation is possible either due to description of the tender subject so that only one product of the specific manufacturer suited it; or when the limit registered cost is assumed as the initial minimum contract price. After release of budgetary funds, expensive drugs can be purchased for more patients.

The law on Drugs Marking is another project related to information technologies. Marking will allow to trace movement of each package of the drug from the manufacturer to the buyer. The main goal of the law is to prevent emergence of the falsified products and repeated release of drugs already purchased in state auctions to the system. The pilot project started on February 1, 2017 in six regions of Russia. The largest pharmaceutical distributors, a number of manufacturers and pharmacy chains became its participants. The experiment will last until the end of 2018. From January 1, 2020 the system must work in full scale throughout the country.

> An electronic prescription is convenient, because you need not have it issued in hard copy, bring it to the pharmacy, it gets to the pharmacist via Internet immediately after it is issued.

Informatization also concerned pharmacy institutions. As early as in July 2016 the new version of Federal Law No 54-FZ "On Application of the Cash Register Equipment (CRE)" was signed by the RF President. Large-scale and medium-scale pharmacy retailers were transferred to online cash registers from July 1, 2017. The pharmacy business representatives say that this process was painless for pharmacies in general. Though they had to face some difficulties in separate regions of the country.

In this connection the question arises on conjugation of two automated systems: new online cash register models, to which business was transferred during 2017, and equipment, which will scan the drugs package. The main thing is that it would not happen so that by 2020 pharmacies would have to purchase new equipment.
84 models of cash registers from 29 manufacturers are recorded in the register of cash register equipment, three manufacturers included four models of fiscal storage in the register, among other things, with the life time of up to three years. 12 permits were issued for processing of fiscal data; seven expert organizations are included in the register.
Let's note that from July 1, 2018 the service industry and small trade must be transferred to online CRE. So, the entire pharmacy segment will be covered by online cash registers.

Growth of popularity of online purchases has been the trade in the recent years. According to the Ministry of Industry and Trade, in 2017 the Internet trade segment in Russia made just 3–4% of the total retail commodity turnover. At the same time it is forecasted that by 2025 the Internet trade share in Russia will reach 20% in the total volume. Such a target is included in the project "Development strategies of e-commerce in the Russian Federation until 2025". It is expected that by

2025 at least 70% of retail stores will use the Internet channel for sales. The number of Internet vendors, engaged in RF e-commerce sphere, will make at least 100 thousand persons. Hereby 80% of RF population older than 12 years old will start using Internet for purchases.

That is why it is no wonder that the question concerning a permit to sell drugs online is raised with periodic regularity. Since 2015, the issue of legalizing the distance trade of drugs was actively discussed. The Government approve the bill of Ministry of Health, which allows pharmacies to trade in over-the-counter medicines in Internet and to deliver them to the end users. It is supposed that only existing pharmacy organizations can be engaged into online-trade in their official site. It was originally supposed that this bill would come into force as early as in 2018. Now it is postponed until early in 2019. The Association of Internet Trade Companies made a wider proposal to permit sale of prescription drugs in Internet. Most often Russians are looking for drugs, which are sold in pharmacies with prescriptions, in Internet. In order to control their sales electronic prescriptions are already introduced in some regions, it is proposed to make them an obligatory condition for online purchase of drugs. In the Association they say sales of drugs in Internet can also be controlled via online cash registers, which have become obligatory since 2017. Obligatory drugs marking system, which will start working from January, 2020, will also help to trace drugs.

All implemented and discussed innovations will result in transparency of work of all participants. And it can become quicker and easier to sum up the year results.

As per the year result the market volume amounted to 1,629 billion rubles, which exceeds the 2016 figure by 8%. Hereby growth is also observed in dollars and euros for the first time for three years. Ruble devaluation in 2014-2016 resulted in negative dynamics in foreign currencies. The most noticeable decline was noted in 2015, when the ruble exchange rate against foreign currencies dropped significantly.

Figure 2 presents the dynamics of the Russian pharmaceutical market volume 2016-2017 with breakdown by segments.

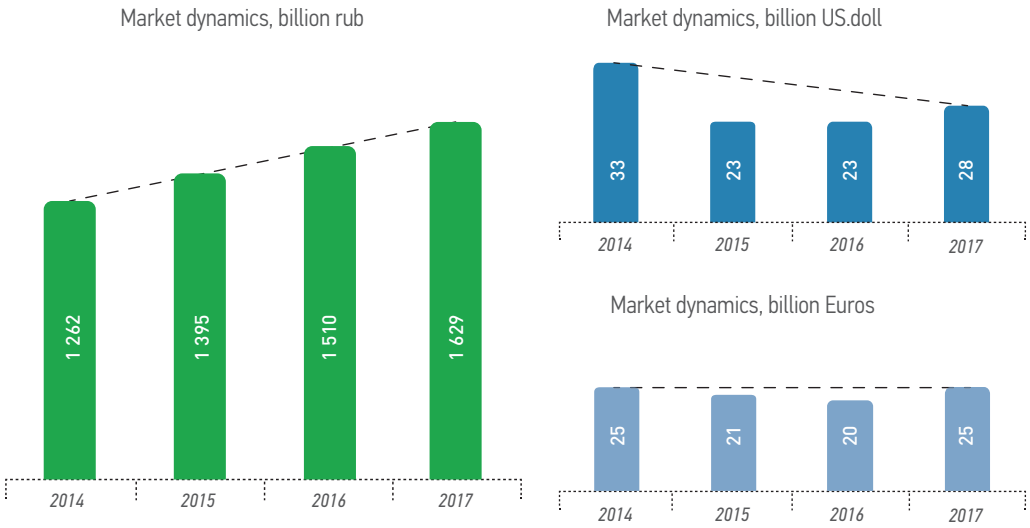


Figure 1

Dynamics of the Pharmaceutical Market

Let us point out market growth in real terms from the positive trends, hereby it is comparable with the dynamics in value terms. Thus, there is practically no price growth factor in increase of the market volume. Increase of actual drugs usage, i.e. increase in packages, came to the foreground in 2017.

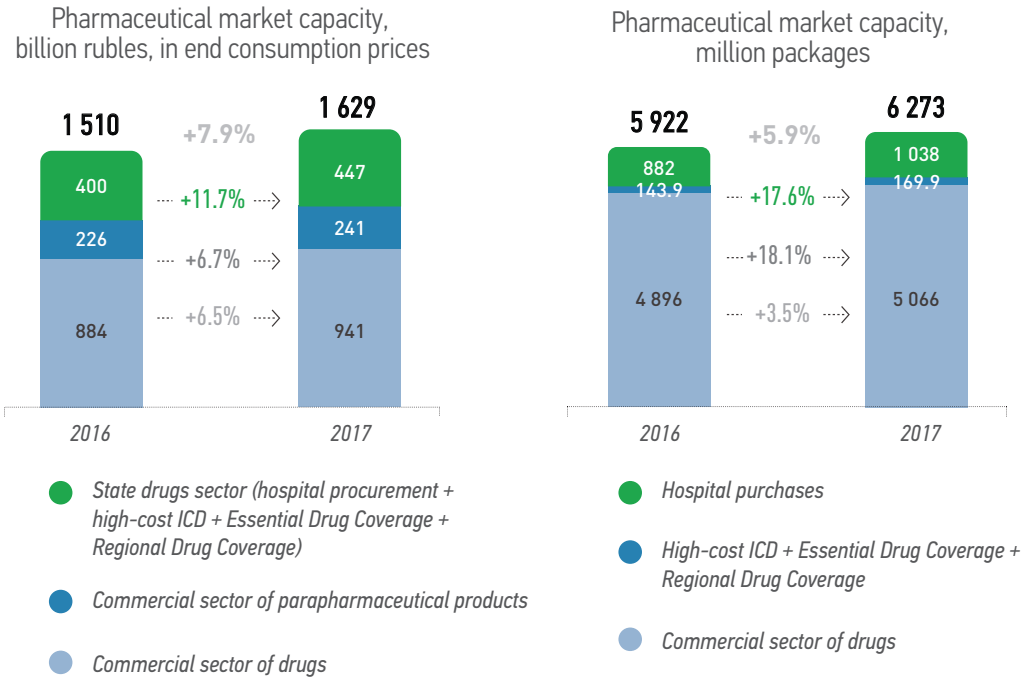
The "state" share (market volume secured with state money - reimbursable drug coverage and hospital purchases) amounts to about 32% of the drug market volume (if parapharmaceutical products are taken into consideration, the share is a little less - 27%). In 2017 the share of the state expenses in drugs usage grew by 1%. In 2016, it was 31.2%. Drugs procurement for medical and preventive treatment facilities increased most of all, by 17% up to 260 billion rubles. Drugs procurement for beneficial categories at the expense of federal funds was increased by 7% up to 115 billion rubles. The financing volume of regional beneficiaries amounted to 72 billion rubles, which exceeds the 2016 figure by 2%.

The dynamics of the commercial segment of drugs has not exceeded 10% for the last several years. In 2017, 5,066 million packages of drugs worth 941 billion rubles (in retail prices) were sold through the pharmacy network. This is 6.5% higher than in 2016 in value terms and 3.5% in physical terms. The positive dynamics in packages in 2017 is indicative of improvement of the purchasing power of population and reduction of influence of the financial and economic factors on the pharmaceutical market. The market growth in rubles is lower than in 2016 (8.3% by the 2015 figure). This was also influenced, among other things, by the low flue and ARVI morbidity rate, which did not lead to growth of the demand for the "seasonal" drugs.

In 2017, the share of original drugs was 36% in value terms and 12% in real terms. However, relative to 2016, the share continues to decline in both parameters. Most of all switch is noted in the state segment – about 3% in money terms. In pharmacy sales the similar figure makes

Figure 2

Pharmaceutical Market Capacity



about 1%. But if the consumer switches mainly to branded generics, in state procurement volumes of generics sold under international non-proprietary names are growing as well.

The share of imported drugs in the overall market in the end of 2017 was 70% in money and 38% in packages. It should be noted that the share of imported drugs is declining, while domestic medicines increase their share in the market. Import substitution started working to a greater extent in the state procurement segment +2% to the 2016 share. In the commercial segment the share of domestic drugs is growing in slower rates +0.5%.

Practically 50% of the market both in money, and in packages are under price regulation, i.e. drugs are included in the list of vital and essential drugs. Drugs from this list– about 80% prevail in the state segment. More items, not included in vital and essential drugs – about 65% in value terms, are sold in pharmacies.

The drugs market structure by the dispensary type is affected by intensity of "seasonal" diseases and sale of respective drugs. In the year with a high morbidity level the share of over-the-counter drugs is higher. In 2017 this figure reduced, which also confirms absence of "epidemics" of cold and viral diseases. About 64% in money terms account for prescription drugs. But due to the lower price OTC-drugs prevail in packages, but their share decreased from 58% to 57%. Note that the main sales volume of OTC drugs is provided through pharmacies (about 95% in rubles from the volume of OTC drugs). In the state segment, mainly the RX drugs are sold - they occupy over 94% of the volume of the tender purchases.

> The "state" share amounts to about 32% of the drug market volume. In 2017 the share of the state expenses in drugs usage grew by 1%. In 2016, it was 31.2%.

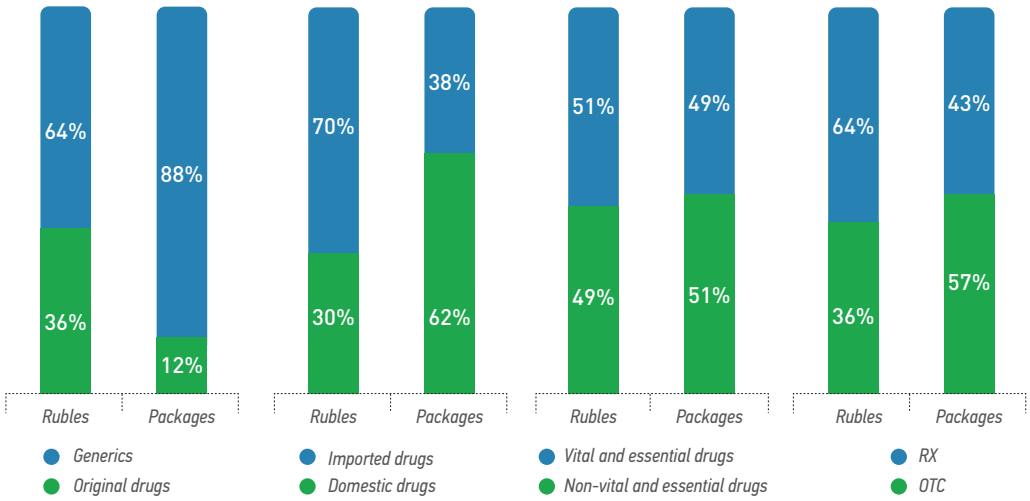


Figure 3

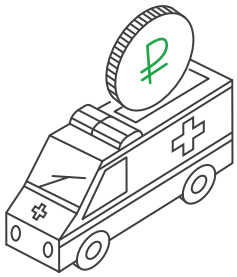
Market Structure in Various Sections, 2017

Table 1

Sales Structure of DP by ATC groups, 2017

AFirst Level ATC-groups	Group share in sales value, %	Group share in real sale volume,%
A: Alimentary tract and metabolism	16.4%	15.6%
J: Antibacterials for systemic use	12.5%	9.9%
L: Antineoplastic and immunomodulating agents	10.7%	1.3%
N: Nervous system drugs	10.2%	15.0%
C: Cardiovascular system drugs	10.1%	11.2%
R: Respiratory system drugs	9.4%	12.7%
B: Agents affecting blood and blood forming organs	7.6%	8.1%
M: Musculoskeletal system drugs	6.2%	6.7%
G: Genitourinary system drugs and sex hormones	5.8%	1.9%
D: Dermatologicals	4.6%	10.7%
S: Agents affecting sensory organs	2.1%	2.2%
Without ATC	1.8%	2.8%
V: Various	1.4%	0.7%
H: Systemic hormonal preparations (excluding sex hormones)	0.9%	0.8%
P: Antiparasitic products, insecticides and repellents	0.2%	0.4%

2. Commercial segment of DP



Sale of drugs is regulated by a lot of laws and standards. New rules of sale of drugs came into force from September 22 — order of the Ministry of Health of the Russian Federation dated July 11, 2017 No 403н "On Approval of the Rules of Sale of Drugs". Basic amendments concern several paragraphs

- Breach of secondary packaging and sale of the drug in immediate packaging shall be allowed in cases, when the quantity of a drug, specified in the prescription or required to the consumer (in case of over-the-counter sale), is less than the quantity of the drug, contained in secondary packaging;

- Now the seal is affixed on all prescriptions that "the drug is dispensed". So, one can't use them repeatedly.

The order also regulates sale of prescription drugs strictly on prescription. Fines for sale of prescription drugs in pharmacies without prescription have grown. From January 1, 2017, as per amendments to the Administrative Offences Code, a dispenser or a pharmacist can be fined for violation of the rules of retail sale of drugs for 5—10 thousand rubles, official — for 20—30 thousand rubles, legal entity — for 100—150 thousand rubles or operation of a pharmacy can be suspended for a period of up to 90 days.

On December 13 the State Duma passed the bill on distant sale of drugs in the first reading. The document developed by the Ministry of Health was presented to the State Duma in October 2017 and must allow to sell over-the-counter drugs in Internet.

Let us note that this initiative was proposed more than one year ago. It is already the second variant of document on authorization of online trade in drugs, developed by the Ministry of Health. The first one was published as early as in 2015 and was to come into force on January 1, 2017.

Only pharmaceutical organizations, having a license for pharmaceutical activity, which provides for certain terms and conditions of receipt and storage of drugs can retail via Internet. Besides, in case of online sale of drugs, they must be delivered by the specialists with the secondary pharmaceutical or medical education so that to consult the buyer at once.

It was originally supposed that this bill will come into force as early as in 2018. Now it is postponed until early in 2019. Also in October 2017 Association of Internet Trade Companies (AITC) proposed to legalize online trade of prescription drugs, but only after introduction of marking and appearance of electronic prescriptions — i.e. in 2019.

> "In 2017 5,065.8 million packages of drugs were sold via the network of pharmacies for the amount of 940.7 billion rubles in retail prices or 752 billion rubles in purchase prices of pharmaceuticals."

So, currently pharmaceutical institutions remain the only legal drugs sales channel.

The main indicator, reflecting the situation in the pharmaceutical market, is growth of sales to similar period last year and on a cumulative basis. Manufacturers, distributors, pharmaceutical chains build their forecasts, plans in respect of this indicator, adjusting them, depending on the intermediate results. And the market growth is mainly influenced not by macrofactors, but by the weather and scale of seasonal diseases.

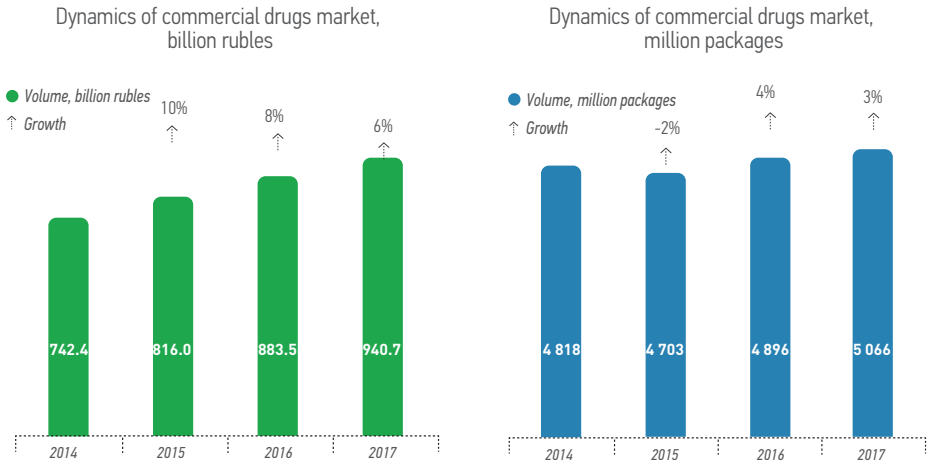
In 2017 5,065.8 million packages of drugs were sold via the network of pharmacies for the amount of 940.7 billion rubles in retail prices or 752 billion rubles in purchase prices of pharmaceuticals. This is 6.5% higher than in 2016 in value terms and 3.5% higher in physical terms. Positive dynamics in packages in 2017 is indicative of increase of the purchasing power of population and reduction of influence of the financial and economic factors on the pharmaceutical market.

In 2016 the pharmaceutical market began to grow in August because of early beginning of the season of cold and viral diseases. High growth rates were also preserved in the first half-year 2017. But, beginning from August, growth of the pharmacy market of drugs dropped noticeably. Such dynamics was caused by the warm weather in autumn and in winter, low flue and ARVI morbidity level, which did not induce growth of the demand for the "seasonal" drugs. The market in packages showed even negative values. Thus, the annual market growth was also determined in 4 quarter – in 2017 4 quarter showed reduction, as a result the forecast values of the market growth were not reached.

Sales regard last year periods were growing in value terms throughout 2017. Sales in physical terms were also growing, but, beginning from September 2017, they began dropping in relation to 2016. This also confirms the fact that "cold and viral period" does not coincide with seasonality and intensity of last year.

Figure 4

Dynamics of Commercial Sales of DP



Proportion of Sales of Imported and Domestic Drugs

The structure of commercial market of DP by the sales volume of imported and domestic drugs is presented on Figure 5.

Despite the fact that in general the number of Russian and foreign manufacturers is practically the same on the market (about 600 and 700 companies respectively), more brands of imported drugs are presented in pharmacies (about 3,950, which makes 10,860 SKU). The similar figure for domestic drugs is by 75% lower – 2,270 brands (7,590 SKU). Thus, it can be seen that foreign companies sell more "unique" items – original drugs and branded generics. Russian drugs are manufactured in big volumes in the form of non-branded generics by several enterprises.

But, hereby in value terms the share of the domestic drugs has been growing in recent years. In 2017 Russian drugs occupied 28.5% of the market, hereby they prevail in pharmacy sales in physical terms – 58.7%. It should be noted that in 2017 the share in the domestic drugs increased in rubles by 0.5%. This happened due to increase in sales of such popular and relatively expensive domestic brands, as "Miramistin" (+23.0% in value terms and 23.1% in physical terms), "Pentalgin" (+16.5% in rubles and 12.6% in packages), "Venarus" (33.8% and 24.9% respectively), etc.

In 2017, the growth in sales of the domestic drugs was significantly higher than the sales growth of the imported drugs in sales value: +7.4% in terms of domestics DP, +6.1% in terms of imported DP. In physical terms sales of the domestic drugs grew by 4.3%, hereby for foreign made drugs growth made only 2.3%.

The average cost of a domestic drug package in retail prices for 2017 amounted to 90 rubles, which is approximately by 3.6 times lower than the cost of an imported drug package (the cost of a foreign made drug in purchase prices of pharmacies made about 321 rubles).

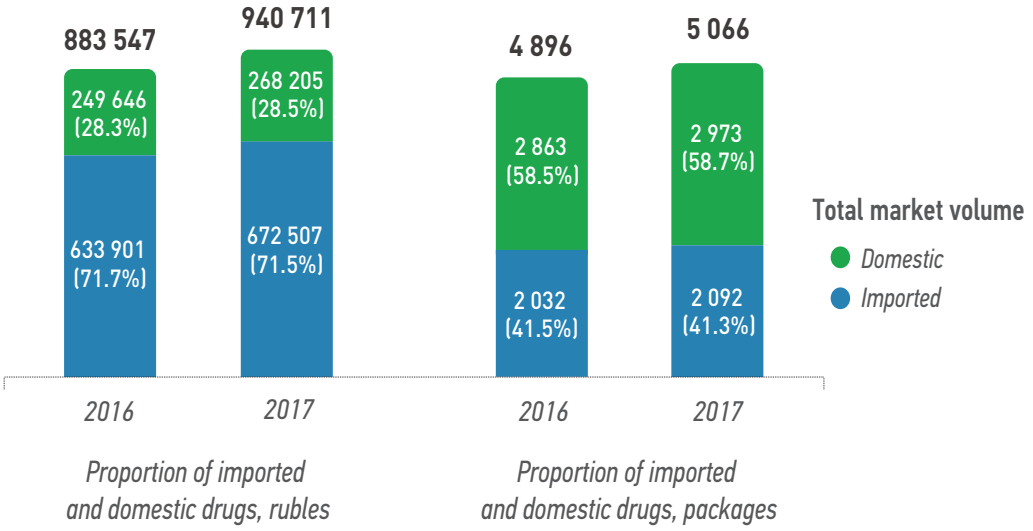


Figure 5

Proportion of Sales of Imported and Domestic DP on Commercial Retail Market

Note: the sales volume is shown in pharmacy retail prices with VAT included.

Proportion of Sales of RX and OTC-drugs

Proportion of Rx and OTC-drugs by pharmacy sales is shown in Figure 6.

According to the results of 2017, sales of both Rx and OTC-drugs increased in retail commercial drug market in monetary terms. Usually sales of Rx drugs grow in higher rates, than sales of OTC-drugs. In the period of the increased ARVI and flue morbidity level, sales of over-the-counter drugs grow vice versa. In 2017 in the absence of a burst of such diseases OTC-drugs grew less significantly (+5.3%), than Rx (7,7%). In packages difference in increments is almost double (5.4% for prescription drugs against 2.6% for OTC-drugs). As a result the share of over-the-counter drugs dropped by 0.6%.

The share of Rx drugs in rubles made 50.4%, and in physical terms the highest share falls within OTC-drugs (67.6%).

The average cost of a prescription drug package was at the level of 283 rubles, an over-the-counter drug cost in retail prices of pharmacies 139 rubles on the average. Price fluctuations in comparison with 2016 were within 2%.

Proportion of Sales of Original and Generic Drugs

In 2017, the share of original drugs was 34.6% in value terms and 13.8% in physical terms. However, relative to 2016, the share continues to decline in both parameters. Generic drugs grew in value terms by 8.3% in general, in packages - by 4.1%, whereas the growth rate of original drugs made just 3.2%, and in physical terms it remained at the level of 2016.

Thus, the consumer switches to generic drugs, mostly branded generics. So, in packages branded generics grew by 6.9%, and drugs, sold under international non-proprietary names, grew only by 0.7%.

Figure 6

Proportion of Sales of Rx and OTC-drugs on Commercial Retail Market

Note. When calculating the share of Rx- and OTC-drug products an official division according to the List of Drug Products sold without a physician's prescription. The fact that often Rx drug products are sold in pharmacies freely, was not considered.

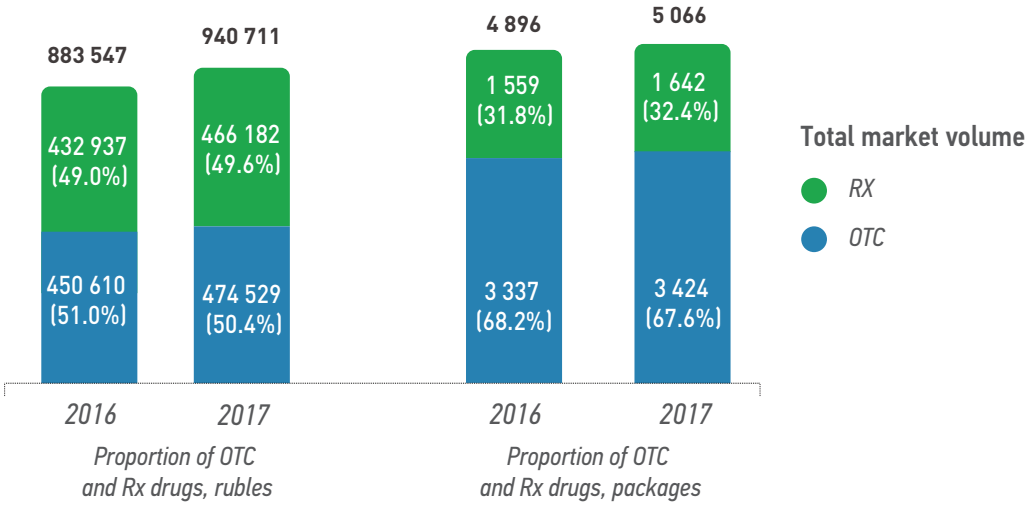


Table 2

Sales Structure of DP on Retail Commercial Market by ATC-groups

First Level ATC-groups	Sales value, bln.rub.	Group share in sales value, %	Real sale volume mln. pack.	Group share in real sale volume. %
[A]: Alimentary tract and metabolism	178.4	8.1%	845	16.7%
[C]: Cardiovascular system drugs	126.6	10.0%	602	11.9%
[R]: Respiratory system drugs	114.4	6.7%	748	14.8%
[N]: Nervous system drugs	108.4	6.5%	806	15.9%
[M]: Musculoskeletal system drugs	78.7	13.1%	109	2.1%
[G]: Genitourinary system drugs and sex hormones	76.4	9.1%	391	7.7%
[[J]: Antibacterials for systemic use	71.6	-5.1%	343	6.8%
[D]: Dermatologicals	60.1	8.8%	596	11.8%
[B]: Agents affecting blood and blood forming organs	41.7	13.5%	175	3.5%
[L]: Antineoplastic and immunomodulating agents	27.0	-7.6%	63	1.2%
[[S]: Agents affecting sensory organs	26.0	5.3%	128	2.5%
Without ATC	18.7	-10.2%	175	3.4%
[H]: Systemic hormonal preparations (excluding sex hormones)	5.3	4.5%	30	0.6%
[V]: Various	4.9	-3.9%	31	0.6%
[P]: Antiparasitic products, insecticides and repellents	2.4	2.5%	23	0.5%

Note. Without ATC drugs, having no ATC-group (homeopathic drugs, drugs of vegetable, animal origin, substances, etc.)

The average cost of an original drug package amounted to 646 rubles (+3.5% to the 2016 figure), generic was purchased on the average for 141 rubles (+4%).

Sales Structure of DP on Retail Commercial Market by ATC Groups

The ratio of 1st level ATC groups by pharmacy sales in Russia is shown in Table 2.

In 2017 the structure of the pharmacy market by 1st level ATC groups changed slightly in relation to 2016:

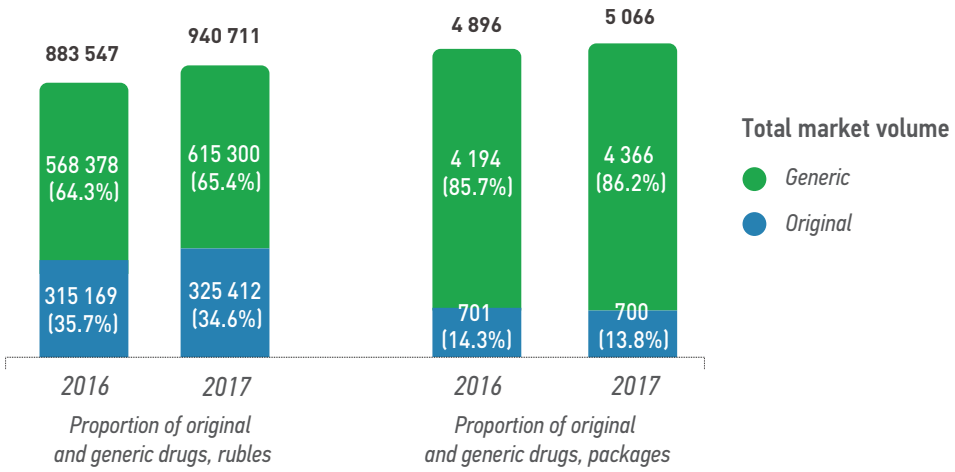
- [J] "Antibacterials for systemic use" went 2 lines down because of reduction of sales by 5.1%, which allowed the group of [M] "Musculoskeletal system drugs" to improve its position, due to growth of sales by 13,1%.
- Groups [H] "Systemic hormonal preparations (excluding sex hormones" and [V] "Various" changed places due to the variety of trends.

In 2017, as well as in the previous periods, the ATC-group [A] "Alimentary tract and metabolism" kept the leading position (19.0%). Compared to 2016, this group shows sales growth in money terms by 8.1%. By the number of packages sold smaller growth of sales, making 2.8%, is observed in this segment. Thus, it can be concluded that the observed growth of sales in rubles on this group is stipulated both by increase of sales in physical terms, and increase of average prices for drugs. "Essentiale", "Linex" remain the leaders in this ATC, "Heptral" ranked third. Considerable growth in this group is demonstrated by "Tantum Verde" (+27%) and "Phosphogliv" brands (62%).

Subgroup [A07] "Antidiarrheic drugs" accounts for about 16.1% of sales of ATC-group [A] by value. "Linex" brand with the share in rubles, corresponding to 14.5%, ranked first in the group [A07] by the volume of sales. "Enterosgel" and "Enterofuryl" rank 2nd and

Figure 7

Proportion of Sales of Original and Generic Drugs of the Russian Retail Commercial Market



3rd in the rating by value with the shares of 10.2% and 8.1% respectively. Cheap, mainly domestic drug "Activated carbon" is the leader by the number of packages sold (almost 44,8% of sales [A07]).

Subgroup [A11] "Vitamins" went down to the second line in its ATC in 2017 – volume of sales reduced by 2% in rubles and by 8% in packages. Consumer's switch to purchase of products, registered as dietary supplements, is one of the reasons.

ATC-group [C] "Cardiovascular system drugs" ranks second by volume. The leader has changed in this group: "Concor" gave the first rank to "Detralex" brand. Such brands, as "Detralex" (+22%), "Venarus" (+34%) and "Flebodia" (39%) contributed most of all to growth sales volume. Increment of non-branded generics under Atorvastatinum INN (+40%) and Bisoprololum INN (+74%) in this ATC-group should be mentioned.

ATC-group [G] "Genitourinary system drugs and sex hormones", which went up to the fifth line in the rating instead of group [J], showed increment of sales at the rate of 9.1% to 2016, this helped it to strengthen its positions, among other things.

In the group [G] subgroup [G03] "Sex hormones" is the leader – this subgroup accounts for 43.4% of sales by value. Hereby the basic volume of sales in the subgroup is made by "Yaz" and "Duphaston" brands. Pharmacy sales of "Yaz" grew by 15.0% for the year, whereas "Duphaston" brand demonstrated slight growth of sales (+1.6%) in comparison with 2016.

The structure of the commercial market by ATC groups remains rather stable from year to year. The increase in the capacity and the average cost of a unit in ATC-group is shown in Figure 7.

As per 2017 results negative growth of the volume of sales by value was noted only in 4 groups among all ATC-groups.

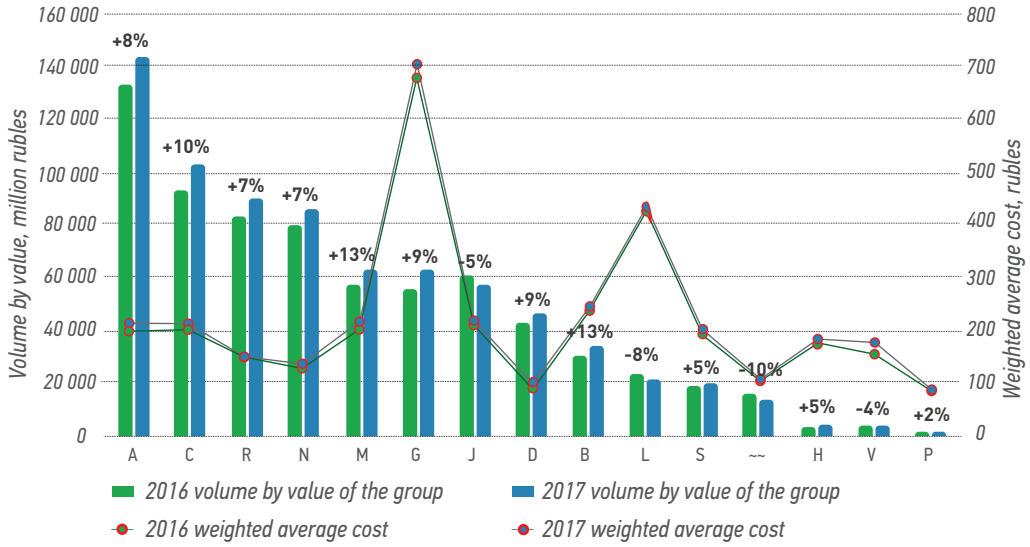


Figure 8

Structure of Commercial DP market in 2016-2017

As it was noted above, group [J] "Antibacterials for systemic use" reduced by 5.1%. From TOP-20 in this subgroup 10 drugs show drop in sales: "Arbidol" (-23%) and "Amixin" (-29%) dropped most of all. Despite preservation of leading positions reduction of volumes of sales is noted for such brands as "Kagocel" (-9.3%), "Ingavirin" (-10.0%), "Ergoferon" (-8.9%).

Subgroup [J01] "Antibacterials for systemic use" account for the highest share of the volume of sales by value in the group [J] (49.1% of sales in group [J]). "Amoksiklav" is the leader in the subgroup, it accounts for about 9.6% of the volume of sales by value for 2017.

Sales in group [L] "Antineoplastic and immunomodulating agents" dropped by 7.6%. Most of such dynamics is ensured by reduction of volumes in subgroup [L03] "Immunomodulators": popular brands demonstrated reduction by more than 20% - "Anaferon" (-32%), "Grippferon" (-26%), "Wobenzym" (-20%).

Drugs, which do not belong to any ATC (-10,2%) have negative dynamics. Homeopathic drugs account for about 50% in the volume of this group. They demonstrated reduction of sales by 10%, and such brands as "Oscillococcinum", "Traumeel", "Aflubin" drop by about 15-30%.

Thus, it can be seen that when ATC-group demonstrates reduction of sales, it has "seasonal" drugs within it, which additionally confirms high dependence of the market growth on these groups in general. ATC-groups, taking a high share, grow in comparable rates in general.

The highest growth rate was noted with the drugs of two groups [M] and [B] – 13%.

Growth of sales of the drugs in group [M] "Musculoskeletal system drugs" occurred due to high positive dynamics of "Voltaren", "Nurofen" and "Artra" brands. In ATC [B] "Agents affecting blood and blood forming organs" increased sales of "Xarelto" (sales grew by 44%), "Eliquis" (+168%) and group

Figure 9

Weighed Increase of DP on Retail Commercial Market by ATC groups

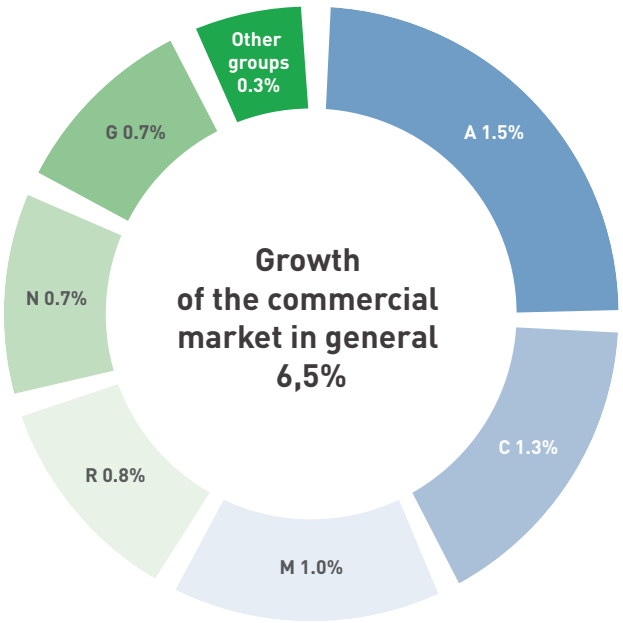


Table 3

TOP-20 manufacturing companies by pharmacy sales volume of Russian retail commercial market in 2017

2017 Rating	Changes	Manufacturer	Sales value, bln.rub. 2017	Sales volume increase	Share
1	1	BAYER	**42.9**	**12.9%**	**4.6%**
2	1	NOVARTIS	**38.7**	**3.1%**	**4.1%**
3	-2	SANOFI	**38.0**	**-0.9%**	**4.0%**
4	1	TAKEDA	**32.7**	**13.4%**	**3.5%**
5	-1	SERVIER	**31.2**	**6.3%**	**3.3%**
6	-	OTCPHARM	**29.6**	**5.4%**	**3.1%**
7	-	GLAXOSMITHKLINE	**26.8**	**3.4%**	**2.9%**
8	1	BERLIN-CHEMIE	**26.0**	**8.9%**	**2.8%**
9	-1	TEVA	**25.7**	**-0.7%**	**2.7%**
10	-	STADA	**24.4**	**6.2%**	**2.6%**
11	-	GEDEON RICHTER	**24.2**	**5.6%**	**2.6%**
12	-	JOHNSON & JOHNSON	**23.4**	**4.8%**	**2.5%**
13	-	ABBOTT	**21.8**	**11.1%**	**2.3%**
14	-	KRKA	**21.5**	**11.3%**	**2.3%**
15	1	PHARMSTANDARD	**18.3**	**9.9%**	**1.9%**
16	-1	ASTELLAS	**16.7**	**-2.2%**	**1.8%**
17	-	ALLERGAN	**16.4**	**4.3%**	**1.7%**
18	-	VALENTA	**15.1**	**1.5%**	**1.6%**
19	-	PFIZER	**13.8**	**-4.3%**	**1.5%**
20	1	DR.REDDY'S	**13.6**	**9.9%**	**1.4%**

leader – "Cardiomagnyl" (+14%) contributed to growth of sales. In physical terms these groups also became leaders by increase in consumption. Reduction of pharmacy sales in packages was recorded only among 3 groups: "Without ATC" (-11.9%), [L] "Antineoplastic and immunomodulating agents" (-7.0%) and [J] "Antibacterials for systemic use" (-4.9%).

The highest cost of the weighted average package as per 2017 results amounted to 703 rubles for group [G] drugs «Genitourinary system drugs and sex hormones». Such a high price is explained by the fact that the cost of a package of some drugs of this group reaches 10 thousand rubles and over. In general [G] has the minimum price of 300 rubles from TOP-100 ATC drugs

Also high average unit price in noted in group [L] Antineoplastic and immunomodulating agents" - about 428 rubles, [B] "Agents affecting blood and blood forming organs" - about 240 rubles.

Contribution of different ATC-groups to overall growth of the commercial market was evaluated with the help of the weighted average increment – index, accounting the share of ATC-group, multiplied by its growth rate (figure 9).

Groups [A] "Alimentary tract and metabolism", [C] "Cardiovascular system drugs" and [M] "Musculoskeletal system drugs" contributed most of all to increase of the commercial market of drugs in 2017 by value, which totaled 3,8% or about 60% of the market growth in general.

DP Manufacturers on Retail Commercial Market

Table 3 shows TOP-20 manufacturing companies leading by the sales volume on Russian commercial market in 2017.

In 2017, over 1,150 players were presented on the Russian pharmaceutical market. Totally, TOP-20 manufacturers cover 53.2% of DP sales volume. In comparison with 2016 the total share of TOP-20 dropped by 0.5%.

Bayer is the leader of the commercial market of drugs as per 2017 results with the share in rubles of 4.6%. Bayer's portfolio is rather big (79 brands sold in pharmacies). "Xarelto" accounts for the company's maximum sales volume - its share in the company's sales as per 2017 results made 11.1% in money terms, and sales per year grew by 43.5%, which became the best growth of sales among the key drugs. "Supradyn" brand ranks second by growth of sales (from TOP-10 of Bayer's portfolio): +30.0% to 2016 sales level. In physical terms such famous brands, as "Aspirin", "Rennie", "Relief" are leading by the sales volume. These three items account for over 32% of packages sold, which exceeds the total share of these drugs in the company's sales in value terms almost by three times.

Novartis manufacturing company ranks second with the share of 4.1%. The growth rate of the company's sales as per 2017 results was positive (+3.1%). A number of the company's key drugs had considerable growth of sales – "Ketonal" (+11.5% to 2016 sales level), "Amoksiklav" (+10.9%), "Linex" (+10.0%). The best growth among the company's most demanded drugs was shown by "Erispirus" brand (+62%). But it should also be noted that there was a "declining" groups of drugs in Novartis' portfolio: "ACC" (-4.1% in comparison with 2016 sales level), "Persen" (-2.6%), etc.

Sanofi, going down to the third position in the rating, gave just 0.1% by the share in rubles to the new leader. The company's sales in 2017 dropped by 0.9% in relation to the previous year. Leading "Essentiale" accounts for 15.5% of Sanofi's total sales as per 2017 results, and

Table 4

TOP-20 drugs manufacturing companies by packages as per 2017 results

2017 Rating	Changes	Manufacturer	Volume by value, million packages	Increment of natural volume	Share
1	0	PHARMSTANDARD	**384.1**	**9.0%**	**7.6%**
2	1	VEROPHARM	**177.1**	**14.5%**	**3.5%**
3	-1	STADA	**171.8**	**2.4%**	**3.4%**
4	0	OTCPHARM	**155.3**	**6.1%**	**3.1%**
5	0	TULA PHARMACEUTICAL FACTORY	**145.8**	**10.2%**	**2.9%**
6	1	PFK OBNOVLENIE	**139.1**	**23.1%**	**2.7%**
7	-1	TEVA	**117.9**	**-4.6%**	**2.3%**
8	0	NOVARTIS	**109.9**	**0.6%**	**2.2%**
9	1	TAKEDA	**109.9**	**11.2%**	**2.2%**
10	1	OZON	**100.2**	**1.6%**	**2.0%**
11	1	PH “Pharm-Center”	**95.9**	**-2.8%**	**1.9%**
12	-3	TATKHIMPHARMPREPARATY	**95.9**	**-3.1%**	**1.9%**
13	0	JOHNSON & JOHNSON	**94.7**	**0.0%**	**1.9%**
14	1	DR.REDDY'S	**93.7**	**7.3%**	**1.8%**
15	1	BERLIN-CHEMIE	**91.9**	**7.1%**	**1.8%**
16	-2	SANOFI	**90.9**	**0.6%**	**1.8%**
17	0	GLAXOSMITHKLINE	**84.8**	**-0.3%**	**1.7%**
18	0	GEDEON RICHTER	**79.7**	**0.8%**	**1.6%**
19	3	POLPHARMA	**76.2**	**13.6%**	**1.5%**
20	-1	SERVIER	**76.0**	**2.1%**	**1.5%**

the specific weight of "Lozap" and "Magne", taking the second and the third line, made 11,9% and 7,1%.

According to the results of 2017, in TOP-20 of manufacturers of commercial drug market, the following companies have improved their position: Russian company "Pharmstandard" (pharmacy sales of drugs grew by 9.9% due to stable growth of the demand for such drugs, as "Phosphogliv", "Ferrohematogen", "Combilipen", etc.); Takeda (the growth rate of which turned out to be maximum among TOP-20 companies – 13.4% to 2016 sales level due to growth of sales of a number of brands, in particular, "Xymelin", "Ceraxon" and "Cardiomagnyl"). Dr.Reddy's and Berlin-Chemie managed to go one line up in the rating.

It should be noted that 10 companies-participants of TOP-20 of drugs manufacturing companies retained their positions in 2017. Hereby most companies recorded growth of sales.

4 companies from TOP-20 showed negative dynamics. Pfizer's sales dropped most of all due to reduction of volumes of sales of "Multi-tabs" vitamins. Astellas' volumes also reduced – this is related to sale of part of their drugs to Leo Pharma.

The manufacturers' rating is mostly represented by foreign companies: as per 2017 results only 3 companies belong to Russian ones. "OTCPharm" holds the maximum share of 5.4%, ranking 6th.

In physical terms, the leaders in pharmacy demand are Russian manufacturers. Pharmstandard company holds the maximal share (about 7.6%). "Veropharm" holds about 3.5% of pharmacy sales in packages. The top three companies are rounded out by Stada – 3.4%. The concentration on this index is lower, than the similar figure in value terms: TOP-20 manufacturers account for 49.2% of drugs sales in physical terms.

Drugs of Retail Commercial Market

Table 4 shows TOP-20 brands leading by the sales volume on Russian commercial market in 2017.

In total, TOP-20 leading brands cover 10.9% of sales value of the RTU commercial segment. A top sellers triumvirate has changed completely: "Nurofen" improved its position considerably, having climbed the first line of the rating due to increase of the volume of sales by value by 14.9% (the market share made 0.8%). "Nurofen" came out on the top, having outstripped "Kagocel". "Detralex" ranked third, having climbed 5 lines up.

As per results of sales 2017 "Ingavirin", one of the leaders in the past periods, turned out to be just 7th, having showed maximum decline (-10%).

From significant positive changes one can mention +9 ranks and entry of "Canephron" in TOP-20, "Xarelto" +6 ranks, "Detralex" +5 ranks. Only "Duphaston" (27 line) left the rating.

In physical terms "traditional" cheap products "Antiseptic band-aid", "Citramon" and "Activated carbon" continue to be leading. Six drugs, included in TOP-20 by packages, showed negative dynamics, hereby most of them belong to sedative agents: "Valeriana", "Corvalol", "Leonorus". The highest growth rates are demonstrated by "Chlorhexidine", "Omeprazole" and "Ferrohematogen". Let us note that TOP-20 brands in physical terms account for about 21% of pharmacy sales,

Table 5

TOP-20 drug brands by sales volume in value terms on Russian commercial market in 2016-2017

2017 Rating	Changes	Brand	Sales value, bln.rub., 2017	Sales volume increase	Share
1	2	NUROFEN	**7.1**	**14.9%**	**0.8%**
2	-1	KAGOCEL	**6.2**	**-9.3%**	**0.7%**
3	5	DETRALEX	**6.1**	**21.9%**	**0.7%**
4	1	CONCOR	**6.1**	**6.2%**	**0.6%**
5	2	CARDIOMAGNYL	**6.0**	**13.7%**	**0.6%**
6	-2	ESSENTIALE	**5.9**	**-0.8%**	**0.6%**
7	-5	INGAVIRIN	**5.7**	**-10.0%**	**0.6%**
8	-2	ACTOVEGIN	**5.7**	**4.5%**	**0.6%**
9	1	MIRAMISTIN	**5.6**	**23.0%**	**0.6%**
10	1	MEXIDOL	**5.3**	**19.3%**	**0.6%**
11	-2	TERAFLU	**5.1**	**5.6%**	**0.5%**
12	1	PENTALGIN	**5.1**	**16.5%**	**0.5%**
13	6	XARELTO	**4.8**	**43.5%**	**0.5%**
14	-2	LOZAP	**4.5**	**1.4%**	**0.5%**
15	-1	NISE	**4.3**	**2.8%**	**0.5%**
16	-	LINEX	**4.2**	**10.0%**	**0.4%**
17	-	VOLTAREN	**4.1**	**16.8%**	**0.4%**
18	-	LORISTA	**3.8**	**13.9%**	**0.4%**
19	-4	ERGOFERON	**3.8**	**-8.9%**	**0.4%**
20	9	CANEPHRON	**3.7**	**17.6%**	**0.4%**

i.e. the concentration is higher, than in value terms. The weighted average price in the TOP-20 by units is about 28 rubles.

VITAL AND ESSENTIAL DRUGS

Vital and Essential Drugs is a list of the drug products approved by the Government of the Russian Federation in order to regulate the prices for drug products by the state.

The list of vital and essential drugs in 2017 remained without considerable changes. In the reporting year it included 646 of international non-proprietary names of drugs. From 2017 the list of vital and essential drugs will be updated once a year, but hereby requests for inclusion of a drug will be considered from January to October of the current year.

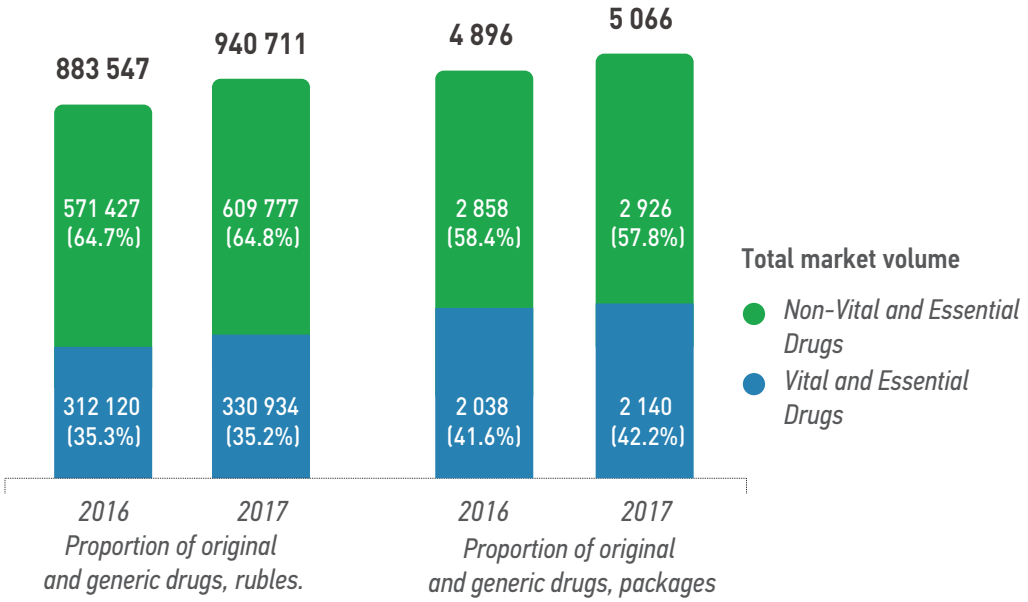
In 2018 the list of vital and essential drugs was replenished with 60 new drugs. In 2018 list the chemical structural name of the active substance N-carbamoyl-4-phenyl-2- pyrrolidone was changed for the denominative international non-proprietary name Fonturacetam. Dosage forms remained unchanged. Antineoplastic drugs account for the major part among new drugs in the list of vital and essential drugs 2018 — 22 drugs under international non-proprietary name.

The prices for vital and essential drugs are under the strict state control. In December 2016 the Ministry of Health published the bill, in which it is proposed to change the registration rules and the method of calculation of the limit selling prices for vital and essential drugs. Many representatives of the pharmaceutical industry call the project of the new method of pricing for vital and essential drugs "shock therapy". This document became the subject of discussions in 2017, and, by all appearances, the subject will also be discussed next year not less actively. The new registration prices for drugs must have been approved in autumn 2017, however, the deadline was postponed. There is still no consent on the market, which, no doubt, suits many manufacturers. In 2017 retail prices for vital and essential drugs decreased for the first time.

The government also proposed to make amendments in art. 219 of the second part

Figure 10

Sales Ratio of Vital and Non-Vital Drugs



of the Tax Code, due to which patients that spent their own money for drugs from the list of vital and essential drugs, will be able to get tax refund. As per the Tax Code, currently Russian citizen can refund 13% from 120 thousand rubles, spent for drugs, the list of which is approved by the special decree of the Government. However, the list of drugs has not been updated since 2007, and does not include new modern drugs, registered for the last 10 years. That is why it proposed to include indication to the list of vital and essential drugs in the Tax Code instead of the "special list".

According to the results of 2017, 588 INNs of the list of Vital and Essential Drugs were registered in the pharmacy sales (which accounts for 2,021 brands). The sales volume of the drugs on the list of Vital and Essential Drugs was almost 331 billion rubles or 2,140 million of units (Figure 10).

Let us note that in value terms the sales volume of vital and essential drugs grew a bit less significantly, than for remaining list of drugs (6.0% - vital and essential drugs, 6.7% - non-vital drugs). In physical terms the picture is somewhat different: vital and essential drugs in packages grew by 5.0%, whereas the sales volume of drugs, not included in the list, grew by 2.4%.

> The average cost of Vital and Essential Drugs did not exceed the weighted average price for other drugs (208 rub.). It signifies that in the segment of Vital and Essential Drugs the shift of sales towards expensive drugs is less evident than generally on the market, which can be explained by strict regulation of prices for the drugs on the list of Vital and Essential Drugs.

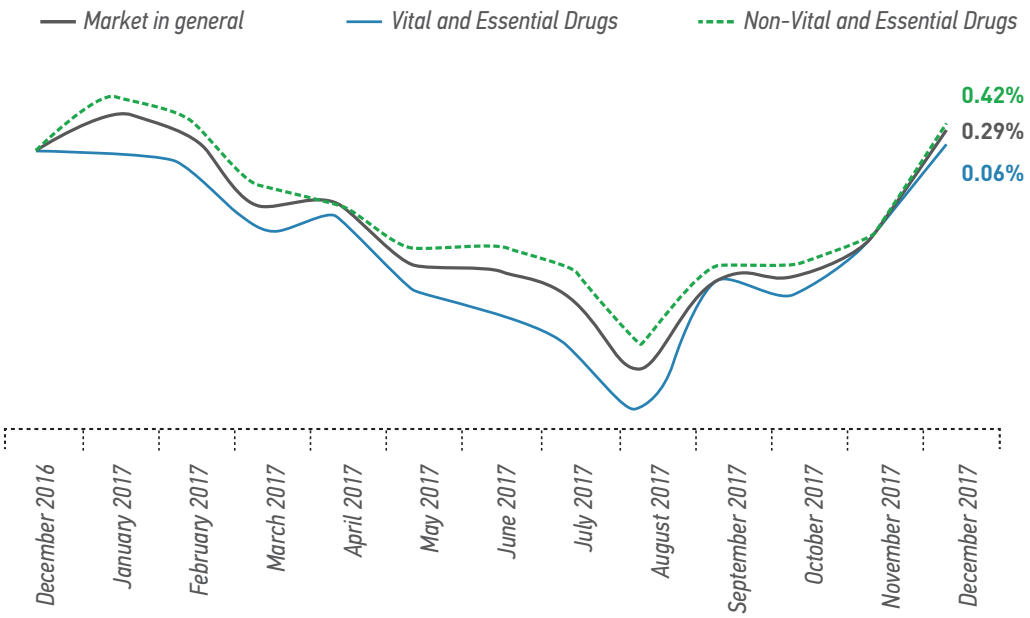


Figure 11

Price Index Dynamics On Commercial Market in 2017

Table 6

Sales Ranking of INN Included in the Vital Drugs List

2017 Rating	Changes	INN	% from vital drugs sales, rub	Volume, billions of rubles	Leader among brands inside INN
1	-	XYLOMETHAZOLINE	**4.7%**	**15.59**	TYZINE
2	-	IBUPROFEN	**3.1%**	**10.37**	NUROFEN
3	-	PANCREATIN	**2.8%**	**9.19**	KREON
4	-	BISOPROLOL	**2.6%**	**8.53**	CONCOR
5	2	ETHYLMETHYLHYDROXYPYRI-DINE SUCCINATE	**1.9%**	**6.17**	MEXIDOL
6	- 1	IMIDAZOLILETANAMID PENTANEDIOIC ACID	**1.7%**	**5.70**	INGAVIRIN
7	- 1	AMOXICILLIN + CLAVULANIC ACID	**1.7%**	**5.64**	AMOXICLAV
8	1	ATORVASTATIN	**1.7%**	**5.47**	ATORVASTATIN
9	3	OMEPRAZOLE	**1.6%**	**5.18**	OMEZ
10	1	LOSARTAN	**1.5%**	**5.11**	LORISTA
11	15	RIVAROXABANUM	**1.4%**	**4.76**	XARELTO
12	-2	AZITHROMYCIN	**1.3%**	**4.43**	SUMAMED
13	-5	INTERFERON ALFA-2B	**1.3%**	**4.38**	VIFERON
14	6	METFORMIN	**1.3%**	**4.33**	SIOFOR
15	4	URSODESOXYHOLIC ACID	**1.3%**	**4.24**	URSOSAN
16	-	TAMSULOSIN	**1.3%**	**4.19**	OMNIC
17	5	CETIRIZINE	**1.2%**	**3.99**	CETRINE
18	6	ADEMETIONINE	**1.2%**	**3.89**	HEPTRAL
19	-1	AMOXICILLIN	**1.2%**	**3.83**	FLEMOXIN
20	1	PERINDOPRIL	**1.2%**	**3.82**	PRESTARIUM A

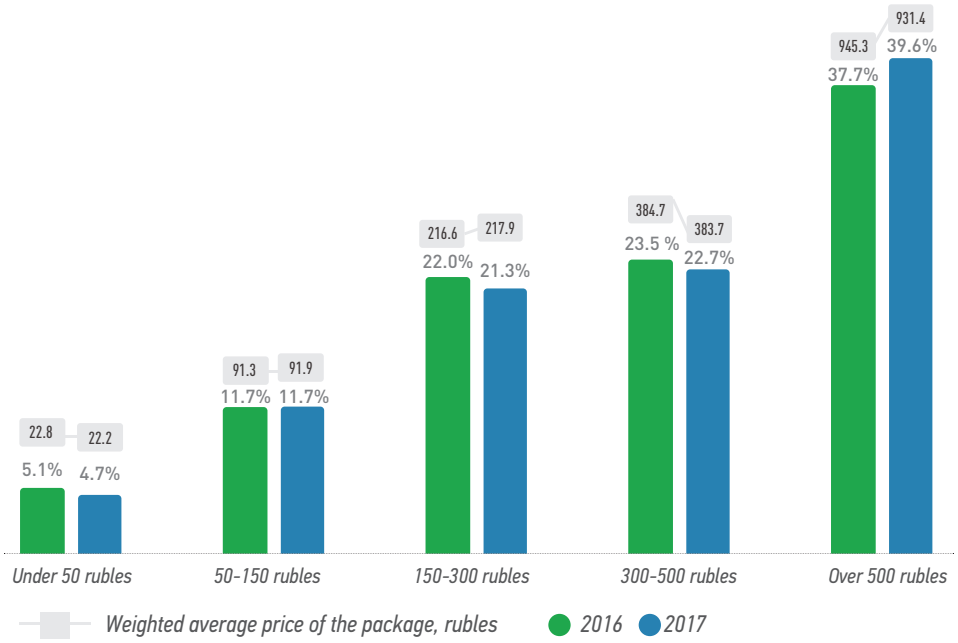
The share of domestic vital drugs in physical terms made 52.8%, in money their share amounts to 28.6%.

At year-end 2017, the weighted average price for Vital and Essential Drugs amounted to 186 rubles; the price of one unit of a domestic drug was about 84 rubles, that of an imported drug was 2.8-times higher (234 rubles).

The average cost of Vital and Essential Drugs did not exceed the weighted average price for other drugs (208 rub.). It signifies that in the segment of Vital and Essential Drugs the shift of sales towards expensive drugs is less evident than generally on the market, which can be explained by strict regulation of prices for the drugs on the list of Vital and Essential Drugs.

Figure 11 shows a price index for the various groups of drugs.
Inflation for drugs in 2017 turned out to be practically zero – as per results of December 2017 the prices grew just by 0.3% in relation to December 2016. Low growth of prices was also observed earlier, but for the limited list of drugs – in this case the questions is about the drugs from the list of vital and essential drugs. In 2017 such drugs grew by 0.06%. In the reporting year there was also low inflation for other drug items, sold in pharmacies – 0,4%. In 2017 many market indicators demonstrated trends, which were not typical earlier. During practically the whole year the inflation for drugs was negative. In autumn growth of prices for drugs resumed traditionally expecting increase in sales of "seasonal" drugs. And only in December the inflation jumped over the zero mark.

DP sales ranking by INN included in the list of Vital and Essential Drugs is presented in Table 5. The rating of vital and essential drugs under international non-proprietary names is headed by XYLOMETAZOLINE, sales of which grew in



Fugure 12

Value Sales Structure of DP Commercial Market by Price Categories

2017 by 16.0% in relation to the last year. Let us note that in 2016 XYLOMETAZOLINE was the leader as well. In general the alignment of forces in the top of the rating has changed slightly: ETHYLMETHYLHYDROXYPYRIDINE SUCCINATE INN strengthened its position, having climbed 2 lines up due to increase of sales by 18.8%. This growth of sales was ensured by growth of popularity of such brands, as "Mexidol" (+19.3%), "Mexiprim" (+13.1%), etc. In general, sales of all INNs in the rating of vital and essential drugs in 2017 grew in relation to the previous year. Maximum growth of sales was showed by RIVAROXABANUM INN (43.5%), due to which this INN was included in top ten (+15 ranks). "Xarelto" is the key brand among this INN. 3 INNs recorded reduction of sales – maximum for INTERFERON ALFA-2B INN (-13.5%).

Price Segmentation of Drugs on Retail Commercial Market

In 2017, the average unit price of DP on the commercial market increased by 2.9% and amounted to 185.7 rubles. We now consider the components of this value.

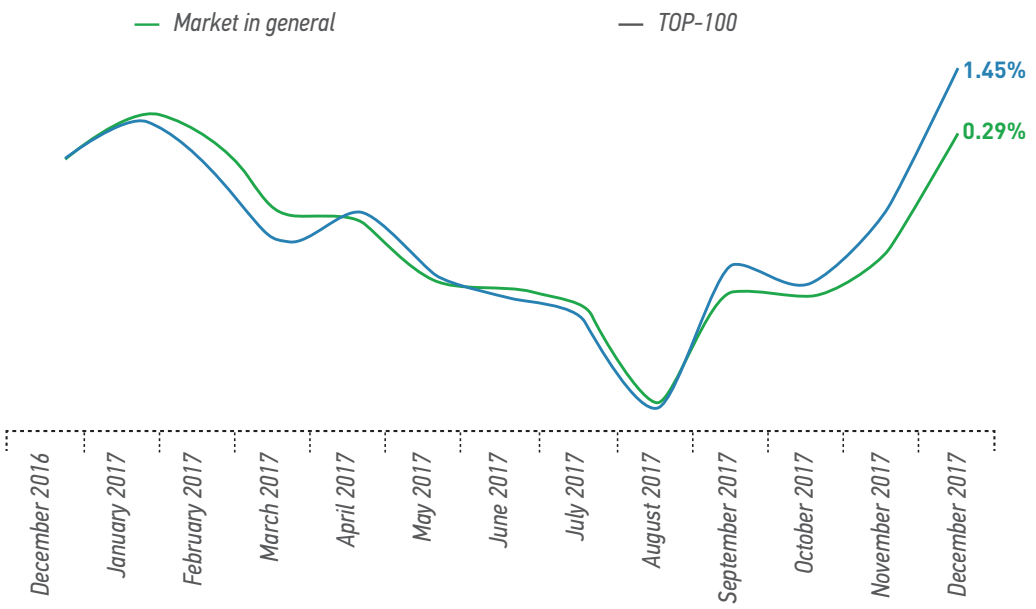
The commercial market structure and the average price per unit in different price categories in 2016-2017 are presented in Figure 12.

As it can be seen from figure 11, the share of drugs with the cost of under 50 rubles reduced by 0.4% last year. It should be noted that the share of these drugs in the list of vital and essential drugs also dropped by 0.2%. The tendency of demand shift towards more expensive and effective drug products has been seen on the national pharmaceutical market for the past several years.

If we "fix" the consumer basket at the level of 2016 (regardless of drug price in 2017, it falls into the same segment, which it is in according to the results of 2016), in 2017, the share of the drugs priced less than 50 rubles was 4.7%, i.e. by 0.4% less than in 2016. This is indicative of the fact that shift of the demand towards more expenses drugs occurs due to reduction in consumption of "cheap" drugs, and not due to

Figure 13

Change in Prices of DP on the Russian Commercial Market in 2017



growth of prices. This factor is also confirmed by the fact that the share of other segments remains at 2016 level. And only the segment with the price, exceeding 500 rubles, will grow in the share by 0.3%. Thus, the consumer is focused on more expensive drugs.

The segment of the drug products with price up to 50 rubles has still the greatest capacity in the unit terms and amounts to 39.4%. However, in comparison with 2016 reduction in the share of this price category by 0.7% was noted.

The fastest growing price group both in value (+11.7%) and in unit (+13.4%) terms is a group of drugs priced over 500 rubles, its share increased by 1.9% and amounted to 39.6% in rubles. In packages the share of this group is not so high – 7.9%.

The sales volume of other price segments was increasing in lower rates and grew within 3-4%.

> In 2017, inflation for drugs (0.3%) was lower than the overall State Statistics Committee (SSC) consumer price index (2.51%). Thus, growth of prices for drugs lagged behind growth of prices of the basic commodity groups considerably.

Price Index of Drugs on Retail Commercial Market

To make an objective estimate of drug price change on the retail commercial market, price index based upon a fixed list of ready-to-use drugs was considered.

Despite the growth of the market in packages, the price factor also contributed to the growth

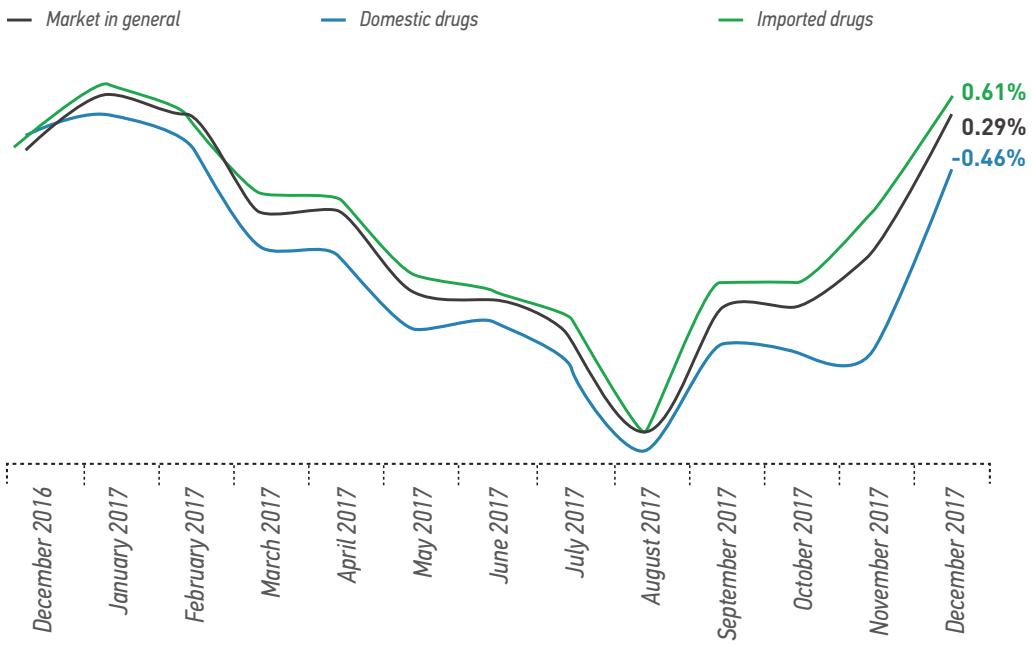


Figure 14

Price Index for Drugs of Domestic and Imported Manufacturers on the Russian Commercial Market in 2017

Table 7

TOP-20 new brands on the Commercial Market of the Russian Federation in 2017

№	Brand	Company	Volume, millions of rubles	Date of appearances in pharmacies
1	Exostat	Vertex	**164.3**	**feb 17**
2	Vivayra	Belupo	**141.5**	**mar 17**
3	Calmirex	Sotex	**139.5**	**mar 17**
4	Exorolfinlac	Novartis	**108.6**	**june 17**
5	Mestamidine-Sense	Citera	**74.9**	**aug 17**
6	Triplixam	Servier	**73.8**	**mar 17**
7	Trulicity	Eli Lilly	**73.0**	**mar 17**
8	Troximethacin	Vetprom-Radomir	**65.5**	**jan 17**
9	Fazostabil	Atoll	**63.4**	**june 17**
10	Telzap	Sanofi	**55.0**	**feb 17**
11	Telmista	KRKA	**42.4**	**feb 17**
12	Spazmaton	Borisovskiy zavod medicinskikh preparatov	**40.7**	**sep 17**
13	Momate Rhino	Glenmark	**37.2**	**feb 17**
14	Nixar	Berlin-Chemie	**37.0**	**apr 17**
15	Cofasma	Agio	**35.5**	**feb 17**
16	Meloxicam-Solopharm	Grotex	**34.8**	**june 17**
17	Pentalgin Extra-Gel	OTCPHARM	**31.4**	**aug 17**
18	Uperio	Novartis	**29.8**	**feb 17**
19	Solantra	Galderma	**28.7**	**jan 17**
20	Hexo Broncho	Johnson & Johnson	**27.7**	**jul 17**

of the pharmacy market. It was mostly related to change of the sales pattern towards more expensive drugs. Inflation for drugs in 2017 turned out to be practically at the zero level– as per December 2017 results prices grew just by 0.3% in relation to December 2016.

In 2017, inflation for drugs (0.3%) was lower than the overall State Statistics Committee (SSC) consumer price index (2.51%). Thus, growth of prices for drugs lagged behind growth of prices of the basic commodity groups considerably.

More considerable price increased was noted for the most demanded drugs: price index for TOP-100 trade names by turnover in 2017 made 1.45% (fig. 13).

The price index for imported and domestic drugs for 2017 is shown on Figure 14.

Low growth of prices for the drugs is recorded in all subgroups: imported drugs grew in the price by 0.6%, Russian drugs dropped by 0.5%. The price of prescription drugs for the consumer grew on the average by 0.1%, over-the-counter drugs – by 0.4%.

As per the data of the State Statistics Committee, in 2017 drugs accounted for about 2.13% in the basic pattern of consumer expenses of the Russian population, this figure grew by 0.03%. Thus, the State Statistics Committee increases significance of drugs in consumer expenses slightly every year: for the five years the weight has grown by 0.2%.

Figure 14 shows the overall consumer price index and price indices for various categories of goods and services.

In 2017, the overall consumer price index amounted to 2.51% Hereby the highest growth of prices is observed for gasoline (7.3%). Least of all the prices grew for drugs (0.3%) and foodstuffs (1.1%).

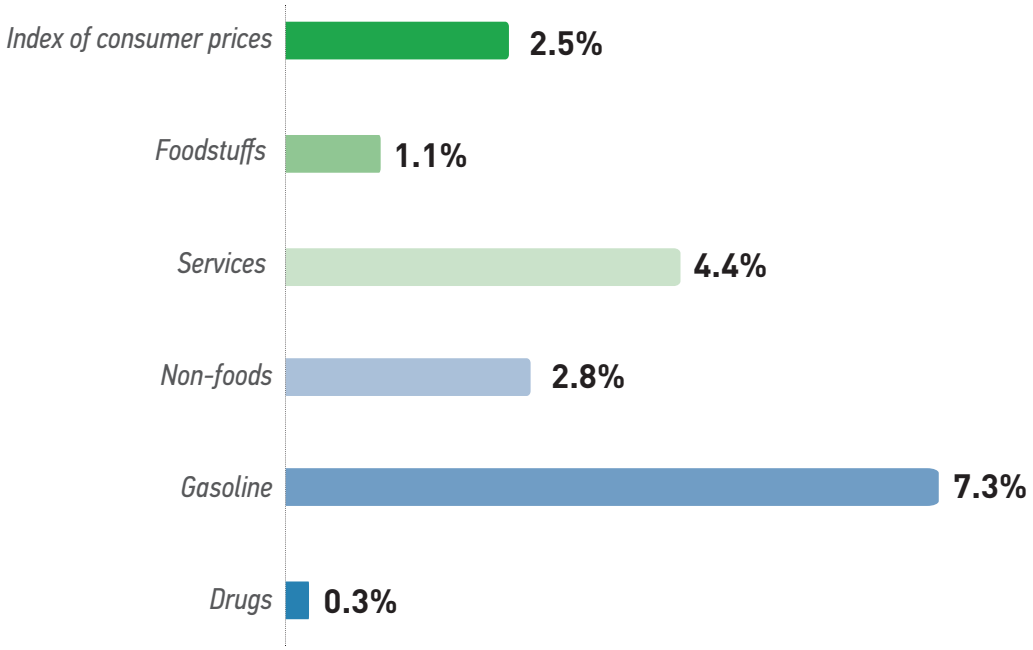


Figure 15

Index of Consumer Prices in Russia (December 2017 compared to December 2016)

New Drugs of Retail Commercial Market

In 2017, more than 364 new brands of drug products appeared in pharmacies. In 2017, the overall sales volume of the new drug products exceeded 1.3 billion rubles and 3.4 million of units, which was equivalent to 0.2% of value and 0.1% of unit volume of pharmacy sales of all drug products on the retail commercial market. The weighted average price of one unit of a new drug product was about 380 rubles.

Let's take a look at the brands, which constituted the TOP-20 ranking of the new trade names on the commercial market on the Russian Federation by the end of 2017. The highest sales in value and volume terms among drugs, which appeared on the market in 2017, were showed by "Exostat" ("Vertex"). This brand belongs to the group of topical antifungal products and is applied in skin therapy as cream of solution for outward application. Sales volume of the drug product was 164 million rubles.

The second line of the rating is taken by "Vivayra" drug for treatment of urologic diseases by Croatian pharmaceutical company Belupo in the form of coated tablets, with the volume of 141.5 million rubles. "Vivayra" is a drug intended for men with erectile dysfunction, which is characterized by inability to preserve erection for successful completion of a sexual intercourse. "Sildenafil" is the active substance of this brand.

The top three leaders are rounded out by innovation from "Sotex", with the volume of 139.5 million rubles – central muscle relaxant "Calmirex" in the form of intramuscular solution. Sales of this brand in pharmacies were recorded from March 2017, and it is a cheap analogue of Hungarian drug "Mydocalm". "Calmirex", having wide spectrum of action, is deemed a very effective drug, applied for therapy of many organic central nervous diseases, as well as muscles and joints.

"Exorolfinlac" (Novartis), a drug with the active substance of "Amorolfine" is output in form of the nail polish. Like "Exostat", this antifungal agent is intended for topical application.

"Trulicity" (Eli Lilly), a new drug for treatment of diabetes, which appeared on the market in March 2017 and which sales in the reviewed period amounted to 73 million rubles, contains the active substance of "Dulaglutide" in its composition. This agent, which is output in the form of solution for subcutaneous injection, belongs to the segment of expensive drugs (over 500 rubles/package).

As a conclusion, it should be said that most of the new drug products were manufactured by foreign companies. Nevertheless, in 2017, Russian companies released on the market 136 new brands and 6 of them were included in TOP-20 of new trade names in the value terms for the indicated period of time.

3. Drug Reimbursement Program (LLO)

The legislation of the Russian Federation guarantees preferential provision of drugs to certain categories of citizens at the expense of budgetary funds of different levels. There exist a whole range of different programs, within which free drugs can be obtained. One of the fundamental drug reimbursement of programs is ONLS (Essential Drug Coverage), which envisages provision of required drugs to beneficiaries in accordance with the standards of medical aid.

The package of social services for beneficiary categories of citizens is regulated by Federal Law dated 17.07.1999 No 178-FZ "On State Social Aid". Besides, the law establishes the quota of financial costs per month for one citizen, getting state social aid in the form of the social service on provision of drugs, medical products, as well as specialized health food for disabled children. In 2017 the quota grew by 6.5%: expenses increased from 758 to 807.2 rubles. In 2018 the quota will make 823.4 rubles.

Beginning from 2007, a beneficiary is entitled to determine the method of getting the benefit by himself: money compensation or drugs on prescriptions. According to statistics, in Russia about 20 million persons have the right to free, beneficiary drugs. Approximately 15.5 million thereof prefer money compensation to drugs, and just 20% of beneficiaries enjoy their right to the full extent.

In 2017 the government increased the amount of subventions for drugs, medical products and specialized health food for certain beneficiary categories of citizens. This is related to growth of the number of persons, having the right to get social aid from the state. A total of 34.3 billion rubles was allocated in 2017, and the number of people in need made about 3.7 million persons. In 2018 the government allocated 31.7 billion rubles for support of certain categories of citizens.

With regard to ONLS program the drugs purchase procedure has been changed from 2017. Thus, from January 2017 purchase of anti-retroviral drugs (drugs for HIV-therapy) became centralized. Additional financing for purchase of anti-retroviral drugs in 2018 will make 5 billion rubles: earlier it was planned to allocated 16.93 billion rubles for purchase, and finally the amount grew to 21.82 billion

"Beginning from 2007, a beneficiary is entitled to determine the method of getting the benefit by himself: money compensation or drugs on prescriptions. According to statistics, in Russia about 20 million persons have the right to free, beneficiary drugs."

rubles. In 2017 financing of this program amounted to 17.84 billion rubles.

Also from January 1, 2017 the register of HIV-infected person operates in Russia. It allows to forecast the required quantity of drugs for the specific region in advance. The register was filled during the year, now it has information on 714.3 thousand patients.

Provision of drugs to persons, suffering from special categories of diseases "7 nosologies" or high-priced nosologies (hemophilia, mucoviscidosis, pituitary dwarfism, Gaucher's disease, malignant neoplasms, multilocular sclerosis, after transplantation of organs or tissues) is regulated separately. As per Federal Law "On the Federal Budget for 2017", financing of the high-priced nosologies program amounted to 43 billion rubles. The program budget will not increase in 2018, despite the expected growth of the number of patients in the register (8-15% every year), and will make 43.61 billion rubles. Hereby the same volume is envisaged for 2019-2020.

From January 2018 the list of drugs, purchased under the program of the high-priced nosologies, was replenished with three new items "Teriflunomidum", "Nonacog Alpha" and "Eliglustatum".

At the same time, the law "On Fundamentals of Public Health Protection" establishes that persons, suffering from diseases, included in the list of life-threatening and chronic progressive rare (orphan) diseases, shall also be provided with the respective drugs. Hereby rare diseases are those diseases, which have prevalence, not exceeding 10 cases of diseases per 100 thousand persons. As of the beginning of 2018 the RF Ministry of Health included 223 orphan diseases in the list. Drugs for treatment of rare (orphan) diseases are provided at the expense of regional budgetary funds.

Provision of orphan drugs is needed for a narrow range of persons included in the respective Federal Register, — this are 16.099 thousand persons. Hereby there can be only one patient with a rare disease in an individual region. Each region holds a council of physicians, forms routing, related to examination and treatment, implements the procurement procedure with search of a supplier and announcement of tender. All this forms huge document turnover and, as a result, huge expenses. The overall estimated need of subjects in treatment of patients with orphan diseases amounts to 40 billion rubles.

Currently the Ministry of Finance studies the question of transfer of purchase of the drugs for treatment of orphan diseases from the regional level to the federal one in 2019. According to the estimates, the cost of one prescription under the regional program exceeds that under the federal program by 10 times. Thus, in case of centralization of procurement by the Ministry of Health prices will decrease at least by 30% due to increase of volume.

In addition to the federal program there also exists a territorial program, implemented at the expense of regional budgetary funds. This program provides for receipt of drugs free of charge or with 50% discount and is regulated by the Decree of the RF Government dated 30.07.1994 "On State Support of Development of Medical

Industry and Improvement of Provision of Population and Healthcare Institutions with Drugs and Medical Products". To some extent the program repeats and can substitute for the federal ONLS program, because a beneficiary can be both federal and regional. According to the estimates, the regional benefit volume is comparable with the federal program. In 2017 drugs were purchased for 89.9 billion rubles.

In 2017 federal financing of drugs for beneficiary categories of citizens amounted to 115.4 billion rubles, which is by 6.6% more, than the last year. In packages the trend to reduction of volumes preserved – 80.0 million of packages were purchased in 2017 (-1.0% in relation to 2016).

If two parts of the program are viewed separately, it can be pointed out that the share of high-priced nosologies exceeded amount of financing of ONLS program in 2017 for the first time (51.2% to 47.6% in 2016).

In physical terms consumption of drugs under the program of the high-priced nosologies also grew sharply: the volume made about 4.8 million packages, which is by 33.4% more than in 2016.

In 2017, 56.4 billion rubles was spent on ONLS program, which is 0.6% less than in 2016. Hereby the share of ONLS subprogram in the total volume of drug reimbursement program reduced by 3.6% and made 48.8% (pic. 14).

In physical terms the trend for reduction of purchase volumes preserves: about 75.2 million packages was sold, which is by 2,6% less than in 2016. As a result, the weighted average price of one prescription grew by 2% and amounted to 749.3 rubles.

Proportion of Imported and Domestic Drugs within Drug Reimbursement Program

Import substitution of expensive drugs is the main goal of "Pharma-2020", since the

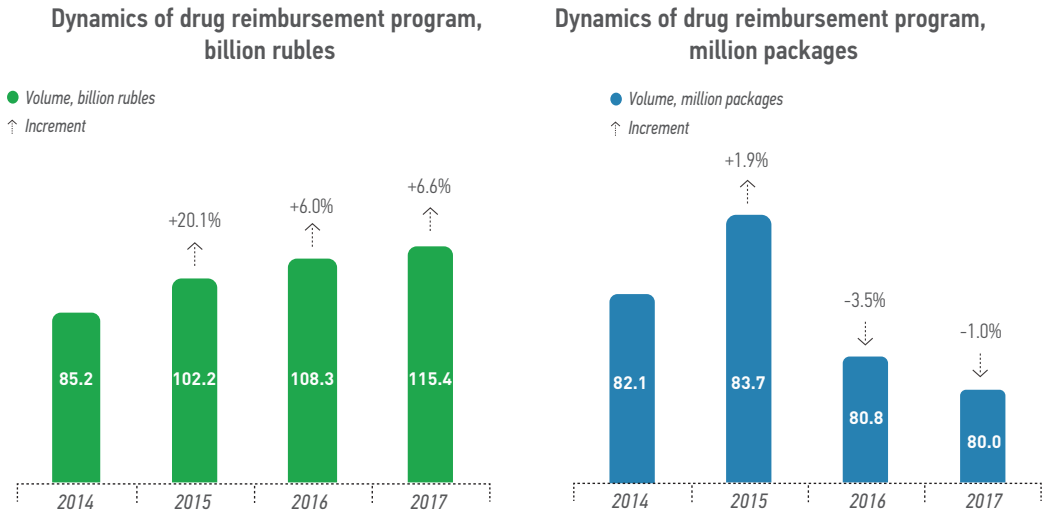


Figure 16

Dynamics of the Drug Reimbursement Program

drug reimbursement program is mostly represented by imported drugs, and domestic products have a small share in the volume of beneficiary drugs. That is why the trend appeared on the market for development of domestic drugs, capable to replace imported analogues.

Thus, as per 2017 results the share of domestic drugs in physical terms increased by 3% (pic. 15). Consumption of domestic drugs increased by 5.1%, whereas the volume of imported drugs reduced by 5.8%. Growth of expenses in money terms for purchase of domestic drugs increased by 12.6%, as a result of this the share of domestic drugs in the overall pattern grew by 1%.

The main contribution to increase of sales volumes of domestic drugs was made by "Octofactor" (INN "Moroctocogum Alpha") by "Generium", sales of which for the year increased by more than twice, as well as "Herticad" brand (INN "Trastuzumabum") by "Biocad", which increased its sales by almost 5 times.

Proportion of domestic and imported drugs in money terms preserved in favor of imported drugs, however the share of domestic drugs increased. In 2017 imported drugs 70% of the volume by value, domestic drugs - 30%.

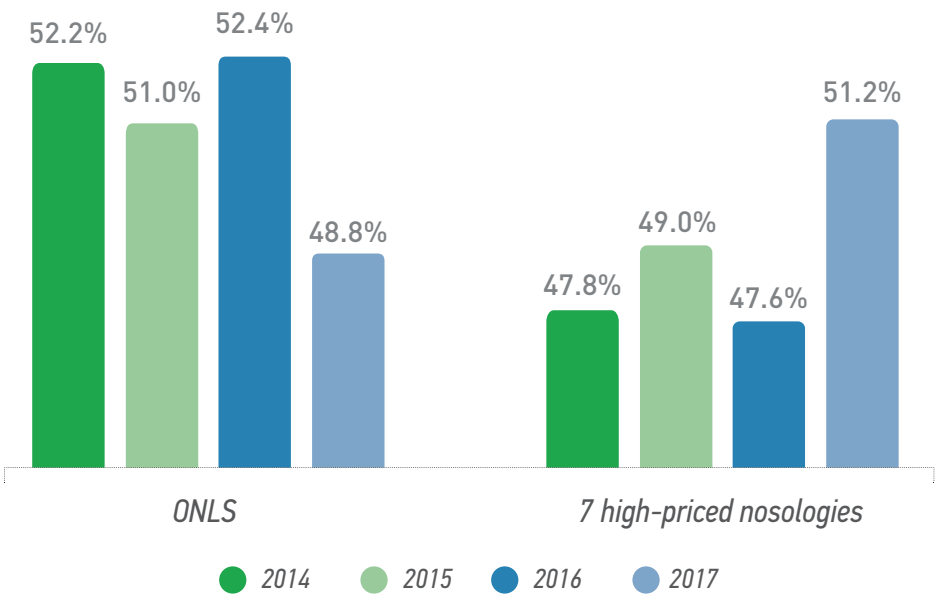
Proportion of imported and domestic DP sales by "7 nosologies" and ONLS programs is shown in Figure 16.

With regard to drug reimbursement program, corresponding to high-priced nosologies, the share of domestic drugs in physical volume grew by 3.4% in relation to 2016 and made 28.7%. In money terms there was increase by 1.3% to 37.5%.

Under the ONLS program the share of Russian drugs also grew and made: about 23.2% in

Figure 17

Proportion of expenses under the programs of the high-priced nosologies and ONLS in the total volume of funds spent under the drug reimbursement program, in rubles



money terms (in comparison to 22.3% in 2016) and about 47.9% in packages (in 2016 they accounted for 44.9%).

Below is the table of TOP-10 INNs, on which noticeable "switch" from imported drugs to domestic ones occurred.

Proportion of Rx and OTC-drugs within the Drug Reimbursement Program

Drug reimbursement program is mainly represented by Rx-drugs, which are prescribed by the doctor strictly in accordance with the indications.

In 2017 the share of prescription drugs made 94.5% in the volume by value (-2.4% in relation to 2016), in physical volume – 89.3% (-0.7%).

Drug Sales Structure by ATC groups within the Drug Reimbursement Program

Proportion of 1st level ATC groups by pharmacy sales within the Russian drug reimbursement program in 2017 is shown in Table 8.
The ATC ranking by sales volume in accordance with drug reimbursement program is quite stable. In the volume by value the market is rather concentrated – the first three ATC-groups account for 81.4% of the market.

Figure 18

Dynamics of expenses under the programs of the high-priced nosologies and ONLS in the total volume of funds spent under the drug reimbursement program

Drugs of group [L] "Antineoplastic and immunomodulating agents" still remain the most funded item of the drug reimbursement program. In 2017 about 47.7% from the total state financing volume was spent for their purchase. This is the most expensive group of drugs in LLO - weighted average price per unit is about 11,305 rubles. (However in 2016 the weighted average price was much higher - about 13,479 rubles). Expenses for purchase of these drugs in comparison with 2016 grew in rubles by 3.2%. In packages considerable increment of purchases by 23.1% was noted. Antineoplastic drugs ([L01] and [L02]) of last generations have proven efficacy in the treatment of patients with oncological diseases, improve the quality and duration of life. In 2017 "Revlimid" brand (INN "Lenalidomide") manufactured by Celgene remained the group leader, despite reduction of the volume of purchase of the drugs by 0.3%. Domestic brands "Acellbia" (INN "Rituximabum") by "Biocad" and "Axoglotiran FS" (INN "Glatiramer acetate") by "Nativa" rank second and third. Drugs take approximately 9% and 5%

Figure 19

Proportion of Imported and Domestic Drug Sales

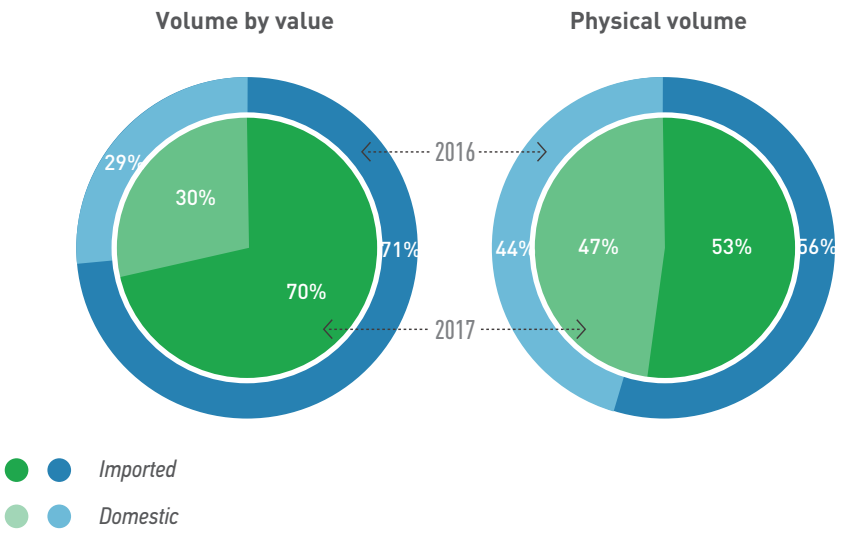


Figure 20

Proportion of Imported and Domestic Drug Sales Under "7 nosologies" and ONLS programs

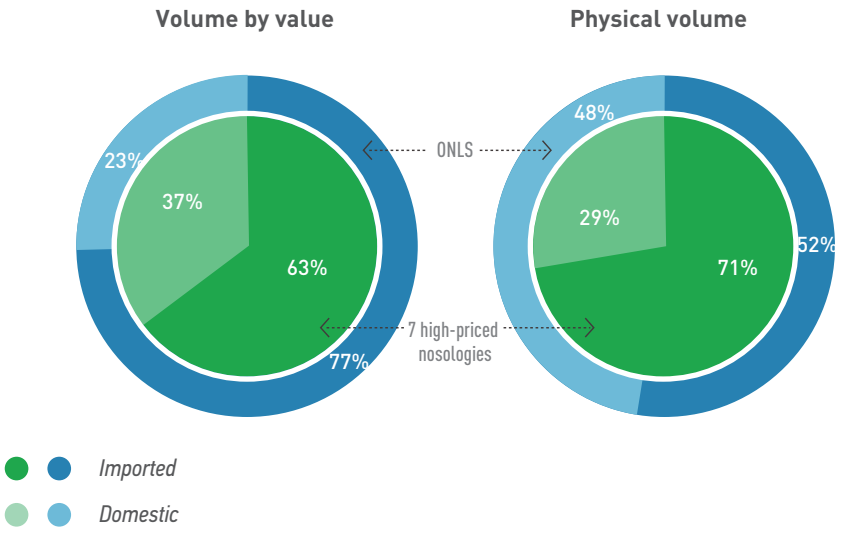


Table 8

Top-10 INN by Import Substitution

INN	Share of domestic drugs, rubles		Growth of the share	Leader, 2016	"Switch" drug, 2017
	2016	2017			
Fludarabinum	9%	76%	66%	Flutotera (Laboratory Tuteur)	Flidarin ("Nativa")
Bevacizumabum	39%	96%	57%	Avastin (F.Hoffmann-La Roche)	Avegra ("Biocad")
Ipratropium bromide+Fenoterol	30%	85%	56%	Berodual (Boehringer Ingelheim)	Ipraterol ("Nativa")
Abirateronum	0%	45%	45%	Zytiga (Johnson & Johnson)	Abirateronum NV ("Newvac")
Glatiramer acetate	69%	100%	31%	Copaxone (Teva)	Axoglotiran ("Nativa")
Tiotropium bromide	1%	32%	31%	Spiriva (Boehringer Ingelheim)	Tiotropium-nativ ("Nativa")
Budesonide+Formoterol	4%	34%	31%	Symbicort (AstraZeneca)	Formisonid ("Nativa")
Trastuzumabum	38%	67%	29%	Herceptin (F.Hoffmann-La Roche)	Herticad ("Biocad")
Fingolimodum	57%	74%	17%	Gilenia (Novartis)	Nescler ("Miraxbiopharma")
Triptorelin	0%	15%	15%	Diphereline (Ipsen)	TTriptorelin ("Nativa")

respectively from sales by value of group [L] "Antineoplastic and immunomodulating agents".

Group [B] "Agents affecting blood and blood forming organs" (20.1%) occupies the second place in the ranking. In 2017 this group accrued its volumes by 33.8% in value terms. In packages purchases have not changed practically.

The top-three leaders are rounded out by group [A] "Alimentary tract and metabolism" lagging behind by more than 6%. In comparison with 2016 sales of the drugs of the group increased by 5.9% in rubles and reduced by 0.3% in packages. About 74.1% of this group concern the drug products for treatment of diabetes mellitus ([A10]). In 2017 "Toujeo Solostar" (INN "Insulin Glargine") manufactured by Sanofi became the leader of this group by sales by value, due to increase of the sales volume almost by 53 times. "Lantus" lost the first position and ranked second as per 2017 results, having reduced its sales by 53.8%. "NovoRapid" rounds out the top-three leaders.

Within the drug reimbursement program structure the top five leaders by ATC-groups did not change in 2017 in comparison with the previous year: the share in volumes by value grew by 2.1% and made about 89.8%. Group [B] occupied the share of 20.1% (+4.0% in relation to 2016), having increased the sales volume by 33.8%. In 2017 among other ATC practically all groups reduced their volumes, except group [H] "Systemic hormonal preparations (excluding sex hormones)" (+2,6%), which ranked 7th, and the drugs without indication of ATC-group, which climbed up by 1 position, having increased sales volume by 43.8%.

It is interesting to look at how much money is spent under the drug reimbursement program for treatment of main disease groups. With this purpose, we correlated the drugs with the corresponding indications for use. As a result, we received the following cost ranking in drug reimbursement program by diseases (Table 9).

As per 2017 results the drugs for treatment of immune system disorders preserved the leading position in the sales rating. The greatest increase in costs in this group is noted for drugs that have immunomodulatory and immunosuppressive action. The top three leaders remained the same: "Revlimid" remained the first, despite reduction of the volume by 0.3%; "Axoglatiran FS" ranked second (the market share is a bit less than 10%); "Genfaxon" (INN "Interferon Beta-1A") remained the third, its sales grew in 2017 by 36.4%.

The second line in the ranking is occupied by the drugs for the oncologic diseases r, which account for 21.2% of the whole LLO segment value (about 24.4 billion rubles). The drugs of INN "Rituximabum" (25.7%) and INN "Bortezomibum" (15,3%), included in the program of the high-priced nosologies as drugs for treatment of patients with malignant neoplasms lymphoid, hemogenic and related tissues, account for the highest purchase volume.

The Ministry of Health of Russia pays special attention to fight with oncological diseases. Along with popularization of the healthy life-style, which prevents from development of oncological diseases, a number of measures aimed for the development of individual prevention and oncological service in Russia, have been

Table 9

Drug sales structure by ATC drugs on the drug reimbursement program market

First Level ATC-groups	Sales value, mln.rub.	Group share in sales value, %	Physical volume, million packages	Group share in real sale volume, %
[L] Antineoplastic and immunomodulating agents	55 034.4	47.7%	4.9	6.1%
[B] Agents affecting blood and blood forming organs	23 250.7	20.1%	6.1	7.7%
[A] Alimentary tract and metabolism	15 671.5	13.6%	18.7	23.4%
[[R] Respiratory system drugs	5 297.6	4.6%	5.0	6.2%
[N] Nervous system drugs	4 442.4	3.8%	13.2	16.5%
[J] Antibacterials for systemic use	2 768.2	2.4%	0.9	1.1%
[H] Systemic hormonal preparations (excluding sex hormones)	2 691.6	2.3%	1.0	1.2%
[C] Cardiovascular system drugs	2 193.9	1.9%	25.7	32,1%
[M] Musculoskeletal system drugs	1 433.2	1.2%	2.2	2.7%
[~] Without allocation	1 169.2	1.0%	0.1	0.1%
[V] Other drugs	1 057.8	0.9%	0.4	0.5%
[G] Genitourinary system drugs and sex hormones	267.1	0.2%	0.9	1.2%
[S] Agents affecting sensory organs	148.9	0.1%	0.7	0.9%
[D] Dermatologicals	16.3	0.0%	0.1	0.2%
[P] Antiparasitic products, insecticides and repellents	2.5	0.0%	0.0	0.0%

taken in recent years. Thus, in November 2017 the leading specialists in the industry prepared the draft program of the national strategy of fighting with oncological diseases up to 2030, which provides for federal formation of the system development of the oncological service in the Russian Federation. The strategy is aimed at implementation of a complex of state policy measures in the field fighting with oncological diseases, aimed at reduction of the overall mortality from oncological diseases, as well as prevention and reduction of the disablement level, improvement of accessibility and quality of medical aid.

According to the data of the Ministry of Health, due to active "oncosearch", in 2017 about 56% of malignant neoplasms were diagnosed at early stages (1st and 2nd), and in some cancer localizations – up to 85%. The uniform medical aid quality management system has been formed for the first time: 57 clinical recommendations have been developed in profiles "oncology" and "pediatric oncology". The volume of provided high-tech medical aid (HTMA) in profile "oncology" increased by 2.5 times from 2012: from 68 thousand patients in 2012 to 172.2 thousand of patients in 2017. All this contributed to reduction of one-year mortality rate to 22.1%, increase of 5-years' survival over 53%, reduction of mortality from neoplasms by 3% from 2012: from 203.1 per 100 thousand of population to 196.9 for 2017.

In 2018 the amounts of funds, allocated for medical aid with oncological diseases in Russia will be increased noticeably, this area will become the priority.

Among the drugs for treatment of blood and blood organs diseases of the highest sales volume still accounts for INN BLOOD COAGULATION FACTOR VIII (22.8%), INN EPTACOG ALPHA Activated (13.1%) and INN OCTOCOG ALPHA (12.1%). All three INNs are included in the program of "7

Figure 21

Sales Proportion by ATC groups in the Drug Reimbursement Program

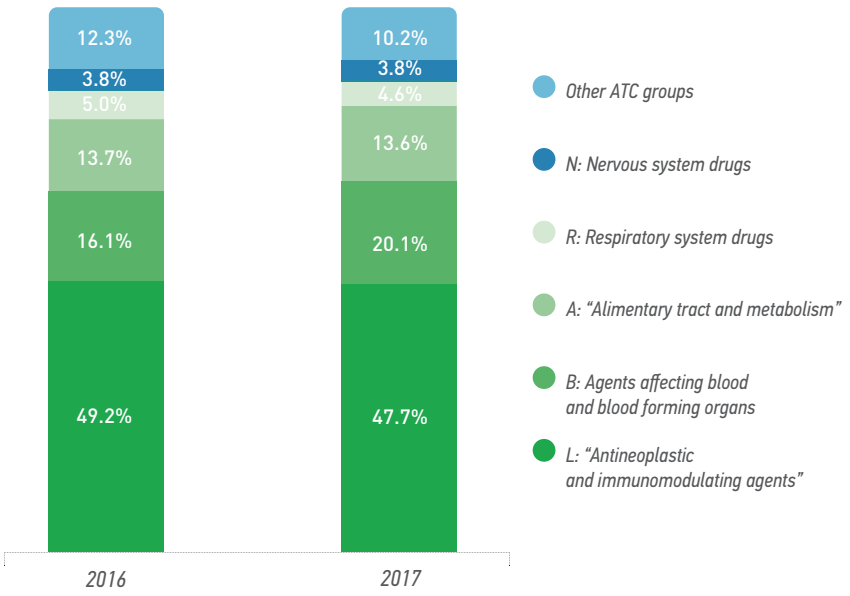


Table 10

Cost ranking in drug reimbursement program by diseases, 2017

Diseases	Volume, millions of rubles	Share
Immune system disorders	**30 415.5**	**26.35%**
Oncologic diseases	**24 416.4**	**21.15%**
Disorders of blood and hemopoietic organs	**23 250.2**	**20.14%**
Diabetes mellitus	**11 938.5**	**10.34%**
Respiratory disorders	**5 302.7**	**4.59%**
Nervous system disorders	**4 436.1**	**3.84%**
Alimentary disorders	**3 910.3**	**3.39%**
Others	**2 830.1**	**2.45%**
Infectious agents diseases	**2 761.4**	**2.39%**
Hormonal disorders	**2 697.2**	**2.34%**
Cardiovascular disorders	**1 839.2**	**1.59%**
Musculoskeletal disorders	**1 433.0**	**1.24%**
Ocular disorders	**144.1**	**0.12%**
Male and female reproductive disorders	**61.8**	**0.05%**
Skin diseases	**8.7**	**0.01%**

nosologies" and accrued their sales by value considerably as per 2017 results: INN "Blood-coagulation factor VIII" – by 6,5%, INN "Activated Eptacog Alpha" – by 34.5%, INN "Octocog Alpha" – by 76,9%.

Thus, leading positions in the drug reimbursement program ranking are still occupied by the diseases mainly used in high-priced nosologies. The total share of expenses for purchase of drugs for these groups of diseases is about 51.2% of all segment of drug reimbursement program or about 59.1 billion rubles.

Manufacturers in the Drug Reimbursement Program Segments

Table 9 shows TOP-20 manufacturers leading by the consumption volume in the drug reimbursement program in 2017.

In 2017 drugs, manufactured by 380 companies, were purchased under the drug reimbursement program.

The top three leaders in the rating remained the same. Celgene remained the leader in the rating. In 2017 the total volume of

Table 11

TOP-20 drugs manufacturers by the consumption volume in the drug reimbursement program in 2017

2017 Rating	Changes	Manufacture	Sales value, mln.rub. 2017	Sales volume increase	Share
1	0	Celgene	**9 368.8**	**0.1%**	**8.1%**
2	0	Nativa	**9 082.2**	**5.3%**	**7.9%**
3	0	Biocad	**7 890.4**	**3.5%**	**6.8%**
4	3	Baxter Healthcare	**7 620.0**	**48.0%**	**6.6%**
5	3	Generium	**6 998.7**	**52.1%**	**6.1%**
6	0	Johnson & Johnson	**6 393.1**	**18.3%**	**5.5%**
7	-2	Sanofi	**6 074.4**	**10.0%**	**5.3%**
8	-4	F.Hoffmann-La Roche	**4 484.6**	**-33.2%**	**3.9%**
9	4	Octapharma	**4 023.6**	**71.3%**	**3.5%**
10	1	Novo Nordisk	**3 979.1**	**3.9%**	**3.4%**
11	-1	AstraZeneca	**3 722.6**	**-4.5%**	**3.2%**
12	0	Novartis	**3 576.7**	**12.6%**	**3.1%**
13	-4	Merck	**3 303.4**	**-21.2%**	**2.9%**
14	0	Laboratory Tuteur	**2 778.5**	**23.5%**	**2.4%**
15	2	CSL Behring	**1 647.6**	**-7.1%**	**1.4%**
16	0	Abbvie	**1 631.8**	**-19.7%**	**1.4%**
17	1	Sotex	**1 498.6**	**-10.8%**	**1.3%**
18	4	Pfizer	**1 418.7**	**32.3%**	**1.2%**
19	0	PHARMSTANDARD	**1 259.7**	**-16.2%**	**1.1%**
20	0	Eli Lilly	**1 243.9**	**-13.4%**	**1.1%**

budgetary funds, spend for purchase of drugs manufactured by this company, exceeded 9.4 billion rubles, which is by 0.1% more than in 2016. "Revlimid" became the most costly drug (about 99.5% of all company's sales in value terms), its purchases dropped by 0.3%.

"Nativa" and "Biocad" still rank second and third, their sales made 7.9% and 6.8% from all state purchases respectively.

Because of considerable reduction of sales volumes by value (-33.2%), F.Hoffmann-La Roche, the leader of the past periods, went down by 4 lines in the rating. In 2017 Octapharma had the highest growth of sales, which made +71.3%. Growth of the sales volume was mostly contributed by "Octanine" (+228.2%) and "Vilate" (+164,2%) intended for therapy of blood and blood-making organs diseases.

As per 2017 results five Russian manufacturers got into TOP-20 by sales by value, due to the import substitution program.

Table 10 shows the ranking of manufacturers participating in the "7 nosologies" and ONLS program.

Celgene retained the leadership under the program of "7 nosologies", Sanofi is leading in ONLS program.

Drugs in the Drug Reimbursement Program Segment

Table 11 shows TOP-20 brands leading by sales volume in the drug reimbursement program in 2017.

The share of sales of TOP-20 brands in 2017 made 42.8% of the volume by value, which is more than in 2016 by 3.6%.

> Since the time when the drug reimbursement program was introduced, the price structure of this market segment was being transformed with the share of more expensive drugs increasing. As per 2017 results the segment of expensive drugs with the price, exceeding 500 rubles and over occupied 93.8% of the volume by value, and last year this figure was lower – 93.2%.

The first line in the rating of sales volumes by value is still occupied by the foreign brand "Revlimid" manufactured by Celgene, the drug by the domestic manufacturer "Acellbia" ranks second. "Axoglotiran FS" brand, which accrued sales volumes by 7.0%, climbed up to the third line.

In 2017 5 "newcomers" got into the rating: Insulin "Toujeo Solostar" by Sanofi (+277 points in the rating); selective immunosuppressive agent "Tizabri" by Johnson & Johnson (+38 points in the rating); hemostatic agent "Feiba" manufactured by Baxter (+11 points in the rating); enzymatic drug "Cerezyme" by Sanofi (+7 points in the rating), as well as "Humira" brand manufactured by AbbVie (+5 points).

The weighted average price for TOP-20 brands made about 40,891 rubles/package. The drug for treatment of multiple myeloma "Revlimid" is the most expensive drug from TOP-20 in 2017, the weighted average cost of which exceeds 344 thousand rubles, Insulin drug "NovoRapid"

turned out to be the cheapest one, as last year (about 1,7 thousand rubles).

Like most of the drugs TOP-20, the top three leaders belong to group [L] "Antineoplastic and immunomodulating agents" (9 brands). The second rank by this indicator is shared by two ATC-groups: [B] "Agents affecting blood and blood forming organs" and [A] "Alimentary tract and metabolism" –5 brands in each.

Most of the drugs from the rating are the drugs, released under the program of the high-priced nosologies (15 brands).

Segments by Price in the Drug Reimbursement Program

In 2017 the average cost of a package under the drug reimbursement program grew by 7.7% and made about 1,444 rubles.

Table 12

TOP-20 drug manufacturing companies by sales volume in drug reimbursement program segment in accordance with "7 nosologies" and ONLS program

	7 nosologies		ONLS	
2017 Rating	Manufacturer	Sales volume, million rubles	Manufacturer	Sales volume, million rubles
1	Celgene	**9 319.8**	Sanofi	**4 739.5**
2	Baxter Healthcare Corp	**7 183.6**	Johnson & Johnson	**4 356.9**
3	Generium	**6 998.7**	AstraZeneca	**3 722.6**
4	Nativa	**6 542.8**	Novo Nordisk	**3 665.1**
5	Biocad	**5 768.8**	Nativa	**2 539.4**
6	Octapharma	**3 967.6**	F.Hoffmann-La Roche	**2 527.5**
7	Laboratory Tuteur	**2 756.2**	Novartis	**2 492.5**
8	Johnson & Johnson	**2 036.2**	Biocad	**2 121.7**
9	Merck	**2 019.0**	AbbVie	**1 631.8**
10	F.Hoffmann-La Roche	**1 957.1**	Pfizer	**1 418.2**
11	CSL Behring	**1 552.0**	Merck & Co.	**1 284.4**
12	Sanofi	**1 334.9**	Eli Lilly	**1 243.9**
13	CinnaGen Co.	**1 195.5**	Protek	**1 062.3**
14	Novartis	**1 084.3**	GlaxoSmithKline	**1 049.0**
15	Dr.Reddy's Laboratories	**893.7**	PHARMSTANDARD	**1 041.8**
16	Astellas Pharma	**655.9**	Pharmsynthez	**906.2**
17	Talecris Biotherapeutics	**580.0**	Boehringer Ingelheim	**862.2**
18	R-Pharm	**511.6**	Fresenius	**758.2**
19	Astellas Pharma	**436.5**	Bayer	**691.0**
20	Sotex	**436.3**	KRKA	**661.1**
Total:		**96.9%**		**71.0%**

Table 13

TOP-20 brands by sales value in the drug reimbursement program in 2017

2017 Rating	Changes	Brand	Manufacturer	Sales value, mln.rub. 2017	Sales volume increase	Share
1	0	Revlimid	Celgene	**9 319.8**	**-0.3%**	**8.1%**
2	0	Acellbia	Biocad	**5 079.3**	**1.7%**	**4.4%**
3	2	Axoglotiran FS	Nativa	**2 975.6**	**7.0%**	**2.6%**
4	7	Advate	Baxter Healthcare	**2 860.1**	**83.8%**	**2.5%**
5	1	Coagil	Generium	**2 734.0**	**30.7%**	**2.4%**
6	1	Genfaxon	Laboratory Tuteur	**2 573.5**	**36.4%**	**2.2%**
7	13	Octofactor	Generium	**2 419.5**	**105.3%**	**2.1%**
8	-5	Boramilan	Nativa	**2 169.3**	**-35.0%**	**1.9%**
9	-1	Rebif	Merck	**2 018.8**	**12.0%**	**1.7%**
10	0	Octanat	Octapharma	**2 016.4**	**23.7%**	**1.7%**
11	11	Feiba	Baxter Healthcare	**1 995.0**	**77.8%**	**1.7%**
12	277	Toujeo Solostar	Sanofi	**1 920.2**	**5 188.4%**	**1.7%**
13	3	Infibeta	Generium	**1 845.2**	**38.8%**	**1.6%**
14	0	Pulmosim	F.Hoffmann-La Roche	**1 644.9**	**16.4%**	**1.4%**
15	-11	Lantus	Sanofi	**1 369.6**	**-53.8%**	**1.2%**
16	2	NovoRapid	Novo Nordisk	**1 347.8**	**11.2%**	**1.2%**
17	7	Ceresim	Sanofi	**1 334.9**	**27.2%**	**1.2%**
18	5	Humira	AbbVie	**1 325.9**	**18.2%**	**1.1%**
19	0	Levemir	Novo Nordisk	**1 257.4**	**3.8%**	**1.1%**
20	38	Tizabri	Johnson & Johnson	**1 248.3**	**216.5%**	**1.1%**

Since the time when the drug reimbursement program was introduced, the price structure of this market segment was being transformed with the share of more expensive drugs increasing. As per 2017 results the segment of expensive drugs with the price, exceeding 500 rubles and over occupied 93.8% of the volume by value, and last year this figure was lower – 93.2%.

The drug consumption structure within the drug reimbursement program is presented in Figure 22.

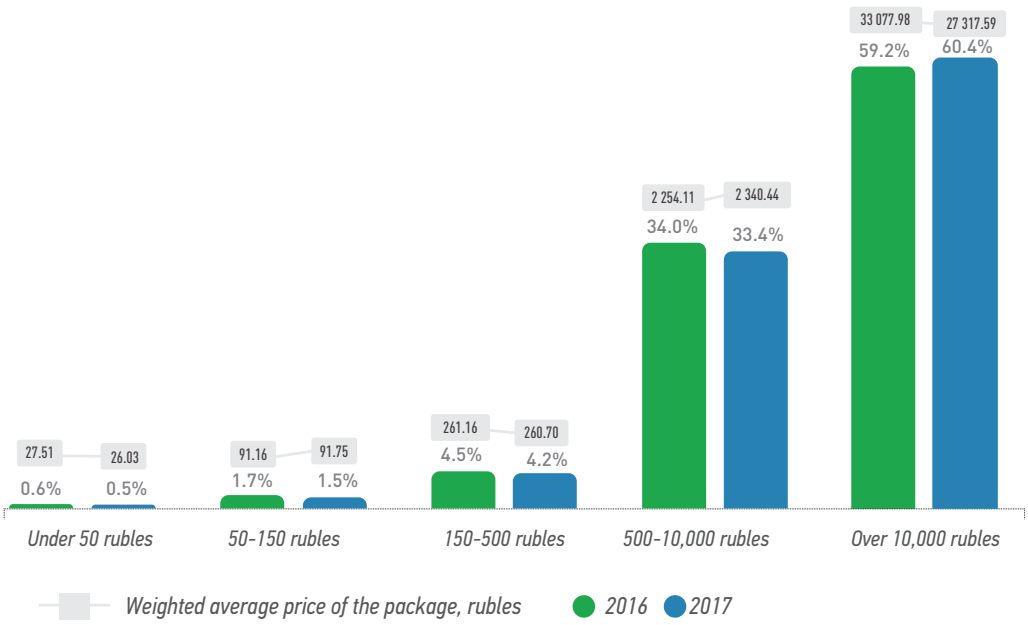
Changes in the cost of a package of the drugs, purchased under the drug reimbursement program, concerned all price segments. It can be seen from the figure that the average price of a package in segments "from 50 to 150 rubles", "from 500 to 10,000 rubles" and "over 10,000 rubles" grew, and in other segments it reduced, vice versa. Hereby we can observe the highest increase in the cost in one of expensive segments "from 500 to 10,000 rubles" – "from 500 to 10,000 rubles" increased by 3.8%.

In 2017, the drugs in the program of "High-priced Nosologies" are presented in the segments from 50 rubles per unit. As in the previous periods, the most part of the sales volume (76.5%) covers the drugs with price more than 10,000 rubles.

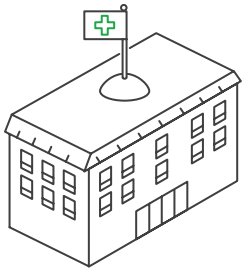
The drugs of subONLS program in the most part are presented in segments with price from 500 rubles, which is about 87.3%. In the most popular segment "500 rubles to 10,000 rubles" Insulin "Toujeo Solostar" is the leader by the sales volume with the weighted average cost of a package, exceeding 4,104 rubles. Whereas in the most expensive segment the leaders of sales – "Humira" immunosuppressive agent – costs about 74,325 rubles per package.

Figure 22

Sales Volume Under Drug Reimbursement Program in Accordance with Price Segments



4. Amount of drugs purchased by Healthcare Institutions (HCI)



The Russian healthcare system is represented by about 5.4 thousand of hospital organizations and 19.1 thousand of outpatient-and-polyclinic organizations. The reform carried out in recent years led to reduction of the number of hospitals, as well as hospital beds. Thus, their number decreased by 24.8 thousand and made 1,197.2 thousand beds only for 2016. Hereby the number of beds in the rural area reduced by more than three thousand. From 2000 to 2010, 15 thousand of outpatient clinics and medical and obstetric stations (MOS) were closed in rural settlements. All this led to reduction of accessibility of medical and drug aid. As a result the reverse process began. In 2016 more than 500 outpatient clinics, MOS, general practitioner's offices were built and opened in the rural area, in 2017 – plus 450 more.

In 2017, Ministry of Health carried out actions on evaluation of accessibility of medical aid for population in the regions of Russia. The work was carried out the geoinformation system, which allowed to determine, where in the country there is lack of polyclinics and hospitals.

Graphic representation of settlements and of healthcare facilities is the new system is made on "Yandex.Maps" platform. The base shows the bed capacity for each hospital, planned capacity for each polyclinic. One can also access accessibility of ambulance with the help of the map.

In the portal of the Ministry of Health of the Russian Federation and healthcare regulatory authorities you can assess walking and transport accessibility of medical organizations with breakdown by regions, districts and settlements, conformity of the medical infrastructure to the criteria of accessibility of medical aid.

In 2018, the Ministry of Health expects increase of coverage of Russian population with drug therapy by 7-10%. Expansion of coverage will occur at the expense of funds, saved on reduction of prices for drugs after introduction of the centralized automated state procurement system.

From January 1, 2018, the customer compares the comparable market price and limit manufacturers' registration prices simultaneously in accordance with the approved technique, along with

" In 2018, the Ministry of Health expects increase of coverage of Russian population with drug therapy by 7-10%. Expansion of coverage will occur at the expense of funds, saved on reduction of prices for drugs after introduction of the centralized automated state procurement system. "

analysis of price offers from potential suppliers and proprietary purchase prices. Under the conditions of the competitive pharmaceutical market this will allow to determine minimum possible drugs price value. Hereby the technique provides for the right to exclude evidently dumping prices.

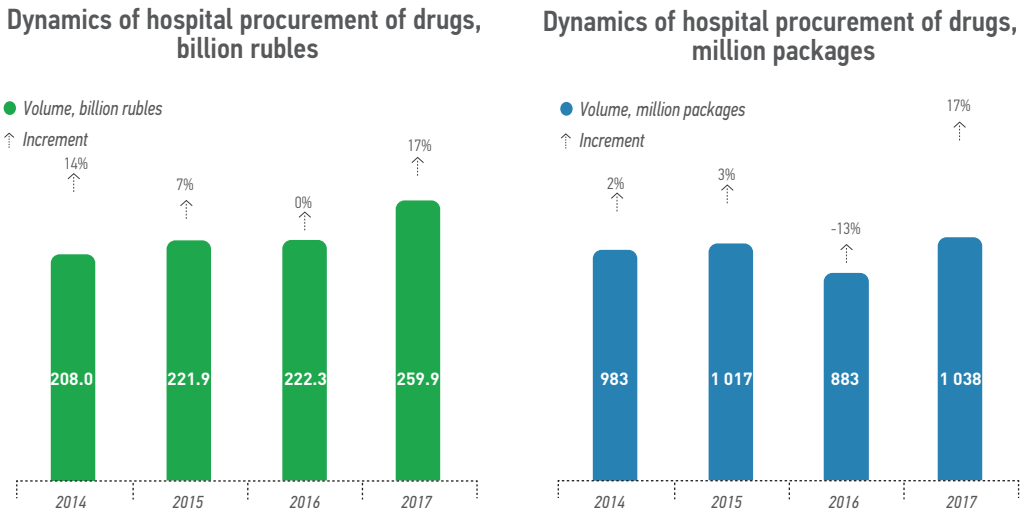
The technique has been applied by the Ministry of Health for several years already and has proved its efficiency. Thus, 6 billion rubles were saved for the last five years on centralized purchases under the program of seven high-priced nosologies due to reduction of the cost of one patient's monthly course of treatment by 2.2 times. Thus, 70 thousand patients were able to get more complex treatment for a fixed financial resource.

But not all legislative initiatives of the authorities are implemented. In order to improve efficiency of spending of budgetary funds for healthcare at the end of2016 First Vice-Prime Minister Igor Shuvalov order the Ministry of Finance, Ministry of Health and Ministry for Economic Development to provide for the funds in the federal budget for 2017-2019 for a pilot project on introduction of risk sharing. Risk sharing (or agreement on sharing of risks) provides for purchase of drugs from pharmaceutical companies in certain conditions: if treatment turns out to be inefficient, the companies return money to authorities. There also exists the second variant of risk sharing, when payment is made only upon the fact of successful treatment.

The pilot project must start in spring 2017 in three regions of Russia. The Government adopted a decision on holding of pilot projects on modernization of the healthcare system, the Ministry of Health developed agreements for regions, approved the deadlines, reporting forms, selected pharmaceutical companies, nosologies, drugs. But the Federal Antimonopoly Service expressed strong objections. Having analyzed the documents, establishing the terms and conditions of implementation of the pilot

Figure 23

Dynamics of Hospital Procurement



project, the FAS came to a conclusion that implementation of the project on conditions, proposed by the Ministry of Health, will not lead to achievement of the stated goals. The FAS does not deem it correct to incorporate the drugs included in the List of vital and essential drugs, in pilot projects.

This all is done, among other things, at the expenses of the funds allocated for healthcare.

- In 2017, the federal budget for healthcare expenses amounted to 447 billion rubles in comparison with 506 billion in 2016. 264.4 billion rubles was allocated within the state program of "Development of healthcare", its main subprograms are as follows:

- "Improvement of provision of special medical air, include high-tech aid" – 85.8 billion rubles (exceeds 2016 expenses by 1.3. times)

- "Disease prevention and formation of healthy life-style. Development of primary medical care". It is planned to allocate 68.8 billion rubles for its financing.

- The third rank by volume of planned funds is held by the program "Development and introduction of innovative diagnostic, prevention and treatment methods, as well as fundamentals of personalized medicine" – 32.2 billion rubles.

- In 2017, considerable reduction of financing of the subprogram "Health service support of certain categories of citizens" by 45.9% to 24.6 billion rubles was planned.

Expenses for the program "Development of healthcare" are planned in the federal budget for 2018 in the amount of 311.1 billion rubles, for 2019 – 275.6 billion rubles, for 2020 – 348.3 billion rubles.

In general 475.8 billion rubles is envisaged for healthcare in the federal budget in 2018, in 2019 – 443.1 billion rubles, in 2020 – 514.9 billion rubles.

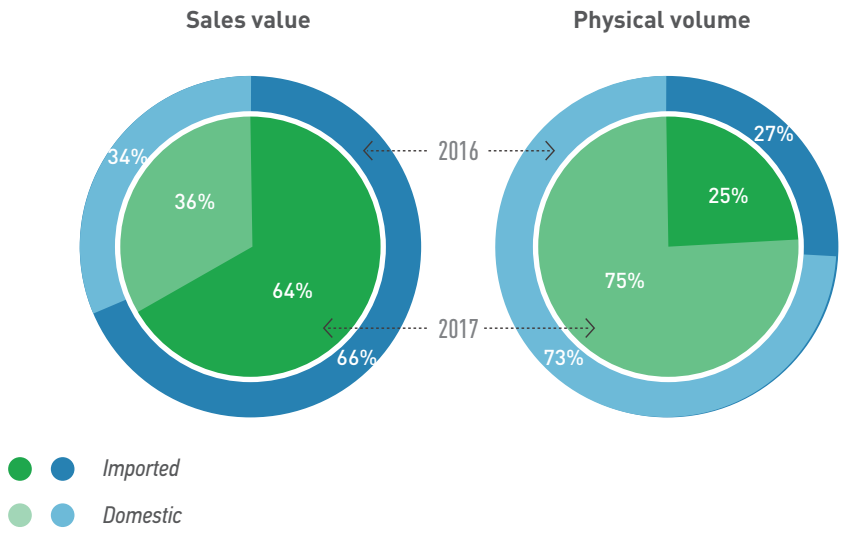


Figure 24

Ratio of Sales of Imported and Domestic Drugs

One of the items in general expenses for healthcare is purchase of drugs for healthcare institutions (HCI).

As per 2017 results, the volume of hospital procurement grew in rubles (in comparison with 2016) by 17% and made 259.9 billion rubles. In physical terms the volume of purchased drugs increased for the same value to 1,038 million packages. Let us note that increment in packages does not look like something special in analysis of figures for a longer period. 2016 would rather come out, when less than 890 million packages were supplied to hospitals in physical terms. Thus, in 2017 consumption just returned to the "customary" level – about 1 billion packages.

The average price of one unit of DP purchased by HCI was 250 rubles. In relation to 2016, the cost of a package in HCI segment dropped slightly by 0.5%, whereas a year before increment made about 16%.

Hospital procurement, as a part of the general state drugs procurement system, is also under close attention in the question of "import substitution". Application of the rule "odd man out" in recent years allows increasing the share of domestic manufacturers in supplies of drugs to hospitals regularly. Hereby, like in previous year, imported products account for the most in the sales value in HCI, whereas domestic drugs are leading by the volume in packages. Thus, in physical terms, the domestic drugs as the cheaper ones are purchased 3 times more than the imported ones. The domestic drugs cover about 36% of the volume in money terms and about 75% in unit terms. Only in 2017, the share of Russian drugs grew by 2% by both indices. If the index is compared with 2014, the share increased by 10% in values terms. Hereby in packages change is not so significant – about 2.5%. Thus, it can be seen that there is switch to domestic drugs in high-priced nosologies.

In 2017, the purchase volume of imported drugs grew both in rubles, and in packages: 13.5% and 11.4%, respectively. Sales of INN METFORMIN grew by 2.7 million packages. INN CIPROFLOXACIN ranks second by increment: +1.9 million packages.

The purchase volumes of domestic drugs grew in faster rates: increment in rubles made 23.5%, in packages – 19.7%. Noticeable increment of domestic manufacturers in physical terms is related to growth of the volumes of INN SODIUM CHLORIDE – in the reporting year by 11% more was purchased, and since this INN is the leader, just at its expense the volume grew by 20 million packages. INN INACTIVATED INFLUENZA VACCINE ranks second by absolute increment (+16 million packages), purchased under the program "National vaccination schedule". Also hospitals purchased by 9 million packages of domestic spirit (INN ETHANOL).

Below are TOP-10 INNs with the maximum share of "switch" to domestic drugs from TOP-100 by the purchase volume (these INN account for 56% of all hospital procurement in money terms).

According to 2017 data, from 2,057 INNs, which were purchased by hospitals, in 650 INN the share of domestic drugs exceeds 90%. Hereby about 1,030 INN remain, where imported drugs prevail (their share in procurement exceeds 90%), hereby 44 thereof get into TOP-100 by the volume. The most capacious INNs, represented only by imported drugs, still remain as

follows: LOPINAVIRUM+RITONAVIRUM, RALTEGRAVIRUM, ETRAVIRINUM – these three INNs account for 5% of hospital procurement.

The cost of one imported drug package is almost 5 times higher than the cost of one domestic drug package purchase by a HCI. Although the difference in the weighted average price for drug package continues to decrease, mainly due to the increase of purchases of the domestic drugs of more expensive segment. In 2017, one imported drug package of a RTU drug cost 639 rubles on the average, one domestic drug package was 120 rubles. In comparison with 2016, the cost of one purchased imported drug package increased by 1.9%, the cost of one domestic drug package in 2017 cost by 3.2% more.

The structure HCI procurement segment by price categories is presented in figure 20.

In 2017, there were slight changes in the procurement price structure. All price categories, except the segment of drugs with the cost of "150 to 500 rubles" had reduction of the share in the volume of drugs purchased for HCI.

In physical terms, the segment of drugs

Table 14

Top-10 INN by import substitution

INN	Share of domestic drugs, rubles		Growth of the share	Leader, 2016	"Switch" drug, 2017
	2016	2017			
BEVACIZUMABUM	**31.7%**	**78.4%**	**46.7%**	Avastin (F.Hoffmann-La Roche)	Avegra (Biocad)
TRASTUZUMABUM	**19.6%**	**57.1%**	**37.5%**	Herceptin (F.Hoffmann-La Roche)	Herticad (Biocad)
IRINOTECANUM	**51.4%**	**81.0%**	**29.6%**	Various	Iriten (Veropharm)
ATAZANAVIR	**0.0%**	**28,1%**	**28,1%**	Reyataz (Bristol-Myers Squibb)	Simanod (Pharmsynthez (Irkutsk))
CAPREOMICIN	**67.9%**	**93.0%**	**25.2%**	Various	Capreomicin (Kraspharma, Deko company)
EFAVIRENZUM	**79.4%**	**97.4%**	**18.0%**	Various	Regast (Pharmsynthez (Irkutsk)), Efavirenzum (Dialogpharma)
LEVOFLOXACINUM	**38.4%**	**54.8%**	**16.3%**	Various	Leflobact (Sintez AKO)
BUDESONIDE+FORMOTEROL	**5.7%**	**19.8%**	**14.1%**	Symbicort (AstraZeneca)	Formisonid (Nativa)
OXALIPLATINUM	**58.4%**	**72.4%**	**14.0%**	Various	Exorum (Veropharm), Platicad (Biocad)
VANCOMYCIN	**37.4%**	**50.5%**	**13.1%**	Various	Vancorus (Sintez AKO)

priced up to 50 rubles is the one with the most capacity, its share covers 62%. However this segment has reduced the purchase volumes for the last several years: in 2017 by 2% in comparison with 2016. Such decrease happens due to the transition of the part of drugs into more expensive segment. As before, INN SODIUM CHLORIDE remains the most purchased drug (36% of physical volumes in the segment "under 50 rubles").

As in the previous years, the most share among the imported drugs is covered with segment of drugs priced more than 500 rubles (84%) (Figure 21). Domestic drugs almost in equal parts are presented in the segments of "less than 50 rubles" (14.5%) and "150 to 500 rubles" 18.1%) and "50 to 150 rubles" (12.2%), and the highest sales volume, making 55%, fall within the segment "over 500 rubles".

If in the segments with drug package price up to 500 rubles, the difference between the weighted average price of imported and domestic drugs is not significant, in the segment with the most capacity "more than 500 rubles", the difference between domestic and imported drugs is still significant: it makes approximately 2 times.

The ratio of hospital purchases of the drugs by ATC-groups I level in Russia according to the results of 2017 is presented in Table 15.

The ranking of the drugs in HCI segment by ATC-groups differs significantly from that of commercial market. In comparison with 2016, Rating of ATC-groups has changed insignificantly.

"Antibacterials for systemic use" remains the leader in hospital purchases group [J]. Positive dynamic in the growth of this group has been observed since 2012 (+15% in rubles in 2017). Hereby it is one of minimum growths from ATC. It occurred mainly due to increase of sales volumes of vaccines [J07] (+35.5%). Increase of purchases in subgroups [J07] "Vaccines" concerned such drugs as "Sovigripp", "Prevenar", "Pentaxim" and others.

The permanent leader of group [J] is subgroup [J05] "Systemic antivirals", like last year, it increased its volumes by value: +6.9%. From this subgroup [J05] the most capacious brands "Isentress» (+56% in

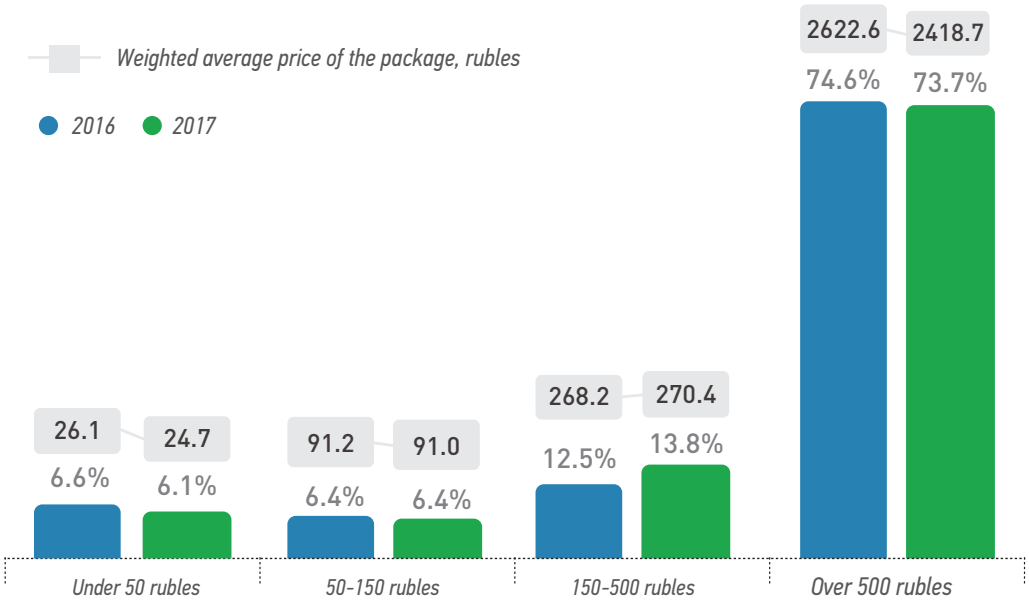


Figure 25

Structure of HCI Segment By Price Categories in 2016 and 2017

Table 15

Structure of the Hospital Purchase of RTU Drugs by ATC-Groups in 2017

ATC-groups I Level	Sales value, mln.rub.	Group share in sales value, %	Physical volume, million packages	Group share in phisical sale volume, %
[J] Antibacterials for systemic use	90 615.5	34.9%	270.6	26.1%
[L] Antineoplastic and immunomodulating agents	41 922.1	16.1%	12.4	1.2%
[B] Agents affecting blood and blood forming organs	36 217.9	13.9%	321.0	30.9%
[N] Nervous system drugs	23 481.0	9.0%	106.5	10.3%
[A] Alimentary tract and metabolism	17 235.0	6.6%	87.6	8.4%
[V] Other drugs	11 903.1	4.6%	11.1	1.1%
[C] Cardiovascular system drugs	9 144.4	3.5%	55.6	5.4%
[R] Respiratory system drugs	7 137.6	2.7%	37.8	3.6%
[M] Musculoskeletal system drugs	5 484.1	2.1%	27.4	2.6%
[G] Genitourinary system drugs and sex hormones	4 075.1	1.6%	5.7	0.5%
[S] Agents affecting sensory organs	3 356.8	1.3%	7.5	0.7%
[H] Systemic hormonal preparations (excluding sex hormones)	3 185.6	1.2%	15.3	1.5%
[D] Dermatologicals	3 182.5	1.2%	74.4	7.2%
[~] Without allocation	2 865.8	1.1%	3.9	0.4%
[P] Antiparasitic products, insecticides and repellents	61.3	0.0%	0.7	0.1%

rubles), "Intelence" (+60% in rubles) and new drug "Simanod" ensured the groups growth.

The lease capacious subgroup of ATC-group [J] subgroup "Systemic antifungals" [J02] accrued the purchase volume (+23.5% in rubles). From the top ten brands of the subgroup "Systemic antifungals" [J02] such brands as "Vfend" (+41.2% in rubles), "Mycamine" (+12.7%) and "Cancidas" (+19.2%) contributed to increase of volumes of the whole subgroup.

Group [L] "Antineoplastic and immunomodulating agents" ranked second in the rating of ATC-groups in the hospital segment as per 2017 results. A positive trend has been observed in the subgroup since 2013: in value terms the purchase volume of drugs grew: in 2017, by 5% (minimum increment among ATC). In physical terms the picture has changed: after drop of volumes in packages, purchased for HCI in 2016, in 2017 increment of +16% is observed.

Increase of the sales volumes of group [L] occurred mainly due to increase of purchase volumes in the most capacious subgroup [L01] "Antineoplastic drugs" (though increment is the lowest one +4% in rubles). "Herticad", which expels the leader of the past years "Herceptin" within import substitution, became the most purchased drug of this subgroup. Such brands as "Taxacad" and "Novotax" increased their sales volumes considerably in comparison with 2016 and retains the second and third lines of their rating.

Group [B] "Agents affecting blood" retained the third line by the volume of hospital procurement, having increased by 13%. Subgroup [B05] "Plasm substitution and perfusion solutions", which accounts for 44.5% of the group, remains the most capacious subgroup. INN SODIUM CHLORIDE-based drugs are the

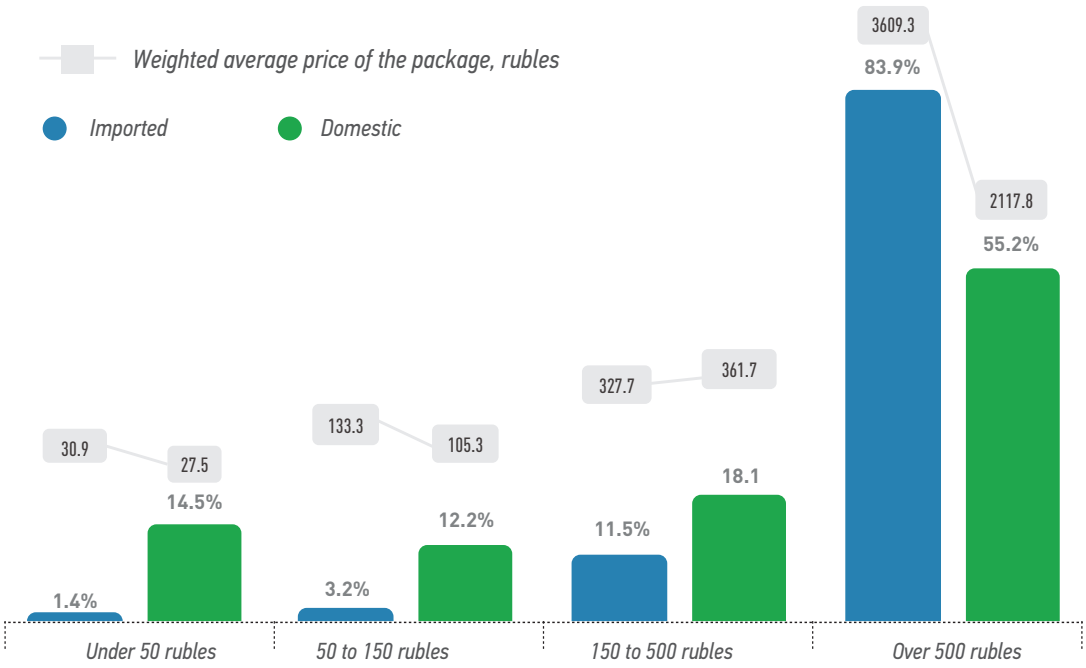


Figure 26

Structure of HCI Segment by Price Categories for Imported and Domestic Drugs in 2017

procurement leaders both in money terms and in physical terms.

The highest growth in rubles among ATC was demonstrated by group [D] "Dermatologicals" +55%. This occurred due to subgroups [D08] "Antiseptic and disinfecting agents", where the main products are "Ethyl alcohol" and "Chlorhexidine".

Table 13 presents the rating of TOP-20 manufacturers in HCI segment as per 2017 results, which has changed substantially in relation to 2016.

Table 16

Top-20 manufacturers in HCI segment as per 2017 results

2017 Rating	Changes	Manufacturer	Sales value, mln.rub. 2017	Sales volume increase	Share
1	1	Pfizer	**13 190.2**	**22.4%**	**5.1%**
2	-1	Abbvie	**10 714.5**	**-9.5%**	**4.1%**
3	1	Johnson & Johnson	**10 321.5**	**39.3%**	**4.0%**
4	-1	Merck	**9 338.6**	**17.8%**	**3.6%**
5	4	Biocad	**8 264.3**	**32.5%**	**3.2%**
6	10	Microgen NPO	**8 229.5**	**120.3%**	**3.2%**
7	-1	Sanofi	**8 082.1**	**15.0%**	**3.1%**
8	0	Takeda	**7 832.7**	**21.7%**	**3.0%**
9	1	Abbott	**7 193.9**	**15.7%**	**2.8%**
10	1	Novartis	**7 172.1**	**16.2%**	**2.8%**
11	-4	Pharmasyntez (Irkutsk)	**7 046.1**	**0.9%**	**2.7%**
12	-	Astrazeneca	**5 750.1**	**9.2%**	**2.2%**
13	2	Bayer	**5 700.9**	**40.1%**	**2.2%**
14	-1	Glaxosmithkline	**5 058.6**	**13.8%**	**1.9%**
15	-1	PH "Pharm-Center"	**4 775.9**	**8.0%**	**1.8%**
16	-11	F.Hoffmann-La Roche	**4 186.0**	**-41.7%**	**1.6%**
17	7	PHARMSTANDARD	**3 574.6**	**52.4%**	**1.4%**
18	3	Baxter Healthcare	**3 474.6**	**29.4%**	**1.3%**
19	-1	Boehringer Ingelheim	**3 409.9**	**2.7%**	**1.3%**
20	-3	Bristol-Myers Squibb	**3 333.7**	**-4.7%**	**1.3%**

The foreign manufacturer Pfizer became the 2017 leader. In 2017, this company showed growth of the purchase volume in the hospital segment: +22%. Increase of purchase of the leading brand "Prevenar" by 23.7% became the reason for this. This product accounts for 63% Pfizer's hospital portfolio.

The last year's leader Abbvie went down to the second line in 2017. This was accompanied by reduction of the purchase volume by 9.5%. Reduction in the product "Kaletra" played a big role in this (-17%).

Johnson & Johnson, which demonstrated growth by 39%, climbed up to the third line. Such high growth is ensured mainly by three products: "Intelence" (+60%), "Sovriad" (+392%) and "Eviplera" (+395%).

The domestic manufacturers, getting into TOP-20, are represented by 5 companies. "Biocad", which ranked 5th, having climbed up 4 points up, is the leader among them. Such growth of the company was ensured by increase of sales of "Herticad" and "Avegra" (+321% and +1 800% respectively), which became to be purchased within import substitution in their INNs (TRASTUZUMABUM and BEVACIZUMABUM). Also in 2017, 5 drugs, which were not included in the program in 2017 participated in state procurement of drugs for HCI, but their share is still insignificant.

The highest shift upwards (+10 points) among domestic companies, was demonstrated by "Microgen", the purchase volumes of which grew by 120%. The company's growth was ensured by various vaccines, included in its portfolio.

Maximum drop in the purchase volume in comparison with 2016 was noted in F.Hoffmann-La Roche (-42%), which lost 11 lines in the rating and went down to rank 16th. Two brands ("Herceptin", "Mabthera") showed considerable drop almost by 2 times among top five by the purchase volume of drugs in the hospital segment of the company. Let us note that the positions of F.Hoffmann-La Roche in hospital procurement have been lost not for the first year already. The company's portfolio is represented by original drugs, which got domestic generics, winning tenders in state procurement, after they went out of the patent protection.

Table 14 presents TOP-20 brands in HCI segments as per 2017 results. The share of TOP-20 brands in hospital procurement makes 21.4%, which is by 2% lower, than in the previous year.

In 2017, the top three leaders did not change, but there were some shifts. "Prevenar" vaccine shifted to the first line in the rating, the purchase volumes grew by +24%. "Sodium chloride" volumes increased by 11%, this allowed the drug to occupy the 2nd line. "Kaletra" brand demonstrated reduction of the purchase volume (-17% in rubles) and went 2 lines downwards.

Both expensive imported drugs, and cheap domestic drugs ("Sodium chloride", "Ceftriaxone") get in the rating.

The highest growth was demonstrated by children's vaccine "Pentaxim", the purchase volumes of which grew by 7,009%, which allowed it to go up from position 253 to rank 13th.

In 2017, a number of drugs "Viekira Pak", "Kemeruvir", "Herceptin", "Avastin" left the rating. The last two were expelled from hospital procurement by domestic analogues.

Table 17

Top-20 brands in HCI segment as per 2017 results

2017 Rating	Changes	Brand	Sales value, mln.rub. 2017	Sales volume increase	Share
1	1	PREVENAR	**8 345.4**	**23.7%**	**3.2%**
2	1	SODIUM CHLORIDE	**6 733.2**	**11.3%**	**2.6%**
3	-2	KALETRA	**5 819.0**	**-17.0%**	**2.2%**
4	3	SOVIGRIPP	**4 740.3**	**126.3%**	**1.8%**
5	1	ISENTRESS	**3 739.8**	**55.9%**	**1.4%**
6	5	INTELENCE	**2 567.9**	**59.6%**	**1.0%**
7	-2	REYATAZ	**2 200.5**	**-10.5%**	**0.8%**
8	0	KUROSURF	**1 855.2**	**-4.4%**	**0.7%**
9	6	ULTRAVIST	**1 678.4**	**8.3%**	**0.6%**
10	3	SEVORAN	**1 673.6**	**6.0%**	**0.6%**
11	97	HERTICAD	**1 656.1**	**321.2%**	**0.6%**
12	240	PENTAXIM	**1 601.8**	**709.1%**	**0.6%**
13	8	TAXACAD	**1 584.0**	**36.4%**	**0.6%**
14	4	ACTILISE	**1 579.1**	**11.2%**	**0.6%**
15	-3	CLEXAN	**1 477.0**	**-7.2%**	**0.6%**
16	0	LUCENTIS	**1 456.7**	**-4.9%**	**0.6%**
17	3	FRAXIPARINE	**1 433.0**	**17.0%**	**0.6%**
18	-8	CEFTRIAXONE	**1 388.8**	**-18.0%**	**0.5%**
19	4	ULTRIX	**1 365.5**	**28.6%**	**0.5%**
20	-6	VIEKIRA PAK	**1 351.0**	**-13.3%**	**0.5%**

5. Dietary Supplements

The retail market of dietary supplements (DS) has changed noticeably for the last several years. And, first of all, the consumption pattern has changed. Medium price segment DS in "therapeutic" groups become the most demanded: vitamins, sedatives, purgatives, cheap teas. And the weight-loss products, DS for men's health, which were popular earlier, decrease in sales considerably.

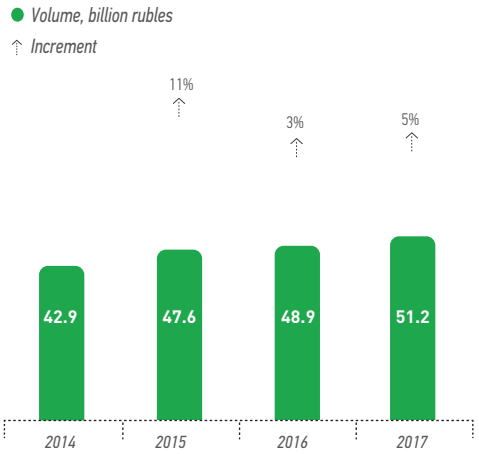
Special effect is also produced by the factor that now not only pharmacies, but any trade organizations having a license for trade in foodstuffs can sell DS. For example, DS can be found on shelves of such chains as "Auchan", METRO, "Azbuka Vkusa", etc. Food retail chains develop departments for sale of the goods for health, to which DS belong.

In 2017, stiffening of the rules, regulating advertisement of DS, which is the main tool in promotion of this category of the range, became one of the most important legislative initiatives. Despite stiffening of the rules, regulating advertisement of dietary supplements in 2016, companies continue to strengthen the marketing policy: advertisement on TV, radio and in Internet. Since the huge share of market players is represented by foreign companies with big professional marketing departments, positive market growth trend should be also expected in 2018. Marketing programs are implemented in internet most actively and productively, in particular, in social networks. At the moment the bill, authorizing advertisement of DS only in the places of holding of medical or pharmaceutical exhibitions, seminars,

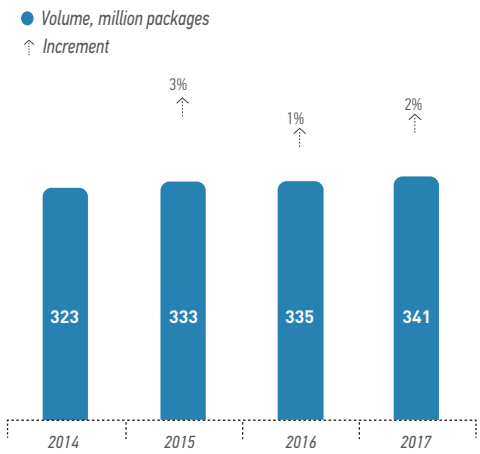
Fugure 27

Volumes of pharmacy DS sales in Russia

Dynamics of DS market, billion rubles



Dynamics of DS market, million packages



conferences and other similar events, as well as in specialized printed publications, intended for medical or pharmaceutical officers, is reviewed in State Duma.

In 2016, the Federal Supervision Service in the Field of Consumer Rights Protection and Human Welfare completed development of the method of determined of undeclared drugs in dietary supplements (synthetic phosphodeisterase-5 inhibitors: tadalafil, vardenafil and sildenafil). This allowed strengthening control, to reveal in the consumer market and to seize several lots of falsified DS from circulation.

In May 2016, the Federal Supervision Service in the Field of Consumer Rights Protection and Human Welfare prohibited the most popular DS of the holding – "Sealex Forte" and "Alicaps" – and began to seize them from circulation. In 2017, 4 DS more with prohibited drugs were revealed: "Libao", "Saimy", "Inforte" and "Erectogenon". All this produces a negative effect on the dynamics of pharmacy DS sales in general.

One should note the work of self-regulatory organization (SRO) Nonprofit partnership "Association of DS manufacturers", which signed a partnership agreement with the "Agency for Technological Development" on July 11, 2017. The goal of interaction of ANO "ATD" and Association of DS manufacturers is joint expert examination and development of promising technological projects in the healthy longevity industry. The agency intends to act as a consolidator of branch technological initiatives, aimed at improvement of the DS market products localization level, as well as introduction and development of break-through technologies in this area in the Russian Federation. In accordance with the reached agreements, the partners have agreed on permanent exchange of information on the existing technologies and collection of data on the aggregated demand for technologies.

In 2017, 340.7 million packages of DS were sold via the pharmacy network for the amount of 51.2 billion rubles (in retail prices) or 37.0 billion rubles (in pharmacy's purchase prices). For 12 months 2017, the DS market grew by 4.6% in rubles and by 1.7% in packages in comparison with 2016. Hereby let's note that in order to maintain competitive prices, pharmacies have to reduce the markup for this group of the range (as per 2017 results, the markup for DS made 38.4%, whereas in 2016 the similar index was at the level of 40.8%).

When viewing the dynamics of sales by months it can be noted that the sales growth peak occurred at the beginning of the year, when there is a "surge" of sales of seasonal products. Considerable decline of sales volumes in comparison with the last year has been observed since September 2017. In physical terms the situation is similar: in autumn, DS sales demonstrate even negative dynamics.
On the average one package of DS cost 150.2 rubles for the consumer (retail price). The weighted average price in 2017 grew by 4.1 rubles. In pharmacy's purchase prices the weighted average price of DS makes about 108.6 rubles.

The segment with a price of up to 50 rubles is the most popular price segment of DS on the market. This segment accounts for about 47% of sold DS in physical terms (the price pattern is given based on retail prices). Hereby let's note that because of the low price the share of this segment in value terms does not exceed 7%. The high share (36%) is taking by the products of the price segment of over 500 rubles.

Let's also note that in packages this very segment is growing with the highest rates. This happens mostly due to grows of prices and shift of the lines from one price category into another one, and not due to increase in sales of expensive DS.

Like in sales of drugs, the trend for reduction of the share of cheap DS both in value terms, and in physical terms, is observed. In relation to 2016 the share of DS with a price of up to 50 rubles reduced from 7.1% to 6.5% in value terms and from 47.9% to 47.3% in physical terms.

DS price dynamics was analysed using the Laspeyres price index. Despite slight growth of weighted average prices, the inflation for DS has been rather high in recent years. 2017 has broken this trend: prices in rubles dropped by 1.9%. This dynamics (deflation) is noted for the first time for many years.

Manufacturers present the dietary supplements as the agents aimed to prevent various diseases. It is not quite convenient to use the existing official classifier for assessment of the DS market – many DS, applied for prevention of one and the same diseases, are in different section of the classifier (for example sight improvement products). That is why DSM specialists developed their own DS classifier, which reflects the realities of the modern DS market more clearly. The DS classifier consists of 17 sections, most of which include the 2nd subsection, and some of which have the 3rd subsection.
Like in the past periods, "DS affecting whole body" remained the most demanded. In comparison with 2016, this group of DS grew by 10.7%. "Phemibion" by Merk Selbstmedikation and "Vitamishki" by PharmaMed remain the most popular brands in this group.

The group of "DS affecting digestive system" (+12.1%) ranks second. Such brands as "by the domestic manufacturer "Evalar" and "Maxilac" by Genexo are the most popular in this group.

The group of "DS, affecting reproductive system", which showed reduction of the sales volume by 15.2%, ranks third. Despite reduction of sales by 2 times, the rating is still headed by the products, affecting men's reproductive system – "Sealex Forte Plus" and "Ali Caps Plus". The supplement, affecting women's reproductive system, ranks just 4th with the maximum volume – "Indinol".

Most of subgroups demonstrate positive dynamics. Sales decrease in DS, affecting reproductive system, due to considerable reduction of products by "Ria Panda", as well as slimming DS due to decline of the group leader "Turboslim" line. In 2017 reduction of sales of the group of "DS, affecting hematopoietic system" is observed – hematogone in various variants has not been so much popular among the buyers.

> "The segment with a price of up to 50 rubles is the most popular price segment of DS on the market. This segment accounts for about 47% of sold DS in physical terms ."

TOP-20 DS brands leading by the sales volume on the Russian market

For the pharmacy dietary supplements remain the most important category of the pharmacy non-drug range. Over 2,570

various DS brands made by approximately 950 manufacturers were presented in 2017. But if earlier new items, which could take high ranks in the rating due to high promotion, were permanently introduced on DS market, at the moment this process slowed shown and it is very difficult to bring "interesting" novelties. "Chewing marmalade" in the form of teddy bears or other animals is a popular topic today. But if earlier such DS were promoted as vitamins, in 2017 manufacturers went further. "DuphaMishki" (Abbott) applied for support of the children's intestinal microflora appeared in the second quarter 2017 and got into TOP-150 brands.

A number of significant changes can be noted in the list of TOP-20 brands, leadings by sales volumes in value terms. The line of vitamin complexes by Solgar, affecting the whole body and individual systems, remained the market leader. "Doppelhertz" brand ranked second in the 2017 rating (+21.3%). "Vitamishki" brand, which ranked third in 2016 lost 2 lines in the rating, having reduced the volumes of sales by almost 8%. Its rank in the 2017 rating was occupied by "Fitolax" (+18.9%). "Phemibion" went up also due to this (+3 lines).

For significant positive changes such brands, as "Univit" (+58%) and "Bac-set" (141%) can be distinguished, from negative ones – (-46.6%) "Sealex Forte".

From the brands located below TOP-20, "Supradyn" should be noted (line of children's vitamins with the same name as the drugs, which was expanded in 2017) and "Bifistim Forte" (domestic DS manufactured by "V-Min" contributing to normalization of intestinal microflora).

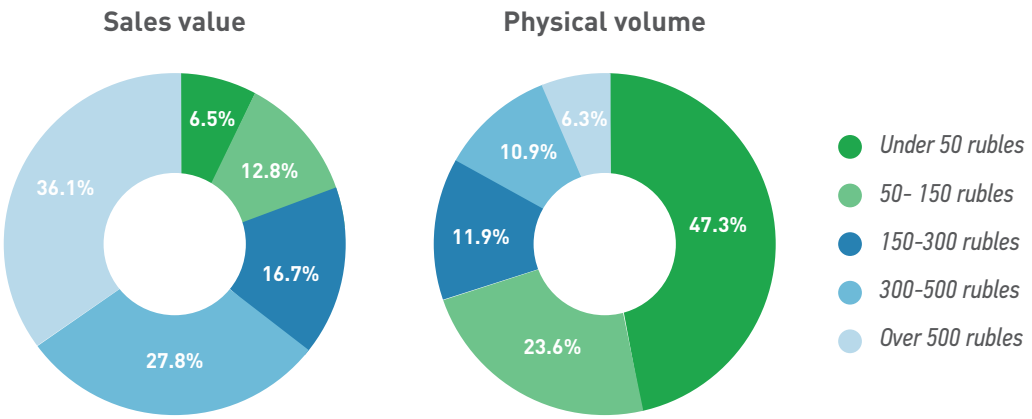


Figure 28

Ratio of DS Sales by Price Segments

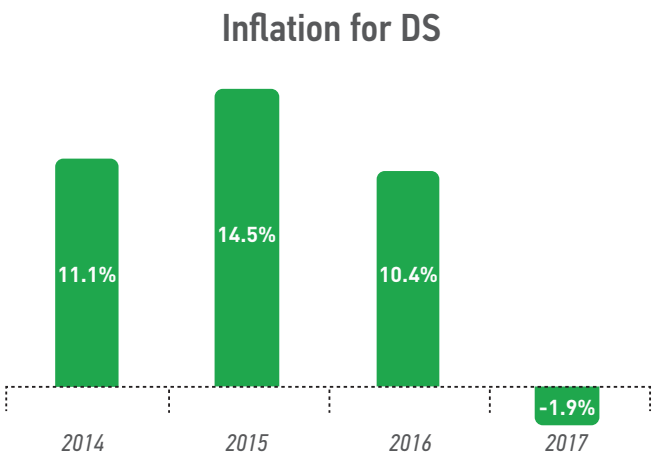


Figure 29

Change in price for DS on the Russian pharmacy market

TOP-20 DS manufacturing companies leading by sales on the Russian market

Unlike the market of drug products with prevalence of foreign-made products, DS market shows the reversed picture: DS produced in Russia cover 58% of sales value and 81% of physical sales volume. It should be noted that, in 2017, in comparison with 2016, sales of DS by domestic manufacturers grew less, than sales of DS by foreign manufacturers: 1.6% to 9.9%. In physical terms the situation is similar: 0.2% and 9.1%, respectively. As a result the share of domestic manufacturers decreased.

The average cost of a domestic product package in 2017 amounted to 107 rubles (+1.4% to 2016), which is approximately by 3.1 less than the cost of an imported drug package. In the same period the cost of an imported package amounted to 336 rubles on the average – the weighted average price reduced by -0.1%.
DS manufactured in Germany (28.1%), USA (19.8 %) and Poland (12.1%) take the leading positions among foreign manufacturers. The list of German manufacturers is headed by Queisser Pharma (series of DS "Doppelherz") and Merk Selbstmedikation ("Phemibion" brand). DS produced by Solgar Vitamin and Herb (DS SOLGAR) are the most popular on the American market of DS. Genexo (DS "Maxilac") and Polpharma ("Normobact") are leading among Polish manufacturers.

Concentration of the manufacturers in the pharmacy market is rather high – TOP-20 account for 63% of the market. There are also noticeable changes in the manufacturers' rating. Only manufacturers ranking first and second retained their positions of 2016.

"Evalar" remains the market leader for many years (hereby growth of sales volumes is not high, by 1.5%). Such dynamics is stipulated by loss of popularity of "Turboslim" line. According to 2017 data, DS "Fitolax" is the leader of sales of this manufacturer. Such brands as "Glycine forte" and "Ovesol" contributed much to increase of the manufacturer's volumes. Let us also mention high dynamics of "Ateroklefit" brand (+61%), new children's line "Baby Formula" (+94%), which is produced in the form chewing marmalade. At present there are approximately 360 various names of DS, combined into 150 lines with one trade name in Evalar's portfolio. New products of the company appear in the market every year, thus, in 2017 about 30 new DS with account of the dose, prescription and product form appeared on the shelves of pharmacies. The most successful novelty "OMEGA 3-6-9 CAPSULES #45" – balanced complex of three fatty acids - sales amounted to about 3.5 million rubles.

For sale of its products the manufacturer also uses other sales channels (not pharmacies): it opens "Phytomarkets", develops proprietary pharmacy network (as per 2017 results 153 pharmacies), and expands sales via Internet-channel (according to manufacturer's data growth – about 50% – of sales via Internet-channel). The company also intensified work with pharmacy networks considerably, where output of proprietary trademarks for a number of big chains, as well as development of joint advertising products became the new area in 2017. Besides of that, by July-August 2018, in Biysk, "Evalar" expects to launch a new section of the second block of the production complex, drugs from synthetic substances will be produced there.
PharmaMed, the main brands of which

Table 18

Sales rating by sections of the DS classifier

2017 Rating	Changes	Group	Sales value, mln.rub.	Sales volume increase	Share
1	0	V DS affecting whole body	**15 453.3**	**10.7%**	**30.2%**
2	0	A DS affecting digestive system	**10 997.1**	**12.1%**	**21.5%**
3	0	G DS affecting reproductive system	**6 222.0**	**-15.2%**	**12.2%**
4	0	N DS affecting function of central nervous system	**4 612.3**	**10.8%**	**9.0%**
5	1	C DS supporting cardiovascular system function	**2 558.1**	**13.8%**	**5.0%**
6	-1	W Slimming and cleansing DS	**2 314.5**	**-9.2%**	**4.5%**
7	0	S DS affecting sensory organs	**1 494.3**	**-1.5%**	**2.9%**
8	0	M Respiratory system DS	**1 474.0**	**-2.4%**	**2.9%**
9	0	B DS affecting hematopoietic system	**1 454.5**	**-3.2%**	**2.8%**
10	0	D DS for skin and hair problems	**1 421.9**	**0.8%**	**2.8%**
11	0	R Respiratory system DS	**1 091.0**	**0.8%**	**2.1%**
12	0	U DS affecting urinary system	**619.9**	**17.2%**	**1.2%**
13	1	T DS used in poisoning and intoxication	**506.6**	**32.7%**	**1.0%**
14	-1	H DS function of endocrine glands	**464.6**	**1.1%**	**0.9%**
15	0	I DS supporting immune system function	**321.5**	**0.7%**	**0.6%**
16	0	O DS used for treatment and prevention of oncology diseases (other than reproductive system tumours)	**91.9**	**5.8%**	**0.2%**
17	0	J DS used in virus, bacterial, fungous disease	**84.8**	**7.2%**	**0.2%**

Note: the sales volume is shown in pharmacy retail prices with VAT included.

Table 19

TOP-20 DS Brands by Sales in Russia in 2017

2017 Rating	Changes	Brand	Sales value, mln.rub. 2017	Sales volume increase	Share
1	0	SOLGAR	1 961.0	**15.5%**	**3.8%**
2	0	DOPPELHERTZ	1 754.6	**21.3%**	**3.4%**
3	1	FITOLAX	1 432.9	**7.3%**	**2.8%**
4	3	PHEMIBION	1 351.7	**15.5%**	**2.6%**
5	-2	VITAMISHKI	1 295.5	**-7.6%**	**2.5%**
6	2	MAXILAC	1 243.8	**13.2%**	**2.4%**
7	-2	HEMATOGEN	1 211.8	**-2.7%**	**2.4%**
8	-2	TURBOSLIM	1 024.6	**-14.4%**	**2.0%**
9	2	NORMOBACT	986.2	**25.1%**	**1.9%**
10	0	MOTHERWORT	835.2	**4.5%**	**1.6%**
11	2	ALPHAVIT	788.7	**1.7%**	**1.5%**
12	4	UNIVIT	786.9	**58.2%**	**1.5%**
13	1	GLYCINE FORTE «EVALAR»	739.5	**16.6%**	**1.4%**
14	6	COMPLIVIT	621.6	**48.7%**	**1.2%**
15	2	OVESOL	588.0	**25.4%**	**1.1%**
16	-7	SEALEX FORTE	524.3	**-46.6%**	**1.0%**
17	29	BAC-SET	523.9	**140.8%**	**1.0%**
18	-3	LINEX FOR CHILDREN	505.0	**0.1%**	**1.0%**
19	-1	NATURINO	463.0	**1.7%**	**0.9%**
20	-1	ASCORBIC ACID	458.6	**7.5%**	**0.9%**

include "Vitamishki", "Bac-set" and "Fitomucil", ranks second. At present there is high competition on the market of children's vitamins, where "Vitamishki" is the bright representative. That is why this DS dropped in the sales volume by 8%, giving the market to the items by other manufacturers. And sales of "Bac-set" grew by 2.5 times for the year.

Due to considerable reduction of sales volumes of "Ria Panda" (-41%) "OTCPharm", promoting "Univit" and "Complivit" vitamins on the market, went up to the third line. They account for 67% of DS portfolio and demonstrate growth by 1.5 times to 2016 volumes.

"Ria Panda" is a pharmaceutical holding, majoring in production and sale of dietary supplements. In May 2016, the Federal Supervision Service in the Field of Consumer Rights Protection and Human Welfare prohibited the company's most

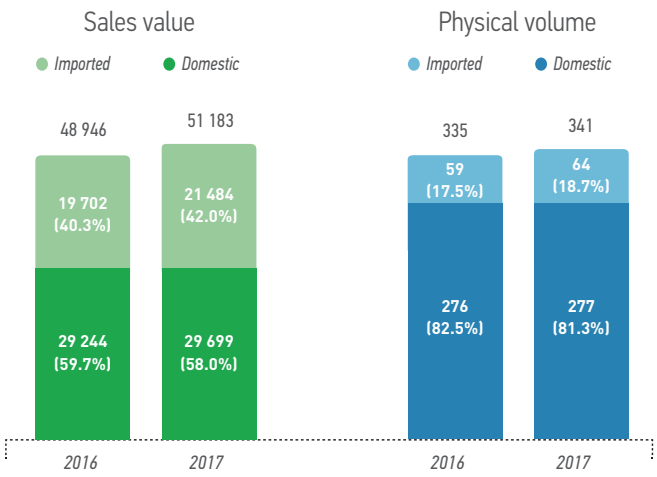


Figure 30

Ratio of Imported and Domestic DS Sales by Countries

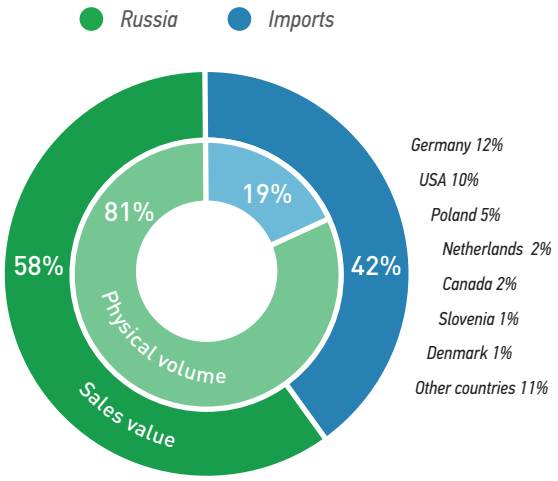


Figure 31

Proportion of Imported and Domestic DS Sales by Countries

popular DS – "Sealex Forte" and "Alicaps" – and began to seize them from circulation. Besides in 2017, the application came to the Arbitration Court from the Federal Tax Services to recognize the holding as bankrupt.

High growth rates are demonstrated by "V-Min" (+69%), the company's most famous brand is "Modelform", sales of "Bifistim Forte" also increased by three times.

"Akvion" ranks second by growth rates (+52%). The company's portfolio is rather extensive - about 40 brands. The positive dynamics is ensured by "Potassium Magnesium", "Superum".

Takeda is the "newcomer" in the rating. In DS this company is represented by two brands – "Rioflora" and "Keltican Complex". The last product grew by 4 times, which allowed Takeda to get into the 18th line of the rating.

Table 20

TOP-20 DS Manufacturers in Russia in 2017

Ranking 2017	Changes	Company	Sales value, mln.rub. 2017	Sales volume increase	Share
1	0	EVALAR	8 537.0	1.5%	16.7%
2	0	PHARMAMED	2 972.4	2.5%	5.8%
3	3	OTCPHARM	2 113.8	35.2%	4.1%
4	1	SOLGAR VITAMIN AND HERB	1 973.3	15.4%	3.9%
5	2	QUEISSER PHARMA	1 754.6	21.3%	3.4%
6	-2	VALEANT	1 680.3	-2.0%	3.3%
7	-4	RIA "PANDA"	1 523.6	-40.5%	3.0%
8	4	AKVION	1 390.6	51.6%	2.7%
9	0	MERK SELBSTMEDIKATION	1 351.7	15.5%	2.6%
10	1	GENEXO	1 243.8	13.2%	2.4%
11	-3	RECORDATI	1 221.2	-2.9%	2.4%
12	1	POLPHARMA	1 071.0	22.5%	2.1%
13	-3	PHARM-PRO PC	1 011.0	-10.9%	2.0%
14	1	STADA	841.1	27.6%	1.6%
15	5	V-MIN	799.1	69.3%	1.6%
16	-2	DIOD	754.5	0.9%	1.5%
17	-1	BIOCOR	590.5	-6.3%	1.2%
18	3	TAKEDA	568.2	30.4%	1.1%
19	0	NOVARTIS	507.5	-1.6%	1.0%
20	-2	ILMIXGROUP	480,9	-8.3%	0.9%

6. Cosmetics

For the last several years cosmetics have become an integral part of the pharmacy range. Despite the fact that any cosmetics can be sold in the pharmacy network, manufacturers position their products as unique, due to a number of such peculiarities: reliability, effectiveness, medical properties, etc. And this position is justified, since safety certificate and registration procedure is an obligatory condition for presence of cosmetics on the pharmacy shelf.

Similar to market of DS, competent marketing policy is deemed to be the basis for promotion of the goods in the market. Consumers become more and more demanding to the composition and quality of products. Hereby the pharmacy acts as a guarantor of quality, faith in recommendations.

At present, the pharmacy is one of the popular places for purchase of cosmetics. Today one can find cosmetics in the pharmacy, which not only have a medicinal effect, but are responsible for care and beauty. Cosmetics can be intended for face, hair, hands, etc., can be subdivided by age. Networks and single points need to study cosmetic brands, appearing on the market systematically, so that to satisfy the consumer demand and trace the novelties. In 2017, 1,690 various brands of cosmetics, over 15 thousand full names were presented in Russian pharmacy networks. The range of pharmacies was supplemented with novelties– about 113 brands were offered to the consumer. Two new brands turned out to be the sales leaders: Dr.Stern (line of creams and gels with different medicinal action spectrum) and “Krya-Krya” (cosmetics for babies and kids). These brands managed to get into TOP-250 by the sales volume in value terms, since their sales in the first year exceeded 74 million rubles.

Pharmacy cosmetics remain one of the areas, enduring unstable financial conditions and crisis phenomena of the last years sturdily. Sales volumes grow annually.

As per 2017 results, 182.6 million packages of cosmetics were sold in the pharmacies of Russia. This is by 2.6% more than for the similar period of the previous year. In ruble equivalent (in retail prices) the Russian market of pharmacy cosmetics for twelve months 2017 amounted to 44.5 billion rubles, which is by 6.3% more than in 2016.

If monthly sales dynamics of pharmacy cosmetics is analyzed, one can see stable growth in rubles in relation to 2016. April, July and December became the most successful months: sales in value terms grew by more than 10%. The reason

” Pharmacy cosmetics remain one of the areas, enduring unstable financial conditions and crisis phenomena of the last years sturdily. Sales volumes grow annually. “

for such dynamics is in seasonality of cosmetics. So, consumption of sun screeners is growing in summer. In December, there is growth due to holiday purchases – people present cosmetics.

Cosmetics differ by price, by designation, product form. DSM Group analyzed the items and offers the classification of beauty goods. Cosmetics, which are sold in pharmacy networks, are divided into 3 groups:

Mass market cosmetics are the affordable cosmetics, intended for skin, hair and nails care and sold both in pharmacy institutions, and other points of sale (Garnier, Nivea, etc.).

Active (medicinal) cosmetics are applied for treatment and prevention of certain diseases, contain various biologically active substances ("Sofya" (creams and balms), creams "Boro Plus", etc.).

Selective (premium and luxury) cosmetics are characterized by availability of specialized lines, clearly distinguished between each other and intended for certain skin or hair state, as a rules, cosmetics of such a type are sold mainly via pharmacy institutions (Vichy, Avene, Uriage, etc.).

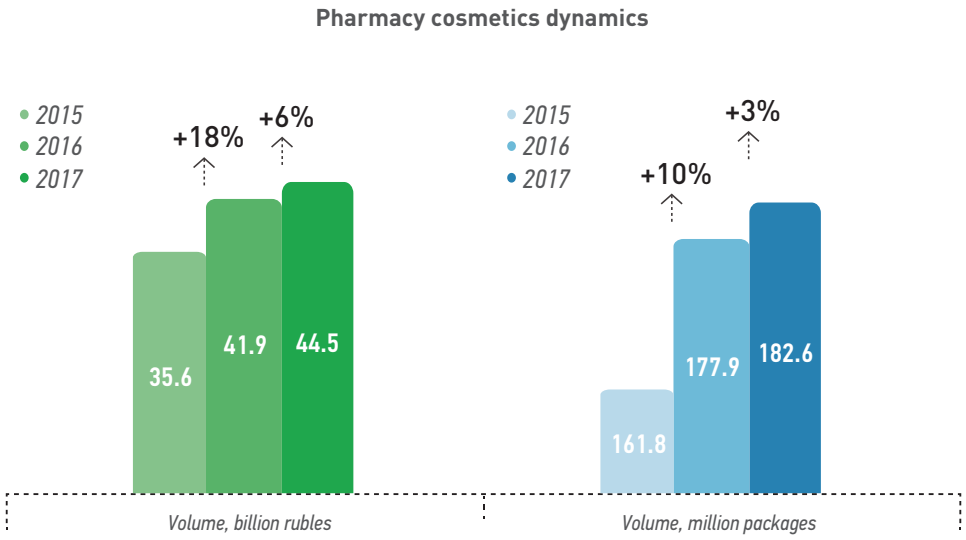
The main growth of cosmetics in value terms is ensured by growth of sales of selective cosmetics, which is growing most of all in 2017 (+7.9%). This led to increase of the specific weight of brands of this category in rubles from 36.7% to 37.2%. In packages the weight of this group is noticeable lower – about 11% (but increment is also observed - +2% for 2 years). Such dynamics is mostly ensured by Librederm brand, which appeared several years ago and competes with the "old-timers" of pharmacy selective cosmetics - Vichy and La Roche-Posay. The aggressive advertising policy of "Zeldis" helps to sell its proprietary brand, and attracts the consumer to the pharmacy, which develops the segment of pharmacy cosmetics.

And in physical terms growth of sales is mostly related to increase of the category of active (medicinal) cosmetics. This group accounts for over 56% of all cosmetics, sold in the pharmacy.

Mass-market cosmetics lag behind other groups by development rates. Here the main reason is that the pharmacy is not the main

Figure 32

Sales volumes of cosmetics in Russia



distribution channel for this subsegment. Hereby, pharmacies optimize their range permanently, and the items, belonging to the mass-market, will be withdrawn, first of all. Thus, in 2017, one could buy 850 different brands of mass-market cosmetics via the pharmacy network, which is by 3.5% less than in 2016.

The average cost of a package of a beauty product in retail prices of pharmacies in 2017 was equal 244 rubles/package. In relation to 2016, it grew by 3.5%. When viewing the market by segments one can see that selective products grew in the price by 3.6%, the cost of a package of medicinal cosmetics grew by 2.7%, and the prices for the products from the mass market segment grew least of all - by 2.5%.

The pharmacy offers wide choice of cosmetics to the consumer, there is a variety of both brands of cosmetics, and product forms and designation of such products. Universal cosmetics are the most popular cosmetics among the consumers – they account for 36.2% in physical terms.

And most of all money is left by the buyer in the pharmacy, purchasing facial products – 26%. It is not surprising, since the brands of selective cosmetics, the average price for which makes about 800 rubles, are leading in the structure of represented facial products. Hereby manufacturer's product whole lines of products, which can hydrate and nourish skin, have lifting effect, etc. This group of cosmetics shows one of maximum increments in physical terms (+5.4%), which led to increase of the share of facial cosmetics in the overall volume by 0.7%.

Reduction of sales was demonstrated by only one market segment – hair and head skin products (-2.1% in rubles and -4.7% in packages).

The highest share in the structure of cosmetics by the age factor is occupied by the "multifunctional" cosmetics, intended for all age categories (77.9% of the sales volume by value and 80.2% of the physical volume). Cosmetics for children at the age of 0 to 14 years old rank second: 8.3% of the volume by value and 14.0% of the physical volume. Cosmetics for middle age people (after 25 years old) raked third with the market share of 6.2% in value terms. In this category overbalance towards premium and luxury cosmetics is observed – selective cosmetics account

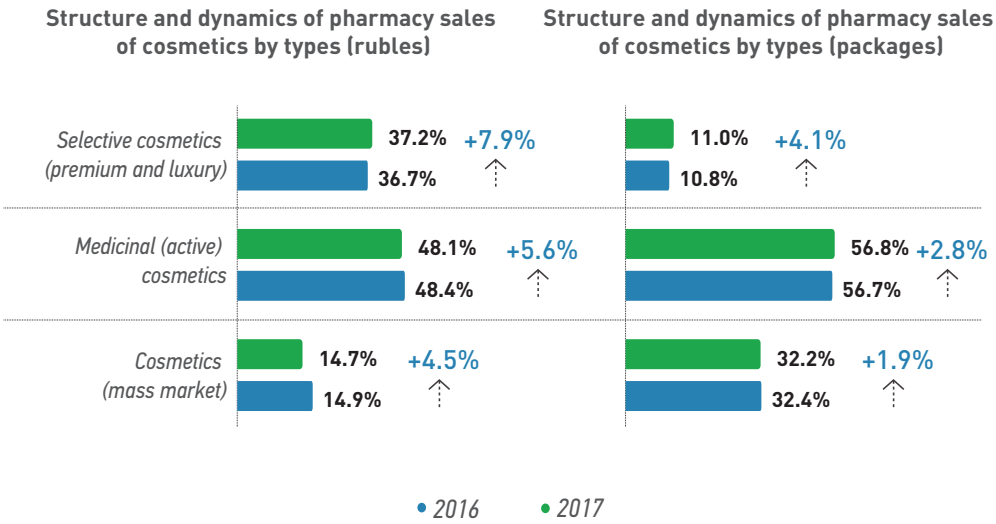


Figure 33

Ratio of Pharmacy Cosmetics Sales by Type

for 80.9% of the volume of this category. Maximum overbalance towards expenses cosmetics is observed in the segment for elderly age (after 60 years old), in this category selective cosmetics account for 92.8% of the sales volume by value. As a result the segment of cosmetics for elderly age demonstrates maximum increment in money (+20.0%). The consumers of young and juvenile age prefer other distribution channels that is why sales of cosmetics in this segment dropped by 13.1%.

Cosmetics by Russian manufacturers are more demanded on the market by the consumer that foreign products, domestic cosmetics account for over 71% of the physical sales volume. When viewing the sale volume by value one can note that the market is practically divided fifty-fifty, but overbalance towards imported cosmetics is observed (about 54% of sales).

Different proportion of domestic and foreign cosmetics is observed inside the segments.

In 2017 premium and lux cosmetics are presented by imported cosmetics, which take 75% of the market in rubles and 52% in packages. The only domestic brand - Librederm, which is partially produced on the territory of our country, is sold in the same volume, as other domestic selective cosmetics (9.8 million packages).

The segment of medicinal cosmetics, vice versa, is mainly represented by domestic brands, which are leading both by the value (61%), and physical (76%) indicators.

In the mass market segment the share of domestic cosmetics grew towards the last year in value terms and made 54%. The main domestic brands are “Detskiy krem” and “Moye solnyshko”, which occupy in total about 20% of the market in rubles.

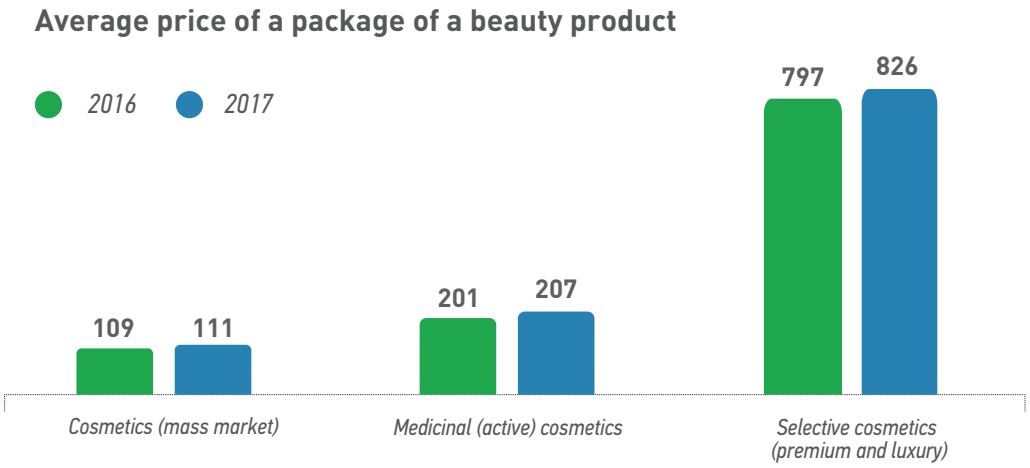
Selective cosmetics

In 2017, 20.1 million packages of selective products for the amount of 16.6 billion rubles (in retail prices) were sold in the pharmacies. In 2017, the sales growth rates of premium cosmetics were much lower than in 2016 – 7.9% in rubles and 4.1% in packages compared to 34.6% and 32.2% last year. Hereby dynamics of the demand for the brands included in this category was non-homogeneous enough.

Figure 34

Weighted average price for cosmetics

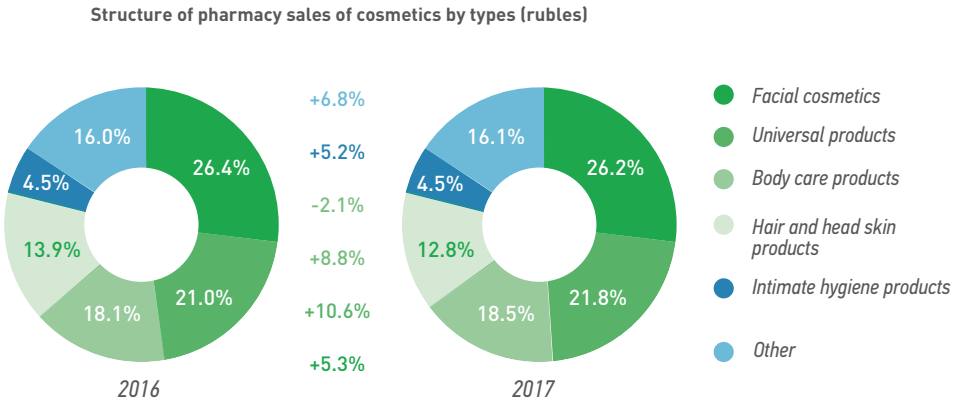
Note: the sales volume is shown in pharmacy retail prices with VAT.



This segment has changed noticeably for the last several years. Vichy has been the brand-forming trademark for many years. As per 2017 results, the sales volume of products under this brand reduced by 16% in rubles and went down to rank second, despite permanent replenishment of the range. Total of about 250 different items by Vichy brand are represented in the pharmacies, their average price amounts to 1,500 rubles.

The leading position in the segment of selective cosmetics was gained by Librederm brand, which account for about 25% of the segment volume by value in 2017. Hereby sales of the brand grew by 10% in relation to 2016. Let us note that in packages Librederm line accounts for 48% of the physical volume. So, at present, Librederm can be called the most popular brand of selective cosmetics. The line includes about 150 different items, but the facial products occupy the highest share.

La Roche-Posay brand, ranking this among TOP-10 brands of selective cosmetics, demonstrated 15% growth of sales in 2017. These thermal water-based cosmetics is developed by La Roche-Posay specially for problem skin, that is why the main share in brand sales is occupied by Effaclar line (special anti-pimple, blackhead and acne line) and Lipikar products (for face from irritations and itching).



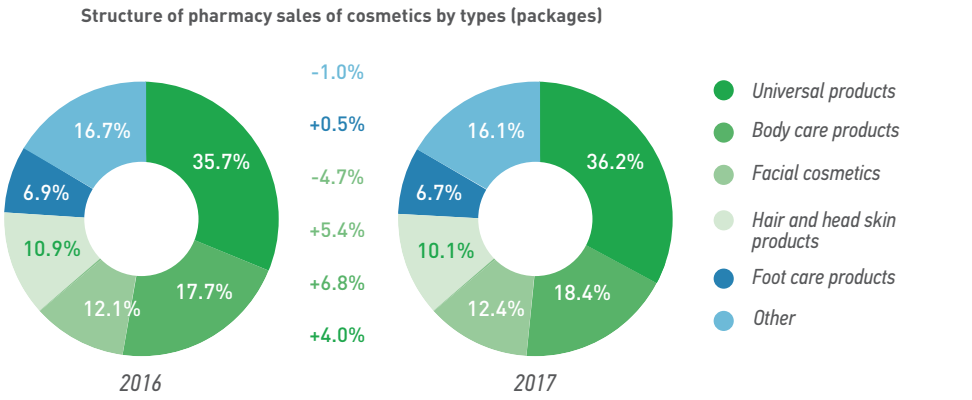


Figure 35

Structure of cosmetics by the place of application

In 2017, almost all leading brands of selective cosmetics were distinguished for the growth of sales in rubles, the above-mentioned Vichy and Lierac became exceptions. Differently directed dynamics has not affected the composition of the market leaders yet. High growth rates are demonstrated by Mustela brand (cosmetics for babies and future moms skin) - +50%. Bioderma ranks second by growth. The sales volume of these cosmetics grew by 31% due to increase of Sensibio line, intended for patients with sensitive skin with such diseases, as seborrhea dermatitis and rosacea. The average price of one product starts from 1,100 rubles.

Figure 36

Ratio of Pharmacy Cosmetics Sales by Type, 2017

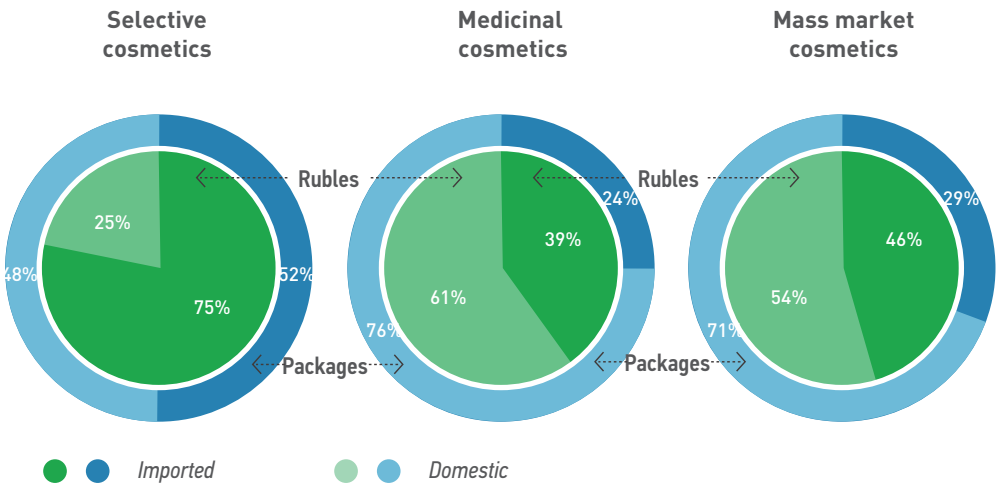


Table 21

TOP-10 brands of selective cosmetics

Number in the rating	Change in the rating	Brand	2017 share	2017/2016 growth
1	1	Librederm	**24.7%**	**9.8%**
2	-1	Vichy	**20.8%**	**-16.2%**
3	-	La Roche-Posay	**19.6%**	**14.6%**
4	-	Avene	**7.7%**	**25.0%**
5	-	Bioderma	**6.7%**	**31.0%**
6	-	Uriage	**4.7%**	**26.6%**
7	2	Mustela	**3.0%**	**50.0%**
8	-	Filorga	**2.5%**	**13.7%**
9	-2	Lierac	**2.2%**	**-12.2%**
10	-	Klorane	**1.6%**	**20.2%**

"Medicinal" cosmetics

One of alternative names of active cosmetics is "medicinal". Unlike selective brands, which are mainly aimed at settlement of esthetic problems, "medicinal" cosmetics are positioned, among other things, as an aid for several diseases. That is why the major part in sales of this range group is occupied by items, used in case of sprain, concussion, inflammatory diseases of joints (14%), different skin damages and diseases (10%), loss of hair and alopecia (7%).

Concentration in the segment of active cosmetics is noticeably lower than in the segment of selective brands. Thus, TOP-10 brands account for 35% of sales of the category (compared to the similar figure in selective cosmetics at 94%). Hereby overs 860 various brands of "medicinal" cosmetics are sold in the pharmacies.

"Horse Force" retains the first rank among the brands of medicinal cosmetics. Sales of the brand reduced considerably in 2017: -17%. The body products, as well as hair and head skin products account for the main sales volume of the products under this brand.

"Alerana", brand, majoring mainly in hear products, ranks 2nd in the rating. Increment, exceeding the group growth in general (+21%) allowed retaining this position. Lactacyd, brand, represented in the pharmacies for intimate hygiene products, ranks third, the brand grew by +11%.

"Mycostop" and "Spasatel" climbed 2 points up. This allowed them get into TOP-10 brands of medicinal cosmetics. From negative changes let us note reduction of "Sofya" by 1 point down. Sales of this product dropped by 5% in value terms. Dry Dry also went down by 2 points (sales dynamics is also negative -6%).

Besides, such brands as "Mycosan", nail fungus treatments (-6 points down), and "Paranit", medicinal shampoo (-1 line) left the rating.

Table 22

TOP-10 Medicinal (Active) Cosmetic Brands

Number in the rating	Change in the rating	Brand	2017 share	2017/2016 growth
1	-	Horse Force	**7.4%**	**-16.8%**
2	-	Alerana	**4.3%**	**20.5%**
3	-	Lactacyd	**3.7%**	**11.2%**
4	-	Emolium	**3.1%**	**-1.0%**
5	2	911	**3.1%**	**9.6%**
6	-1	Sofya	**3.0%**	**-4.8%**
7	2	Boro Plus	**2.9%**	**18.9%**
8	-2	Dry Dry	**2.9%**	**-6.3%**
9	2	Mycostop	**2.4%**	**18.7%**
10	2	Spasatel	**2.2%**	**13.4%**

Mass market cosmetics

Mass market cosmetics consist of universal products for 40% in pharmacy sales and are mostly intended for cleansing.

Changes in the rating of mass market cosmetics are less noticeable than in two other groups. Leaders retained their positions. Despite reduction of sales by 4% Johnsons Baby with the children's products outstrips its competitors substantially, by two times by sales volumes and retains the first line.

Brands, taking the top positions in the rating, demonstrated negative dynamics for the year in general. Thus, in the reporting period, "Kora" demonstrated reduction in rubles by 8%. Nail products under the brand of "Smart Enamel" retain the third line.

"Detskiy krem" (primary manufacturers are "Avanta" and "Svoboda") demonstrated a maximum growth of sales (+14%) in TOP-10.

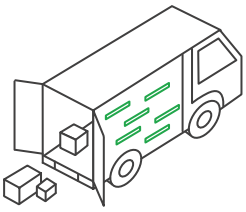
From the negative increments let us note reduction of sales of Nivea cosmetics by 15%. The pharmacy is not the main distribution channel for this brand, and this leads to the fact that competitiveness of the pharmacy drops. The similar situations exist for such brands as Natura Siberica, "Neutrogena Norwegian Formula", and the share of their sales decreases. Maximum drop of sales is demonstrated by "Diaderm", which is represented in the pharmacies by several items of hand and foot creams (-18%).

Table 23

TOP-10 brands of mass market cosmetics

Number in the rating	Change in the rating	Brand	2017 share	2017/2016 growth
1	-	Johnsons Baby	12.4%	-3.9%
2	-	Kora	5.6%	-8.1%
3	-	Smart Enamel	5.2%	-2.8%
4	-	Nivea	4.5%	-15.3%
5	-	Floresan	4.2%	3.4%
6	-	Detskiy krem	4.0%	13.7%
7	1	Moye solnyshko	3.6%	6.9%
8	-1	Neutrogena Norwegian Formula	3.3%	-6.8%
9	-	Natura Siberica	2.9%	-11.4%
10	-	Diaderm	2.4%	-18.3%

7. Drug Import



At present legislative initiatives with regard to importation of drugs to Russia are mainly focused in the sphere of solution of problems on import substitution and fight with bad quality drugs.

Late in December 2017, a Bill was introduced for consideration, which proposes to simplify legislation for importation of active substances for drugs to the Russian Federation. According to today's applicable standards, not information on the end product, but information on the active agent (substance), from which this drug is made, is included in the state register of drugs. That is why in importation of drugs to Russia they have to carry out several expert examinations: first, check the quality of the agent within the drug, then check the active substance. Hereby such requirements do not extend to foreign manufacturers: it is enough for them registered the finished product in the state register. In this connection it is proposed to define that the active pharmaceutical substance is deemed included in the state register of drugs after inclusion of drugs, in which it is included, in it.

The new list of documents for import of drugs became another initiative. Federal Supervision Service in the Sphere of Healthcare and Social Development proposes to make check of imported drugs upon their importation to the country more severe. New rules of circulation of foreign made pharmacological products will be recorded in the federal law "On introduction of amendments in some legislative acts of the Russian Federation on the question of inclusion of drugs for medical application in civil circulation". In particular, importers will need to provide a manufacturer's certificate for each type of the imported drug. Besides, documents, confirming compliance of the imported drugs with the requirements, established upon their state registration. The drugs import procedure will be simplified for the drugs, having analogues in Russia.

In recent years the questions has been especially acute on importation of drugs which are not registered Russia, but are urgently needed to patients. In January 2015, the Federal law No. 532-ФЗ dated 31.12.2014 came into force, which restricted patients' opportunities for treatment with drug that didn't pass registration in Russia. In accordance with the law, importation and sale became a wrongful act, subject to criminal or administrative responsibility. Drugs imported in accordance with the officially issued permit, made an exception. The law "On circulation of drugs" implied an opportunity to import unregistered medicines for personal needs, but it is an inconceivable waster of efforts and funds for patients with serious forms of diseases to fly abroad for purchase of the drug. The manufacturers themselves introduce one of proposals, solving this problem: to import unregistered drugs for patients on a grant basis.

Besides, compulsory licensing can also become a solution. The Federal Antimonopoly Service (FAS) introduced a bill for government consideration, permitting to produce analogues of imported drugs without agreement with the patent holder in case of big threats to health of individuals. This amendment will allow to avoid situations with unreasonably high prices from the companies with the dominating position, as well as

cases of refusal from production or supply of required drugs to the Russian Federation in case of big threats to life and health of individuals.

It is also necessary to note an operation of the Eurasian Economic Union (Armenia, Belarus, Kazakhstan, Kyrgyzstan and Russia). It is expected that with its complete launch the range of drugs and the consumer's choice will grow, since the member countries have cheap analogues of expensive drugs. High-quality drugs produced in Armenia, Belarus, Kazakhstan and Kyrgyzstan can expel a part of imported drugs from the Russian market. Hereby high competition between the manufacturers will stop growth of prices.

In May 2017, the common drugs market started its operation on the EAEU territory. Now medicines can be registered in all EAEU countries at once.

The transitional period, ensuring smooth transition from the national regulation to unified regulation, is provided for. In particular, up to December 31, 2020 the applicant has the right to which, under which rules (national or unified ones) he will register drugs. All drugs, which were registered under the national rules before December 31, 2020, must undergo reregistration under the rules of the single market before December 31, 2025. Upon submission of the drug registration file before December 31, 2018 the manufacturer is entitled to provide national documents, issued by the Union member states and confirming conformity of its production to the requirements of national GMP rules, to EAEU instead of GMP certificate.

The information system of the single market, allowing pharmaceutical companies to submit the drug registration file under the EAEU rules, must start working in the first

Figure 37

Drugs import volume

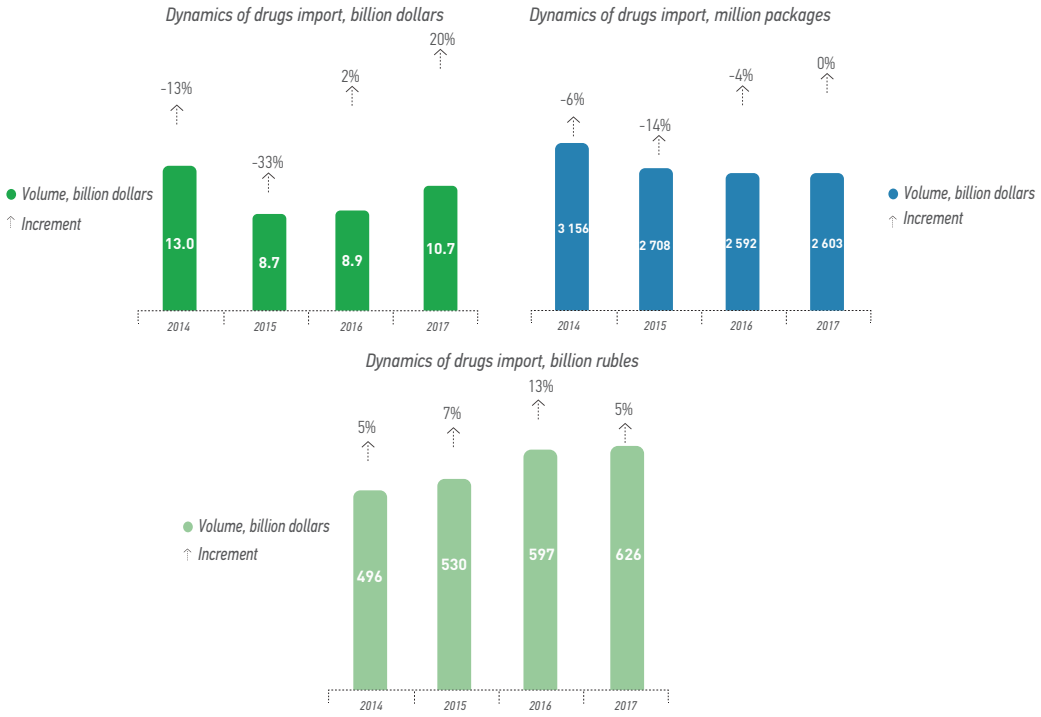


Table 24

Shares of different groups of drug importers in Russia In the drugs import volume

Importers	Share of the import volume, %				Increment, dollars 2017 / 2016
	2014	2015	2016	2017	2017/2016
Distribution companies	**18.7%**	**15.7%**	**13.9%**	**10.1%**	**-14.7%**
Representative offices of foreign companies	**72.9%**	**72.7%**	**74.1%**	**77.5%**	**22.9%**
Direct import companies	**4.3%**	**5.4%**	**5.1%**	**6.0%**	**36.9%**
Domestic drug manufacturers	**4.1%**	**6.1%**	**6.9%**	**6.5%**	**9.6%**

quarter 2018. The unified information system for drugs registration is the central system of the single pharmaceutical market containing the key processes of the common market and basic registers of EAEU. They include the registers of registered drugs, pharmaceutical inspectors and authorized persons of drugs manufacturers. Release in circulation and sale of a drug on the EAEU market will become possible only provided that this drug is included in the unified register of EAEU.

Drug Import

Innovations and changes in the work of the pharmaceutical market of Russia, which are discussed and will be introduced in the next years, can lean in short-term prospect to the considerable growth of imported drugs, and in the longer period - vice versa, to reduction.

The import dynamics has demonstrated negative trends in physical terms for the last several years. Thus, 2.6 billion packages of drugs were imported in 2016. It is by 18% lower than 2014. Main reduction occurred in 2015: because of currency fluctuations importers were afraid to import big lots of drugs and used the formed reserves. In 2017, the import volume in physical terms remained at the 2016 level. In dollars the volume of imported drugs in 2017 amounted to 10.7 billion dollars and grew by 20% in relation to 2016 figure. Hereby let us note that increment occurred due to increase of the volumes of import of more expensive drugs, and not due to increase of price. The volumes of imported drugs in value terms converted into rubles demonstrate positive dynamics from year to year - in 2017 increment made 5%. This is related to the lower average dollar exchange rate for 2017, than in 2016.

Table No 17 presents shares of different groups of drugs importers to Russia.

> In May 2017, the common drugs market started its operation on the EAEU territory. Now medicines can be registered in all EAEU countries at once.

Table 25

TOP-10 representative offices of foreign manufacturers by import volume

	Representative offices of foreign manufacturers	Share by import volume of the "Representative offices...", %		Increase to 2016, dollars
		2016	2017	
1	NOVARTIS	8.5%	8.8%	27.5%
2	SANOFI	7.2%	6.6%	13.2%
3	BAYER	5.3%	5.3%	22.5%
4	Pfizer	5.4%	5.2%	18.2%
5	Teva	5.0%	5.1%	25.4%
6	Johnson & Johnson	4.3%	5.0%	42.0%
7	Berlin Chemie	4.3%	4.6%	29.8%
8	Abbot	4.0%	4.4%	36.6%
9	Takeda	4.1%	3.9%	18.1%
10	Glaxosmithkline	2.8%	3.7%	62.8%
	Total:	50.8%	52.6%	

As it can be seen from table No 17, in 2017, two groups of importers - distribution companies and representative offices of foreign companies account for about 88% of the drugs import volume. Import structure continues to change in favor of "Representatives of foreign manufacturers". Share of import by distribution companies continues to decline as well as the volume of goods imported by this group.

The maximal import share is covered by the representatives of foreign manufacturers (77.5%).

The segment of "Direct import companies" showed high dynamics in 2017, and its share made 6.0% (in import structure). Increment is stipulated by increase of the volumes of the group leader by 51%. A major player in this segment is the company Pharmaceutical import and export, its share is 63%. It is followed by Orfe with its share of 10%.

The main importer among domestic drugs manufacturer is "Nizhpharm" - its share as per 2017 results made 18%. The leader of past years – "Pharmstandard-Leksredstva" showed negative dynamics having reduced importation by 35%, and ranked second with the share of 15%. The third is Ufa vitamin plant with a share of 11%.

Table No 18 presents TOP-10 representative offices of foreign manufacturers by import volume in 2017.

The group "Representative offices of foreign companies" grew in dollar terms in 2017

Table 26

TOP-10 distributors by volume of drugs import

Ranking	Distributor	Share in the import volume in the group "Distributor companies", %		Increase to 2016, dollars
		2016	2017	
1	Protek	24.1%	25.0%	-11.3%
2	Puls	12.6%	16.2%	9.6%
3	Katren	16.8%	15.6%	-20.7%
4	R-Pharm	22.5%	13.4%	-49.0%
5	Biotec	0.0%	4.0%	
6	Euroservice	4.4%	3.2%	-38.3%
7	SIA	2.2%	3.2%	23.3%
8	Pharmcomplect	1.8%	3.1%	44.6%
9	Dominanta-Service	1.5%	2.3%	28.8%
10	Grand Capital	1.3%	2.2%	46.7%
	Total:	87.2%	88.3%	

by 23%. Concentration in the group of importers "Representative offices of foreign companies" increased slightly in comparison with 2016. Let's note that all companies of TOP-10 demonstrate positive dynamics.

Novartis with the share of 8.8% remains the leader in the group of importers "Representative offices of foreign companies" like in the past years. Traditionally the representative office of "Sanofi" ranks second. In 2017, the volume of imported drugs of this manufacturer grew by 13%, less than in the group due to this the share reduced by 0.6%. The representative office of "Bayer" ranked third in the reporting year, its growth made 23%.

From the companies, which demonstrated high growth, the representative offices of "Glaxosmithkline" (+63%) and "Johnson & Johnson" (+42%) should be mentioned. Drop by 6% was demonstrated by "Beringer", which threw it 3 points down from 8 rank in 2016, as per 2017 results the representative office did not get into top ten.

From the companies, which did not get into TOP-10, let us mentioned the representative offices of "Servier" and "Merz", in which the turnover of imported drugs grew considerably (by 4 and 8 times respectively). Thus, the companies began to import drugs via their representative offices more actively.

Table No 19 presents TOP-10 distributors by volume of drugs import to Russia.

The share of ten largest distributors-importers from the entire volume of import

Table 27

TOP-20 manufacturing companies by import volume of drugs to Russia by all groups of importers

Ranking 2016	Ranking 2017	Manufacturer	Share of import volume by value, % 2016	Share of import volume by value, % 2017	Increment to 2016, dollars
1	1	Novartis	5.7%	5.7%	17.9%
2	2	Sanofi	4.8%	4.5%	12.2%
4	3	Bayer	3.6%	3.8%	23.4%
11	4	Glaxosmithkline	3.0%	3.5%	37.9%
5	5	Johnson & Johnson	3.6%	3.4%	14.1%
3	6	Celgene	4.0%	3.4%	0.3%
7	7	Takeda	3.6%	3.3%	12.3%
8	8	Abbott	3.4%	3.3%	16.6%
10	9	Berlin-Chemie	3.3%	3.3%	21.1%
6	10	Merck	3.6%	2.9%	-4.1%
9	11	Pfizer	3.3%	2.7%	-3.6%
12	12	Teva	3.0%	2.6%	4.1%
13	13	Gedeon Richter	2.8%	2.6%	9.4%
15	14	Astrazeneca	2.5%	2.5%	16.6%
14	15	Boehringer Ingelheim	2.7%	2.2%	-2.4%
17	16	Astellas Pharma	2.3%	2.1%	11.5%
18	17	Krka	1.9%	1.9%	20.3%
19	18	Abbvie	1.6%	1.7%	24.3%
20	19	Dr.Reddy's Laboratories	1.6%	1.7%	27.2%
16	20	F.Hoffmann-La Roche	2.4%	1.6%	-20.9%
		Total:	62.7%	58.6%	

of the group "Distribution companies" in 2017 made 88%.

As it can be seen from table No 19 "Protek" with the share of 25% is the largest distributor by import volume in the group "Distribution companies" in 2017. Three companies "Puls", "Katren" and "R-Pharm", which are approximately at the same level 13-16%, can be distinguished further. From the list companies only "Puls" shows increase of the volume of imported drugs, hereby such dynamics has preserved for the last several years and corresponds to the company's development on the pharmaceutical market in general.

There occurred considerable changes in the composition and position of other distributors. From 2016 rating, "Rosta" failed to get into TOP-10 (the import volume reduced by 10 times). "Biotec" returned to the rating and to the companies-importers, in 2016 supplies were not noted. As per 2017 results, the distributor ranked 5th. The high dynamics is demonstrated by such companies as "Pharmcomplect" and "Grand-Capital".

In 2016, distributor "Godovalov", which head office is located in Perm, began to supply drugs to Russia. In 2017, the drugs importation volume grew by 3 times and amounted to 9.6 million dollars. Also Voronezh company "Norman" was noted in 2017 from regional distributors in import of drugs. For the first year of work the drugs for the amount of 8.2 million dollars were imported in this area.

Table No 20 presents TOP-20 manufacturing companies by import volume of drugs to Russia by all groups of importers.

The share of TOP-20 drug manufacturers by import volume in Russia in 2017 was 59%. Novartis and Sanofi are the largest manufacturers by import volume of

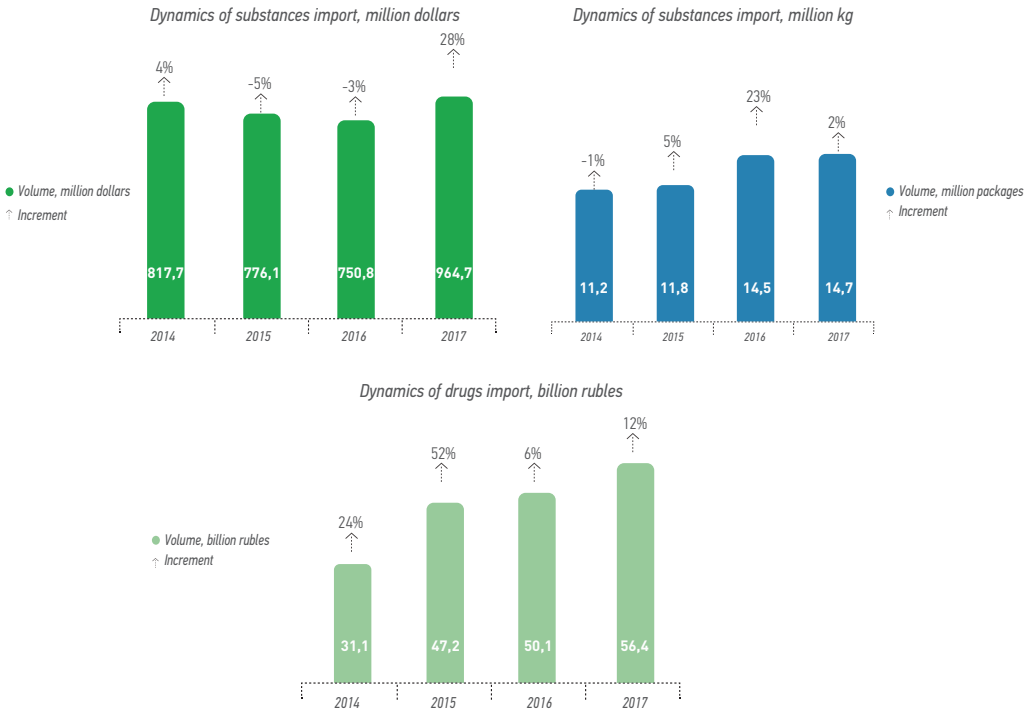


Figure 38

Import volume of substances

Table 28

TOP-10 countries of origin of substances

Ranking	Country	Share, dollars 2017	Growth, 2017/2016
1	China	**22.1%**	**5.2%**
2	France	**19.3%**	**21.7%**
3	India	**10.6%**	**5.7%**
4	Slovenia	**9.8%**	**57.5%**
5	Italy	**8.1%**	**22.3%**
6	Germany	**8.0%**	**23.1%**
7	Switzerland	**5.8%**	**148.2%**
8	Netherlands	**2.7%**	**2015.3%**
9	Ireland	**2.7%**	**7670.9%**
10	Hungary	**2.4%**	**108.0%**
		91.5%	

Ranking	Country	Share, kg 2017	Growth, 2017/2016
1	China	**56.7%**	**-5.1%**
2	India	**11.7%**	**46.8%**
3	France	**8.6%**	**16.0%**
4	Austria	**5.1%**	**65.6%**
5	Germany	**3.9%**	**-41.6%**
6	Slovenia	**3.9%**	**-29.3%**
7	Poland	**2.9%**	**128.1%**
8	USA	**2.3%**	**-1.3%**
9	Italy	**0.9%**	**-15.4%**
10	Netherlands	**0.7%**	**81.5%**
		96.7%	

Table 29

TOP-10 names of substances, imported to Russia

Ranking	Country	Share, dollars 2017	Growth, 2016/2015
1	Perindopril	**10.0%**	**23.6%**
2	Insulin	**6.1%**	**63.3%**
3	Raltegravirum	**6.0%**	**1221.8%**
4	LOSARTAN	**5.0%**	**-5.4%**
5	Arbidol	**4.5%**	**37.5%**
6	Hesperidin+Diosmin	**4.2%**	**-**
7	Indapamide	**3.8%**	**38.6%**
8	Klopidogrelum	**3.6%**	**85.4%**
9	TAMSULOSIN	**2.8%**	**12104.5%**
10	Bismuth	**2.7%**	**27.5%**
		48.6%	

Ranking	Name	Share, kg 2016	Growth, 2016/2015
1	Paracetamol	**14.4%**	**8.3%**
2	Acetosalicylic acid	**11.7%**	**-11.0%**
3	Metformin	**9.1%**	**67.5%**
4	Carmolis	**6.3%**	**65.7%**
5	Plantex	**4.3%**	**-34.0%**
6	Metamizole Sodium	**4.2%**	**-27.8%**
7	Glycine	**3.9%**	**54.1%**
8	Calcium gluconate	**3.7%**	**125.9%**
9	Sorbitol	**3.7%**	**-18.5%**
10	Ascorbic acid	**3.5%**	**-40.8%**
		64.8%	

drugs to Russia. Bayer climbed to the third line from the fourth rank. For TOP-20 manufacturers by sales volume on the pharmaceutical market (see section No 10 "Production") only one foreign companies does not get in the rating of importers – it is Stada, which is localized in Russia (the plant of "Nizhpharm" is a member of the corporation), and Servier, which plant was launched in 2007 of New Moscow territory.

Import of substances

The problem of small production of substances in the Russia remains the main in the question of drug safety. Drugs manufactured in the country are mostly made from imported substance.

At present, the import volume of substances makes about 14.7 million kg. In value terms this figure makes about 965 million dollars or 56 billion rubles. If in 2016 we observed increase of importation of substances in tons, hereby in value terms there was even drop, in 2017 – the picture of quite opposite. Against weak positive dynamics in physical terms, in value terms the volume of imported substances showed unprecedented grow thin 2017: practically by quarter compared to the past years' figures. Such dynamics is explained by importation of more expensive active pharmaceutical substances. For example, the substance with the active agent "Paclitaxel" was supplied by 5 times more in physical terms, than in 2016; its average price per kilograms makes about 50 thousand dollars. Supplies of the substance with INN "Glatiramer acetate" began, the price for which exceeds 38 thousand dollars. The volume of supply made 93 kilograms, main recipient –"R-Pharm".

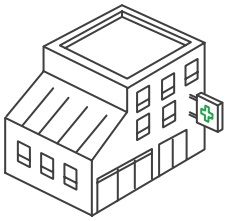
In 2017, there were supplies from 41 countries.

Substances made in China prevail in value and physical terms (22% and 57% respectively). Let us note that the import dynamics of substances from China slowed down, an in tons it even has negative values. The highest volume is imported in total from European countries – about 63% in money terms. France ranks first amount the European countries - importers and second in the rating in general.

In 2017, import of substances from Netherlands and Ireland grew noticeably. By 4 times more of Dutch INN "Sulfacetamide Sodium" was imported to Russia, which is used for production of the drug "Sulfacylum", which is mainly produced by domestic plants, for example "Obnovlenie", "MEZ", "Sintez AKO", etc. Substance with INN "Tamsulosinum" was supplied from Ireland in 2017 Astellas for localization of its drug "Omnic" at the plant of "ZiO-Zdorovie".

Over 700 various names of substances were imported in the reporting year. Top three substances in value terms are: Perindopril (10%), Insulin (6%), Raltegravirum (6%). In tons most of all Paracetamol (14%), Acetosalicylic acid (12%), Metformin (9%) were imported.

8. Pharmacy Chains



The pharmacy market has looked differently in recent years. The "consolidation and unification" process is gaining speed, which leads to enlargement of the market players and increases their market share. Certainly, it is one of the most important trends in 2017. But the environment, in which pharmacies and pharmacy chains work, can also change cardinally. The question will be about legislative initiatives, which have been discussed actively during the year: it is legalization of remote trade in drugs and permit for selling them in trade chains. Adoption of any of these laws will entail structural change of the market. First, the number of sales outlets of drugs will grow, consequently, competition will grow. Second, a number of pharmacies can be closed due to reduction of sales in pharmacy sales outlets, which will lead to reduction of drug accessibility for the consumer, since the questions is about over-the-counter drugs only.

Discussions on the access to the over-the-counter drugs in the stores have been hold since 2012. In 2017, Ministry of Industry and Trade developed a draft federal law with the initiative to vest stores with the right of free sale of drugs, sold without a prescription. Hereby free sale of over-the-counter drugs will be possible after receipt of a license for engagement into pharmaceutical activity. Sales outlets will have to purchase drugs from the same suppliers as pharmacy organizations in order to prevent growth of falsified products. It is supposed that the Federal Supervision Service in the Sphere of Healthcare and Social Development will begin to control observation of the require drug storage and sale conditions in the stores. In the opinion of FAS, appearance of drugs in the stores would increase competition on decrease the prices for drugs — this would increase drugs affordability.

While the legislative initiative is discussed, food retailers find other ways of interaction with the pharmacy market. In 2017, Russian food retail leaders announced about their participation in pharmacy projects. X5 Retail Group has a rich experience of cooperation with pharmacy chains which includes the pharmacies in the cashier zone of their stores and in the trading halls of supermarkets in the shop-in-shop format. In 2016, X5 Retail Group concluded an agreement with the distributor "SIA International", which develops proprietary pharmacy chain under the brands "A-Mega" and "Da Zdorov". In 2017, 828 pharmacies were opened within cooperation with X5 Retail Group. In this connection, other pharmacy chains "departed" from X5.

" Discussions on the access to the over-the-counter drugs in the stores have been hold since 2012. In 2017, Ministry of Industry and Trade developed a draft federal law with the initiative to vest stores with the right of free sale of drugs, sold without a prescription. "

The trade chain "Azbuka Vkusa" also concluded a partnership agreement with the distributor "IA" in 2017, which guarantees the preemption right of "Mega Pharm" pharmacy chain for rent of areas on the territories of supermarkets. "Mega Pharm" will develop pharmacies under the exclusive brand "Azbuka Life" for 10 years. Last year 26 sales outlets were opened in the near-till areas of "Azbuka Vkusa" stores.

Retail chain "Magnit" decided to take the course of development of the proprietary pharmacy chain as early as in 2016. In the second half-year 2017, "Magnit" launched pharmacies in Rostov Region, Krasnodar Krai, and the Republic of Adygeya based on "near home" stores and hypermarkets. Most of all facilities appeared in Kuban — 34 sales outlets. As of the year there were 51 pharmacies. But it should be noted that "Magnit" suspended development of this area for evaluation of efficiency of opened pharmacies.

Another big retail player "Dixi" is not going to develop its proprietary pharmacy chain. The retailer places pharmacy sales outlets in the stores of the chain. In 2015, "Dixi" concluded an open-ended agreement with the "Pharmacy Chain 36.6" on the priority right of placement on the rented areas within this program.

Development of online interaction channels with the end consumer is a trend of the modern market. That is why it is not surprising that this question also became urgent for the pharmacy segment. The details of the bill are still developed, there are a lot of unsettled issues left — which groups of drugs shall be allowed for sale, who and how will deliver drugs to the end consumer. But the activity, with which the question was discussed in 2017, makes the probability of its adoption high.

Pharmacy chains get ready to permit online sales of drugs. Many of them already have proprietary sites with the booking system of drugs in the specific pharmacy, selected by the consumer.

One of the Russian biggest Internet-companies in the system of e-commerce "Ulmart" and "Erkapharm" group of companies signed an agreement on cooperation in the field of online sales. It is supposed to crease a special section in the main site of "Ulmart", uniting over 10 thousand items of drugs. Buyers will be able to make an order in a customary format, and pay and receive the purchase in any pharmacy of "Ozerki" chain, where special pickup windows with be equipped.

In the beginning of October 2017, "Zhivika" discounter's site started its work www.aptekazhivika.ru ("Rigla" pharmacy chain, "Protek" GC), via which the users can book the commodity and take the order in the nearest pharmacy without a queue. Besides, the site of the pharmacy chain is also adapted for work on all mobile devices. In the prospect the pharmacy chain will be oriented to personification of services of all its formats. The mobile application will also be developed within this concept.

In the beginning of 2017, "Pharmacy Chain 36.6" launched a joint project with Ozon.ru online store for sale of drugs and medical products via Internet. Buyers can book the commodity in the sites of the pharmacy group or in Ozon.ru platform. Payment and delivery of the order is made in any of the pharmacies under the management of Pharmacy Chain 36.6. Also in 2017, Ozon.ru Internet-retailer began to implement the project on development of the postamat chains. The first retailer's partners included pharmacies "36.6". Ozon plans to install 1.5 thousand postamats across Russia by the end of 2018, the total amount of investments in development of such a

chain will make up to 1 billion rubles in the next three years. Ozon Box is a proprietary postamat, which is customized for delivery of Ozon.ru orders from the software to the box sizes. The order can be stored in the device for up to 3 days, and its weight should not exceed 24 kg.

The similar services on order of drugs are also provided by major pharmaceutical distributors – "Katren" (Apteka.ru) and "Protek" ("Zdravcity"). The number of pharmacy institutions associated with Apteka.ru across the country exceeds 15,000. The turnover of drugs, purchased via the site, amounted to 7 957 million rubles in 2017, which is by 43.5% more than in 2016.

Pharmacy players encourage the consumer to order via Internet. For example, "ASNA" launched a pilot service "discounter inside pharmacies" – "ASNA Economy" in Moscow, Moscow Region, Nizhny Novgorod Region and Krasnoyarsk Krai. This service will allow to get a considerable discount for drugs, and if the drug is not available, to make a preorder for it.

Pharmacy chains are also "built into" medical online resources. "Novaya Medicina", operator of the service Doc+ for calling a doctor, launched a service for online order of drugs. The ordered drugs can then be taken in the pharmacies of the partner chains ("Doctor Stoletov", "36.6" and in the pharmacies, connected to "Zdravcity" service of "Protek" group).

Consolidation and growth of pharmacy chains continue. Transactions made in 2017 led to the fact that in total TOP-20 chains grew in 2017 by 35% compared to the similar period in 2016. The share of TOP-20 was 51%, which is 10% higher than in 2016. It can be seen from the figure that the process of unifications, mergers and acquisitions in the last 3 years concerned mostly TOP-3, which led to growth of concentration by 15% in this segment. And in TOP-20 the share of chains has grown by 2 times since 2014.

Figure 40 shows growth of TOP-20 pharmacy chains by sales turnover and number of outlets in 2014-2017. In the last three years, there has been significant growth in terms of number of outlets, since the chains started to grow rapidly due to the opening of new outlets and merging. The growth in the number of TOP-20 chains is 156% to the level of 2014. In 2017, rating already 7 chains have over 1,000 sales outlets in their quantitative composition, as

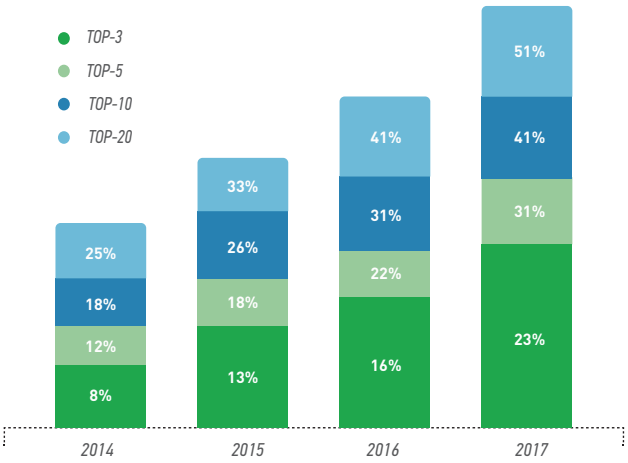


Figure 39

Concentration of TOP-20 pharmacy chains

per 2018 results their number can grow to 15. And jointly TOP-20 players control over 40% of all pharmacy sales outlets in Russia.

Table shows the ranking of pharmacy chains in commercial sector with quantitative and value growth parameters in 2017.

The most important transaction on the market in 2017 is purchase of the pharmacy chain "Raduga-Pervaya Pomoshch-Ladushka" by "Erkapharm" group ("Doctor Stoletov" and "Ozerki" brands). The transaction allowed "Erkapharm" to enter new regions – Ural, Western Siberia and the Far East, the consolidated market share as per the year results made 3.6%. Besides in 2017, the company opened 53 own sales outlets: in the city of Nizhny Novgorod and Nizhny Novgorod region (29 pharmacies), Saint Petersburg and Leningrad region (9 pharmacies), Novosibirsk (7 pharmacies), Moscow and Moscow region (5 pharmacies), Saratov (2 pharmacies) and Orel (1 pharmacy). In September 2017, "Erkapharm" purchased Penza pharmacy chain "Aptechny Dom", which is represented by 9 pharmacy sales outlets. So, the number of pharmacies under control of "Erkapharm" reached 1,240 sales outlets in all federal districts of Russia. For optimization of the logistic and procurement activity the company decided to open its own logistic center in Saint Petersburg, where "Erkapharm" holds 40% of the market. Also the pharmacy chain develops the goods under the proprietary trademark actively and began to work under direct contracts with the drugs manufacturers.

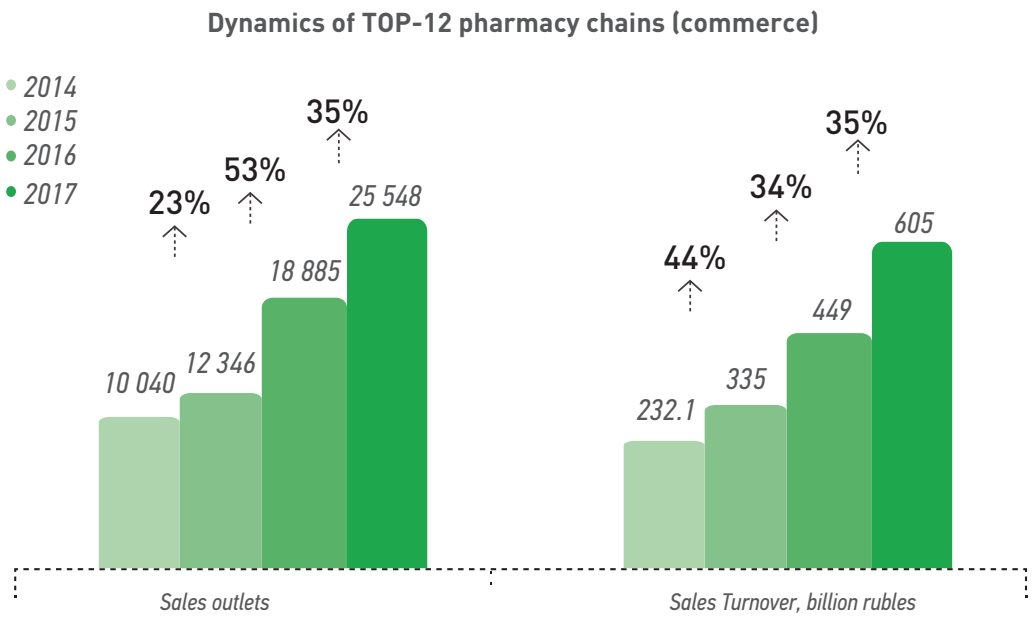
"Klassika" pharmacy chain, which pharmacies were located in Chelyabinsk and Sverdlovsk Regions – about 170 sales outlets, joined "Implosia" chain in 2017.

Thus, only these transactions have changed the rating of pharmacy chains, and three companies disappeared both from the rating, and from the pharmacy market.

"Pharmland" pharmacy chain continues to strengthen its position. In 2017, the chain purchased Kazan "Republican chain 36.6" (99 sales outlets in 3 regions), "Orticon" pharmacies in Salavat (49 sales outlets), Chelyabinsk chain "Pharmicon" (25 sales outlets). The company continues to enter

Figure 40

Dynamics of chains growth of sales turnover and number of sales outlets of TOP-20 pharmacy chains



neighboring regions actively, preserving centralized management.

Owners of Saint-Petersburg chain "Rodnik Zdorovya & LekOptTorg" agreed on unification with Murmansk "Apteka dlya Berezhlivykh". As per the year result the chain counts about 178 sales outlets in Saint-Petersburg, Leningrad, Pskov, Moscow, Kaliningrad, Murmansk and Novgorod regions, having expanded the region of presence. The unified chain plans to increase its presence on the Moscow market.

In 2017, "Rigla" pharmacy chain purchased "DOMPharma" chain (30 pharmacies and 1 orthopedic salon) in Kolomna, "Panacea" (31 sales outlets) in Kostroma and "003" (29 pharmacies) in Pskov. Also "Rigla" plans to expand its regional representative office in 2018, having concluded about 100 franchising agreements in the

Table 30

Chain ranking by sales turnover in 2017 on the commercial pharmacy market

Ranking	Pharmacy Chains	Volume, billions of rubles	Share in commercial market, 2017	Sales Turnover increase compared to 2016	Number of sales Outlets
1	ASNA	**158,4**	**13,4%**	**100%**	8 365
2	Pharmacy Chain 36.6 [1]	**56,5**	**4,8%**	**18%**	1 601
3	Rigla	**56,0**	**4,7%**	**25%**	2 031
4	Implosia	**48,8**	**4,1%**	**9%**	2 626
5	Erkapharm GC[2]	**42,0**	**3,6%**	**17%**	1 240
6	Planeta zdorovya	**31,3**	**2,7%**	**29%**	1 286
7	Neo-pharm	**25,5**	**2,2%**	**50%**	446
8	April	**21,7**	**1,8%**	**105%**	870
9	Pharmland	**20,0**	**1,7%**	**26%**	950
10	Vita	**20,0**	**1,7%**	**38%**	950
11	Pharmakopeika – Tvoy doctor	**18,4**	**1,6%**	**10%**	892
12	Pharmaimpex	**16,9**	**1,4%**	**21%**	737
13	Melodiya zdorovya	**16,9**	**1,4%**	**38%**	1 262
14	Maxavit (including 36,7C)	**13,8**	**1,2%**	**43%**	396
15	Apteka-Timer	**13,4**	**1,1%**	**25%**	675
16	Samson-pharma	**10,3**	**0,9%**	**-12%**	68
17	Pharmaceut+	**10,1**	**0,9%**	**7%**	338
18	Novaya Apteka	**9,1**	**0,8%**	**19%**	158
19	Nevis	**8,3**	**0,7%**	**16%**	407
20	Gubernskiye apteki	**7,0**	**0,6%**	**18%**	250
	TOP-20	**604,6**	**51%**	**37,5%**	25 548

[1] "Pharmacy Chain 36.6", excluding data of "Pharmacor" from 4 quarter of 2017
[2] "Erkapharm" GC· including "Ozerki"· "Doctor Stoletov"; AN "Raduga-Pervaya Pomoshch-Ladushka" with account of the sales turnover in 2016 and 2017 of the existing points at the moment of the transaction

regions, where the company has not been represented by its own pharmacies yet, and regional pharmaceutical retail trade will not have to compete with the federal chain. First, the company intends to develop a project in the Far East, Sakhalin, in Republic of Sakha (Yakutia), Republic of Udmurtia, Khakassia, Amur region and Kamchatka Krai. "Rigla" reckons on partnership of already existing independent pharmacies. Thus, in December 2017 the pharmacy chain concluded a franchising agreement with "Puls" distribution company for the period of up to 2023. As per its terms and conditions, franchisees participate in the marketing contracts of "Rigla" chain, get access to the house brands range and software of "ePharma". In 2017, the chain opened 360 pharmacies, and at the moment its counts a bit over 2 thousand sales outlets in 47 regions of Russia under the brands "Rigla", "Bud zdorov!" and "Zhivika" (discounter).

In autumn 2017, "Melodiya Zdorovya" closed two transactions on purchase of regional pharmacy chains. Thus, "Melodiya Zdorovya" got Tyumen "Dobry Lekar" (16 pharmacies) and Kursk "Tselitel" (39 pharmacies). In January 2018, "Melodiya Zdorovya" pharmacy chain closed another transaction on purchase of Moscow regional chain "Stoletnik", which counts 57 pharmacies in Moscow region.

> "Thus, only these three transactions have changed the rating of pharmacy chains, and three companies disappeared both from the rating, and from the pharmacy market."

The considerable dynamics is demonstrated by "April" pharmacy chain: in 2017 the number of pharmacies in the chain grew by 68%, and proceeds — by more than 100%. The chain's plans are even more grandiose: 2018 — 1.5 thousand pharmacies with the turnover of 35-40 billion rubles; 2019 — 2.5 thousand pharmacies with the turnover of 60-70 billion rubles. Organic development is mainly planned, with purchase of small and medium regional players.

If we summed up the results in the nomination "Breakthrough of the year", "Mega Pharm" pharmacy chain would get it. Though the chain did not get into TOP-20 yet, but taking into account 2017 dynamics and company's plans for 2018 this can happen already in the next reporting period. In 2016, "Mega Pharm" (is a member of Marathon Group together with "SIA" distributor) controlled 172 pharmacies. "Mega Pharm" finalized 2017 – the first full calendar year of its work – already with 870 pharmacies. Pharmacies of "Mega Pharm" are presented today in 32 regions of Russia. Proceeds of the pharmacy chain amounted to 4.4 billion rubles.

Different associations and unions have become quite a popular phenomenon on the pharmacy market in recent years. The main objectives of marketing alliances include improving the efficiency of business for each partner by combining efforts in various business areas. As a result, such structures act as a single organization when working with the manufacturer, which allows for additional preferences and greater efficiency.

Association of Independent Pharmacies (ASNA) is one of the largest marketing associations in the pharmaceutical market with 8,365 sales outlets at the end of the year. New members are actively joining

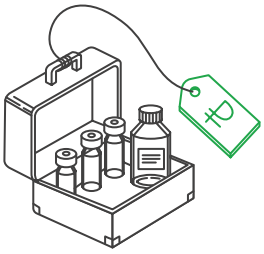
the association, in a year the number of ASNA members increased in 2 times (according to the results of 2016, the structure included 4,215 pharmacies). ASNA develops additional services for its participants. "ASNA Logistics" began to work in May 2017, it presupposes conclusion of long-term contracts directly with the products manufacturers, and passing by the distribution link, supplies directly to the pharmacy organizations, included in the association. Thus, ASNA settles the problems of price jumps and defects in the distribution sector of the market by the priority and marketing range. As per ASNA forecasts, the share of direct contracts for supply of products, passing by the distributors, will grow to 30% within two-four years.

In 2017, the first pharmacy association IRIS (Integrated Retail Investment Strategies) was established under the management of "Iris", which included pharmacy chains: "Stavropol city pharmacies", "Pharmakopeika" ("Medexport-Severnaya Zvezda"), "Tvoy Doctor" and "Nizhny Novgorod pharmacy chain". By the federal coverage the new player is present in 17 regions, covering entire Western Siberia, Central, Privolzhsky, Ural and Southern Federal Districts. The quantitative composition of the association at 1,315 pharmacy sales outlets with the small number of participants of the association forms conditions for development of the uniform development strategy.

IRIS Association also launches its logistic center in Moscow. The distribution center must increase efficiency of direct contracts with the manufacturers. The association plans to increase gross profit of its participants due to management of the range, promotion and introduction of the house brand (HB), work with the manufacturers and optimization of marketing contracts.

The marketing union of independent pharmacies "ProApteka" demonstrated vigorous growth — the number of pharmacies grew considerably from the beginning of 2017 and reached 3,928 sales outlets. The total turnover of the sales outlets amounted to 44.7 billion rubles, which corresponds to the market share of 3.8%. The union works on improvement of efficiency of pharmacies, functionality is granted to the participants for automation of operation — possibility of online control of fulfillment of marketing actions in respect of the specific commodity items of the pharmaceutical production companies, cooperating with the union. In July, the first proprietary pharmacy of "ProApteka" was opened. It is planned that subsequently such pharmacies will operate in all regions of presence of "Protek" Introduction Center and will become the partners of "Zdravcity" online order service. In November 2017, "ProApteka" won an auction for placement of pharmacy sales outlets under "Zdravcity" signboards on six MCR stations.

Consolidation and unification are a stable trend in the pharmacy sector. Beginning of 2018 just confirms this trend. A number of transactions took place, and some transactions are just being discussed. We have only to observe, which of integration forms will be chosen by the participant.



9. Distribution segment of the pharmaceutical market

Following the pharmacy segment of the market substantial changes concerned the wholesale link of sale of drug. Diversification and expansion of the sphere of distributors' business, vigorous growth of companies from the "second ten", financial difficulties of the market leaders – all this changed the rating of pharmaceutical "wholesalers". Hereby the positive concentration trend changed for the negative.

The volume of the pharmaceutical market in Russia, in terms of distributor prices, was 1,357 billion rubles, which is 8.4% higher than in 2016. TOP-10 of companies accounted for about 72%. Hereby concentration decreased considerably. There were similar "low" indices of the total share of "top ten" in 2008-2009.

Such dynamics is related to several factors. Three players have already disappeared from the market for the last several years: "Imperia-Pharma", "Oriola", Alliance Healthcare.

In 2017, «ROSTA", which ranked fourth as per 2016 results, faced serious financial difficulties. In 2017, the company did not get in the rating. In 2016-2017, claims were lodged against it for the total amount of about 10 billion rubles; in October, the bankruptcy claim was brought against the company, on which proceedings were initiated. The Arbitration court of Moscow region deem the application for recognition of CJSC "ROSTA" bankrupt justified and introduced the observation procedure in respect of the debtor for the period of six months, until July 23, 2018. In summer 2017, "ROSTA" group agreed on sale of the unified pharmacy network "Raduga – Pervaya Pomosch – Ladushka", including in the holding to "Erkapharm" group (brands "Doctor Stoletov" and "Ozerki") toward the solution of the problems. It was a question of purchase of 1,148 pharmacies in 24 regions. In November 2017 the transaction was closed. Late, in 2017, the Arbitration court of Nizhny Novgorod region ruled to attach a part of movable property of the Petersburg plant "Raduga Production", which is also included in "ROSTA" group.

Distributor "ROSTA" held about 8% of the market in 2016. Let us note that no one of big players was still ready to build up the share significantly, having occupied the vacant place.

As per 2017 results, "Protek" retained the first rank, its turnover amounted to 241.9 billion rubles. The distributor's share dropped from 18.6% to 18.1%. The same dynamics is observed with "Katren", which ranked second in the rating in 2017 with the sale volume of 235.1 billion rubles. The wholesaler's share reduced from 18.4% to 17.6%.

So, despite the positive dynamics of turnover of two biggest players, their joint share on the market reduced by 1.2%. Slowdown of distributors' growth rates is related to low market growth in general, as well as to possible barriers (logistic, warehouse, financial), which prevent from development with the same

intensity, as in previous years. Hereby the companies are dealing actively with the business diversification and development of enterprises included in it.

In April 2017, "Protek» purchased Lipetsk antibiotics and antineoplastic drugs production complex JSC "Rapharma" for expansion of the production segment, based on CJSC "Pharmfirm "Sotex". JSC "Rapharma" implements the full drug production cycle in the full scale, the plant was launched in 2014. The company's product portfolio for two years included

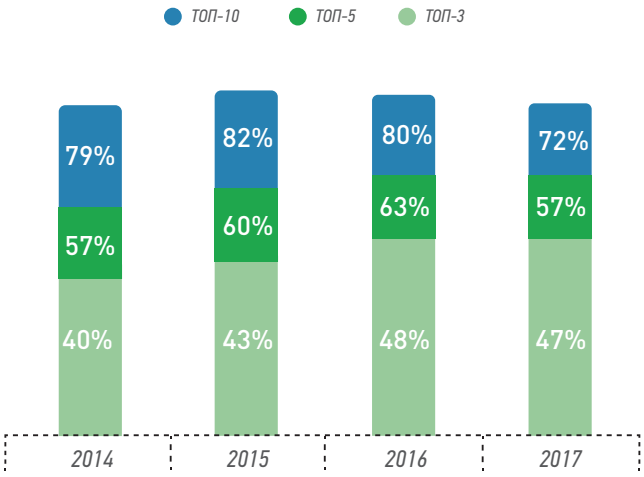


Figure 41

Concentration in the distribution segment

Table 31

TOP-10 distributors in the pharmaceutical market

2017 Rating	Distributor	Volume, billions of rubles	Sales volume increase	Share	Pharmacy network
1	Protek	**241.9**	**3.7%**	18.1%	Rigla
2	Katren	**235.1**	**2.2%**	17.6%	Melodiya zdorovya
3	Puls	**165.8**	**16.7%**	12.4%	Apteka Forte
4	Pharmcomplect	**68.9**	**25.0%**	5.2%	Farmani
5	SIA	**66.3**	**41.9%**	5.0%	Da Zdorov, Mega-Pharm
6	R-Pharm	**64.9**	**-12.8%**	4.9%	-
7	BSS	**46.3**	**4.3%**	3.5%	Aloe
8	Grand Capital	**37.1**	**73.0%**	2.8%	Serdtse Rossii
9	Profit-med	**32.5**	**6.0%**	2.4%	PARNAS
10	Euroservice	**20.0**	**-14.0%**	1.5%	Omnipharm

three dozens of drugs items.

The "Protek" also develops the pharmacy link. Hereby the distributor develops several areas:

- Franchising program: the company plans to conclude about 100 franchising agreements in the regions, where the company has not been represented by proprietary pharmacies. First, the company intends to develop the project in the Far East, Sakhalin, in the Republic of Sakha (Yakutia), Republic of Udmurtia, Khakassia, Amur Region and Kamchatka Territory. In December 2017, "Rigla" pharmacy network, belonging to "Protek", concluded a franchising agreement with distribution company "Puls" for the period of up to 2023.

- The marketing union of independent pharmacies "ProApteka", which also belongs to "Protek", counted about 4,000 points by the end of 2017.

- Following distributor "Katren", "Protek" launched the internet-portal for order of drugs and beauty and health products "ZdravCity" (currently the project unites 14 thousand pharmacies in 78 regions of the Russian Federation).

- In September 2017, "Protek" in partnership with the largest manufacturers launch "My Health" program, aimed at increase of affordability of drug therapy. The range line includes expensive drugs and long-term ingestion drugs, which can be purchased by the patient in the pharmacies-program partners with the discount of at least 15% from the retail price of the drug.

Besides, "Protek" distributor is now also represented in the international market. In March 2017, by the decision of the Board of Directors of the International Federation of Pharmaceutical Wholesalers (IFPW) CV "Protek" joined the Federation. IFPW unites wholesale players from 26 countries, accounting for 40% of the world distribution market. IFPW includes with largest international distributors: Walgreens Boots Alliance (USA), AmerisourceBergen Corporation (USA), Oriola KD (Finland), McKesson Corporation (USA) and a number of others.

In 2017, "Katren" distributor continued to develop its proprietary logistics and to introduce deep automation in regional warehouses – the company completed reconstruction of Khabarovsk warehouse, which capacity increased by 2.5 times, shipments from a new warehouse in Tyumen began in summer.

"Katren" implemented the active development strategy of proprietary networks "Melodiya Zdorovya" in 2017. In 2016, the company purchased six pharmacy networks, and last year it became the owner of Tyumen network "Dobry lekar" (16 points) and Kursk retailer "Tselitel" (39 points). Early in 2018, "Melodiya Zdorovya" purchased "Stoletnik" pharmacy network, which owns 57 points of sale in Moscow region.

Internet-project "Apteka.ru", owned by "Katren", - services for search and order of drugs with delivery to any convenient pharmacy for the buyer all over Russia – is 5 years old. The number of pharmacy institutions associated with Apteka.ru exceeds 15,000 all over the country. The turnover of drugs, bought via the website, amounted to 7,957 million rubles, which is by 43.5% higher than in 2016. Hereby Apteka.ru got into TOP-15 largest Russian Internet stores in 2016 according to the

data of the Russian Association of Internet Trade Companies.

"Puls" ranks third in the rating of distributors. Its break from the first two ranks is still big, but the company's growth rates are noticeably higher than the market indicators. The distributor continues to accumulate its capacities in the regional warehouse complexes, which will allow retaining such increment subsequently. Developing the topic of "alliances", "Puls" presented its project — marketing union of the participants of the pharmaceutical market "Sozvezdie", it is planned to expand it in all regions of the distributor's presence. In this project it is planned to unite pharmacies, manufacturers, distributors and software product integrator.

"Pharmcomplect" which ranked fourth in the rating as per 2017 results (+3 points) improved its positions noticeably. The distributor's growth occurs amount other things due to expansion of the geography of presence. In November 2017 "Pharmcomplect" opened its first warehouse in Moscow region. Besides it holds nine warehouses in other regions. Three of them are located in Nizhny Novgorod Region.

"Grand Capital" became the rating leader by increment +73%, which allowed the company to get intro TOP-10 and to increase its share in the market by 1.5. "Grand Capital" also builds its retail network "Serdtse Rossii", in 2017, the company purchased Bryansk pharmacy network "Metr".

The pharmaceutical distributor «SIA International» declared about active development of proprietary pharmacy network. In 2017, SIA concluded a partnership agreement with "Azbuka Vkusa" trade chain, which guarantees the preemption right of "Mega Pharm" pharmacy network to rent areas on the territories of supermarkets. "Mega Pharm" will develop pharmacies under the exclusive brand "Azbuka Life" for 10 years. Earlier SIA distributor already concluded such an agreement with X5 Retail Group.

"R-Pharm" is the only from TOP-10 distributors, which focused its development only in the production sphere and does not have pharmacy retail trade, included in the holding. "R-Pharm" continues the strategy of Russian-Japanese cooperation. In October 2017, the transaction was closed on purchase of 10% of shares of the Russian pharmaceutical company "R-Pharm" by the Japanese Corporation Mitsui & Co., Ltd. Otsuka Pharmaceutical Co. Ltd. (Otsuka) and R-Pharm" signed a license agreement on production of the drug for treatment of pulmonary tuberculosis with multiple drug resistance. The project on localization of the full production cycle of the drug "Glatirate" ("glatiramer acetate") in prefilled syringes for treatment of multilocular sclerosis is implemented at Yaroslavl plant of drug products and biotechnological substances, included in the group of companies.

Pharmacy networks, which develop direct contracts with the manufacturers, became the competitors to distribution companies. That is why distributors continue development of proprietary retail project, which we can see by 2017 results.

10. Manufacturing

2017 vector is fight with counterfeit products. The document, which became the first general European agreement in sphere of fight with falsification of medicinal products, was developed upon initiative and with active participation of Russia. The main goal of the agreement is establishment of criminal responsibility for falsification of medicinal products and for similar crimes, including, for production, storage, sale and falsification of documents and packaging. The marking project became one of solutions on counteraction to circulation of counterfeit products.

Development of the project, tracing flow of drugs, started as long as two year ago upon the order of the RF President. On January 24, 2017, Decree of the Government of the Russian Federation No 62 "On holding of the marking experiment..." was signed. The pilot project started on February 1, 2017 in six regions of Russia. The largest pharmaceutical distributors, a number of manufacturers and several pharmacy networks became its participants. Now more than a thousand representatives of the pharmaceutical industry take part in the experiment, over 3.5 million packages of drugs are marked. Federal Supervision Service in the Sphere of Healthcare and Social Development plans to open centers, teaching on the system of marking of drugs all over the country. 2 training centers are arranged in Moscow in Konchalovsky hospital and "Neopharm".

Readiness for introduction of obligatory marking for all drugs is rather low now, hereby there are both adherents of this project, and those, who are categorically against it: this especially concerns cheap drugs. For them expenses for reequipment of production lines are high, and either grow of prices for drugs, or exist of the drugs from the market should be expected. That is why it is not a coincidence that deadlines on marking are postponed. Thus, on November 10, the State Duma adopted in the first reading amendments to Federal Law No "On circulation of drugs", which makes marking of all drugs obligatory from January 1, 2019. The law provided for introduction of 100% marking of drugs from the program of "Seven nosologies" in I quarter of 2018, vital and essential drugs, priced over 500 rubles — in II quarter, vital and essential drugs, with the price up to 500 rubles — in III quarter. But already on December 22, the deadlines were extended with separate voting, and soon the pilot project was also prolonged. As per the final variant of the document, obligatory marking for all drugs shall come into force from January 1, 2020.

Postponement and extension of deadlines is a standard procedure in impementation of projects on the pharmaceutical market. From 2017 availability of the certificate of conformity of production facilities to GMP standards was to become an obligatory condition for sale of drugs on the RF territory for Russian and foreign companies. In fact

GMP-inspections began only in April 2016. In the course of inspection the problem of low capacity of the authorized body came to the foreground. Hereby the inspection management declared about mass violations of GMP standards. 1,623 non-conformities were recorded from spring 2016 to September 2017, which makes almost 30% from the total number.

The single market of the Eurasian Economic Union started work from May 6, 2017, one of its conditions will include availability of Eurasian GMP certificate in registration of drugs. Since readiness of the inspectorate of the countries, included in EAEU, was incomplete, the Economic Commission for Europe (ECE) made a decision to postpone the date of the transitional period, during which the applicant has the right to provide the national GMP certificate, for two years: from December 31, 2018 to December 31, 2020. At the same time, the ministry prepared draft amendments, which provide for parallel implementation of the drug registration procedure and inspection of the production facility, which is quite topical for foreign manufacturers.

In September 2017,the State Institute of Drugs and Good Practices (SIDGP) jointly with the Ministry of Industry and Trade of the Russian Federation filed an application for admission to the international non-state organization, uniting GMP inspectors all over the world, to develop its strategy. Opening of the Eurasian department of ISPE (The International Society for Pharmaceutical Engineering) in October 2017 became another landmark in development of good pharmaceutical manufacturing practices.

Import substitution is one of important indicators of development of the pharmaceutical industry. Currently the authorities continue to the make the measures in the procurement sphere more severe, on the one part, and hereby expand preferences of domestic manufacturers, on the other part.

From January 1, 2017, drugs, in respect of which primary and secondary packaging are made in the EAEU, ceased to be referred to local products. Absolutely any drugs, which were registered on the RF territory and passed at least one stage of the production process in the Russia, got the status of domestic drugs. This fact is a decisive condition of authorization for tender, since obligatory 15% discount to the offered is applied in purchase of foreign goods.

The Government of the Russian Federation improved the draft decree, which makes amendments in the current decree on preferences for Russian manufacturers and companies from the Eurasian Economic Union and proposes to introduce the new type of state support — price preference of 25% from the minimum contract price. The decree shall come into force from January 1, 2019. The price preference will be extended only to those companies, which manufacture medicines in EAEU countries under the full cycle, beginning from synthesis of substance (active agent of any drug) to packaging.

Despite the fact that discussions on the benefit and harm of the “odd-man-out” mechanism continue so far, the decree of the Government of the Russian Federation came into force early in December 2017, which determined restrictions and conditions of authorization of stents and catheters (metal uncovered stents for coronary arteries, emitting a drug, standard balloon catheters for coronary angioplasty, aspiration catheters for

Table 32 *Key projects on organization of new manufactures in pharmaceutical market in 2017*

Initiator company	Region	Description of manufacture	Capacity	Amount of investments
"Pascal Medical" LLC	City of Dubna, Moscow region	Manufacturing of disposable medical products (syringes, injection cannulas, etc.)	450 million units of the syringe range per year	2.3 billion rubles
"Ozon Pharm" LLC	Samara region, SEZ "Tolyatti"	Manufacturing of about 50 items of the most modern vital and essential drugs for therapy of various diseases in the form of tablets, powders and lyophilizates	60 million packages per year. It is planned to reach the capacity of 106 million packages	1.3 billion rubles
JSC "Pharmasintez"	Saint-Petersburg, SEZ "Novoorlovskaya"	Development and manufacturing of over 30 items of cytostatic drugs for treatment of oncological diseases in solid dosage forms, lyophilic powders and in concentrated solutions, 5 drugs of which are included in the list of strategically important drugs on the RF territory	200 million tablets, 200 million capsules, 22 million vials of solutions and 15 million vials of powders per year. It is planned to increase the capacity by 5 times by all parameters (1 billion tablets, 1 billion capsules, etc. per year)	2.5 billion rubles. Expected amount of additional investments 5 billion rubles
JSC "Pharmasintez"	City of Usolye Sibirskoye, Irkutsk Region	Low capacity manufacturing and development of ARV drugs, drugs for treatment of oncological diseases, antibiotics	1,000 tons of substances per year	500 million rubles. The total cost of the first construction line is evaluated at 10 billion rubles
JSC "Pharmasintez"	City of Tyumen	Output of about 30 types of hormonal drugs in solid dosage form— tablets and capsules	12 million packages per year	3.5 billion rubles
JSC "Valenta Pharm"	City of Shchelkovo, Moscow region	Output of solid dosage forms (tablets and capsules), injection drugs, quality control laboratories as well as a research center are located	2 billion tablets and capsules, 30 million ampules per year	2 billion rubles
CJSC "Active Component	City of Pushkin	Development and manufacturing of original activity pharmaceutical substances	60 tons per year	300 million rubles

embolectomy), produced by foreign manufacturers, for procurement for state and municipal needs. As a result "even-man-out" mechanism came into effect, having narrowed the hospital sector of the market for manufacturers-non-residents even more.

Specinvestcontract (SPIC) must become another measure for increase of the share of drugs, manufactured in the Russian Federation. A special investment contract is an agreement between the investor and the Russian Federation (or its subject), which records the obligations of the investor (to master manufacturing of industrial products within the specified period) and the Russian Federation or its subject (to guarantee stability of tax and regulatory conditions and to provide incentive and support measures). By the end of 2017, the Ministry of Industry and Trade has received seven applications. AstraZeneca, Sanofi, "Geropharm" became the holders of SPIC.

- Revamp of "Sanofi-Aventis-Vostok" production in Orel region, further deepening of localization of production of innovative last generation insulin to the stage of a drug product in 2019 is planned within SPIC.

- AstraZeneca" invests additionally over 1 billion rubles in revamp of its Russian enterprise and assurance of transfer of technologies for manufacturing of drugs for treatment of socially important diseases. SPIC includes ten drugs, six of which will be manufactured from the stage of a drug product by 2020.

- "Geropharm" will build an insulin substance production plant in Pushkinsky district of Saint-Petersburg. SPIC is concluded for a period of seven years – up to 2024.

Also at the end of 2017, "NovaMedica" (ROSNANO investment project) announced about receipt of consent for conclusion of a Special investment contract within the investment project for construction of a pharmaceutical plant in Kaluga region for manufacturing of sterile injection drugs. The drugs portfolio is based on vital drugs, transferred to "NovaMedica" within its partnership with Pfizer, as well as proprietary developments of "NovaMedica". The validity period of SPIC is determined to 2026.

Another tool for increase of the share of domestic drugs is the state program "Development of pharmaceutic and medical industry", within which the state subsidizes expenses of enterprises for development of drugs and medical goods, for organization of manufacturing of substances and execution of clinical studies. The Ministry of Industry and Trade and the Ministry of Health prepared a bill on expansion of the list of "biologic targets" for development of similar drugs by pharmacotherapeutic effect and improved analogues of innovational drugs. As per the document placed in the portal of draft regulatory acts, the number of "biologic targets" can grow from 96 to 118. So, it is planned to increase financing of the state program by 6.38 million rubles in 2018-2020. In accordance with the document, in 2018 the state can allocate 101.22 million rubles for the program "Development of the pharmaceutical industry for 2013-2020", in 2019 – 101.61 million rubles, in 2020 – 101.59 million rubles.

In 2017 a number of production sites were announced or launched, many of which will allow implementing the program of import substitution in the Russian pharmaceutical sphere (table 23).

"Pharmasintez" became the most active in this area in 2017, it implemented several plant construction projects: in Saint Petersburg, Usolye Sibirskoye and

Tyumen. The total amount of invested funds on this projects made 6.5 billion rubles. Besides, in the first quarter 2018 the company plans to complete construction and put into operation the active pharmaceutical substances production plant in Bratsk – the volume of investments is evaluated in the amount, exceeding 1 billion rubles.

In recent 3-4 years the Ministry of Industry and Trade has pursued active policy on implementation of the localization program. The "odd-man-out" mechanism was to induce foreign pharmaceutical companies to localize manufacturing on the RF territory. But only very few companies really manufacture drugs under the full cycle at Russian plants. It should be noted that many of them have not completed the transfer process yet. The world largest manufacturers of the branch constructed 7 plants in Russia and 78 foreign companies localize products output at the facilities of domestic enterprises.

So, the localization process is going on:

- In 2017, Amgen and "Pharmstandart" concluded agreements on localization of antineoplastic drug "Blinatumomabum" at the production site of OJSC "Pharmstandart-UfaVITA".
- Takeda with "Pharmstandart" announced about beginning of cooperation on localization of manufacturing of the oncohematological drug "Adcetris". Hereby at the proprietary plant in Yaroslavl the company carries out transfer of technologies and preparation for localization of full cycle manufacturing of the drug "Ninlaro" (ixazomibum), applied in treatment of multiple myeloma.
- Janssen (subdivision of Johnson & Johnson) intends to localize manufacturing of a number of innovative drugs for treatment of malignant blood diseases, including the drug "Ibrutinibum" in Russia. Manufacturing will be localized at the facilities of OJSC "Pharmstandart-UfaVITA".
- German company Bionorica proceeded to construction of its pharmaceutical plant in Voronezh region for manufacturing of vegetable origin drugs for treatment of respiratory, gynecologic and urological diseases in July 2017.
- GSK, ViiV Healthcare and Servier concluded an agreement on localization of manufacturing of the drug "Tivicay" (Dolutegravirum), intended for treatment of HIV-infection in combination with other antiretroviral drugs on the facilities of Servier production complex located in Podolsk region of Moscow.
- Indian pharmaceutical concern Cadila, majoring in output of generic drugs, announced about the plans of localization of manufacturing in the city of Pushkino, Moscow region.
- B. Braun studies an opportunity of localization of manufacturing of infusion solutions on the facilities of "Gematek" LLC in the city of Tver.

> "All processes, which take place on the pharmaceutical market, certainly affect its structure. The share of imported drugs continues to decrease. As per the year results its makes 69.8% in money and 38.5% in packages."

Table 33

TOP-20 manufacturing companies by sales volume in the Russian pharmaceutical market in 2017

2017 Rating	Changes	Manufacturer	Sales value, mln.rub. 2017	Sales volume increase	Share
1	-	SANOFI	**52 184**	**2.5%**	4.0%
2	-	NOVARTIS	**49 478**	**5.5%**	3.8%
3	-	BAYER	**49 317**	**15.6%**	3.7%
4	-	TAKEDA	**40 867**	**15.2%**	3.1%
5	-	JOHNSON & JOHNSON	**40 065**	**14.1%**	3.0%
6	-	ABBOTT	**36 063**	**13.1%**	2.7%
7	-	SERVIER	**33 440**	**6.1%**	2.5%
8	-	GLAXOSMITHKLINE	**32 925**	**5.1%**	2.5%
9	1	OTCPHARM	**30 276**	**5.3%**	2.3%
10	1	PFIZER	**28 378**	**8.2%**	2.2%
11	-2	TEVA	**27 957**	**-4.7%**	2.1%
12	-	BERLIN-CHEMIE	**27 451**	**10.3%**	2.1%
13	-	STADA	**26 583**	**7.3%**	2.0%
14	-	GEDEON RICHTER	**25 869**	**5.4%**	2.0%
15	-	MERCK	**24 369**	**3.1%**	1.9%
16	-	KRKA	**24 051**	**11.2%**	1.8%
17	1	PHARMSTANDART	**23 157**	**12.9%**	1.8%
18	1	ASTRAZENECA	**21 193**	**4.5%**	1.6%
19	-2	ASTELLAS PHARMA	**20 856**	**0.5%**	1.6%
20	-	BOEHRINGER INGELHEIM	**17 737**	**0.7%**	1.3%

– British company KGP Laboratories and "Pskov Pharma" LLC intend to arrange high-tech manufacturing of a wide range of potent drugs for treatment of oncological and other diseases near Pskov.

In 2017, in the index of the volume of the world M&A-transactions in the biotechnological and pharmaceutical segments reduced by 22.3% in relation to the previous year, having reached the minimum level for the last several years, and turned out slight in comparison with 2014 and 2015 "boom" periods. Total of 101 M&A-transactions were announced in 2017. For comparison, 130 transactions were settled in 2016, and 166 in 2015.

Purchase of 10% of shares of the Russian company "R-Pharm" by the Japanese corporation Mitsui can be recognized as the transaction of the year on the Russian market. The transaction cost is unprecedented: "R-Pharm" business was evaluated at 1.7-2 billion US dollars.

All processes, which take place on the pharmaceutical market, certainly affect its structure. The share of imported drugs continues to decrease. As per the year results its makes 69.8% in money and 38.5% in packages. Hereby the share of domestic drugs is by 0.75% higher in value terms, than in 2016. Growth of domestic drugs consumption is observed in all segments, hereby it exceeds growth of imported drugs consumption. In general imported drugs grew by 4% in physical terms, and domestic drugs grew by 6.5%. In rubles drugs by foreign manufacturers grew by 7%, whereas domestic ones by 11%.

Foreign manufacturers represent 90% of the ranking of drug manufacturers in Russia. There are two domestic manufacturers "OTCPharm" and "Pharmstandart" in TOP-20.

The composition of the manufacturers in the rating is stable, shifts are observed, as rules within 1-2 positions. In total the share of TOP-20 manufacturers in 2017 made 48%.

In 2017, TOP-3 didn't change as compared to 2016. Sanofi occupies the top position with the break of 0.2% by the share. Retail segment continues to prevail for the company (about 73% of turnover is represented by pharmacy sales). Novartis corporation ranks second. Hereby the company's growth of sales is also below the market one. Like the rating leader, Novartis has a high share due to sales in pharmacies (78%). Bayer ranked third, having demonstrated maximum growth of sales from TOP-20. Only 13% of his sales are represented by state procurement. Main sales volume is represented by commercial segment.

The high share in state procurement from the companies, represented in TOP-20, is occupied by Johnson & Johnson, Pfizer, Merck and AstraZeneca (over 40%).

From the manufacturers, which did not get into the rating, noticeable shifts of domestic manufacturers should be noted: "Biocad" (+3 ranks, 21st line), "Microgen" (+8 ranks, 32 line), "Generium" (+8 ranks, 37 line). These companies improved their position on the market due to increase of sales in the state segment of the pharmaceutical market.