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Monitoring results of state procurement of ARV drugs in 2022

Saint Petersburg
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Comments on this report are accepted at office@itpcru.org

DISCLAIMER

The main purpose of this document is to support efforts to fight the HIV epidemic in Russia. The purpose of the report is to draw conclusions based on the analysis of data from the monitoring of state procurement of ARV drugs in 2022, as well as to develop recommendations to improve the situation with the provision of drugs in the Russian Federation.

The Treatment Preparedness Coalition is not responsible for third parties' use or interpretation of the data, findings, and recommendations contained herein.

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The mention of any international nonproprietary or trade names of drugs does not mean that the Treatment Preparedness Coalition prefers them or, on the contrary, does not recommend them.

Mention of any treatment regimen in the text of this report may under no circumstances be used as an alternative to consultation with a medical specialist.

The current version of the report uses statistical data from 2021. After the release of the 2022 report by the Specialized Research Department for AIDS Prevention and Control of the Central Research Institute of Epidemiology of the Russian Federal State Agency for Health and Consumer Rights (Rospotrebnadzor), the report data will be updated, and the current version will be published in the public domain.

CONTENTS

LIST OF ABBREVIATIONS

ARV, ART, ARVD	antiretroviral drugs
JSC	Joint-Stock Company (excluding 'Chukotka AO', which in this case stands for Autonomous Okrug)
CRB	CCR5-coreceptor blocker
CF	charity fund
HIV	human immunodeficiency virus
VL	viral load
WHO	World Health Organization
RF CC	Civil Code of the Russian Federation
SRM	State Register of Medicines
PrEP	pre-exposure prophylaxis
EEC	Eurasian Economic Union
EACS	European AIDS Clinical Society
UIS	Unified information system for procurement
IDs	infectious diseases
VED	List of Vital and Essential Drugs
CJSC	Closed Joint-Stock Company
IS	immune status
INI	integrase inhibitors
TIN	Taxpayer Identification Number
PI	protease inhibitors
PLH	people living with HIV
MoH RF	the Ministry of Healthcare of the Russian Federation
INN	International Non-proprietary Name
NRTI	nucleoside reverse transcriptase inhibitors
NNRTI2	2nd generation non-nucleoside reverse transcriptase inhibitors
NNRTI	non-nucleoside reverse transcriptase inhibitors
OJSC	Open Joint-Stock Company
LLC	Limited Liability Company
PJSC	Public Joint Stock Company
Rospotrebnadzor	Federal Service for Supervision of Consumer Protection and Welfare
Roszdravnadzor	Federal Service for Surveillance in Healthcare
RF	Russian Federation
CIS	Commonwealth of Independent States
SPb	Saint-Petersburg
AIDS	acquired human immunodeficiency syndrome
USA	United States of America
TN	tradename
FAS	Federal Antimonopoly Service of RF
FBIS	Federal Budgetary Institution of Science
FSBFEI (HE)	Federal State Budget-Funded Educational Institution (of Higher Education)
ФЗ (FZ)	federal law
FDC	fixed dose combination
FSI	Federal state institutions
FGHI	Federal Government Health Institution
AIDS FSMC	Federal Scientific and Methodological Center for AIDS Prevention and Control
FPS	Federal Penitentiary Service of Russia
KMAO	Khanty-Mansi Autonomous Okrug
AIDS Center	Center for Prevention and Control of AIDS and IDs
UNAIDS	Joint United Nations Programme on HIV/AIDS

CONCLUSIONS

1. The total amount of all procurements in 2022 was **42 bln. and 500 mln. rubles** (42,500,580,968.95 rubles).

   The total value of contracts paid from the federal budget was 38.6 bln. rubles. This includes all contracts announced by the Ministry of Healthcare in 2022, whereas the procurements themselves were carried out using both the 2022 budget and the 2023 budget:

   Federal budget of **2022:** 29,996,269,963 RUR (70%);

   Federal budget of **2023:** 8,592,049,266 RUR (21%).

   In 2022, the amount of centralized procurement by the Ministry of Healthcare of the Russian Federation increased by 2,163,564,318.88 rubles (+11.6%) as compared to 2021. This is an unprecedentedly large budget for all the years of centralized ARV procurement, but even this was not enough to meet the need, and the Ministry of Healthcare had to use the 2023 budget.

2. The total amount of procurement at the expense of regional budgets and FSIs: 3,912,261,741 RUR (9%). The amounts of procurement by regions and federal agencies remained at the level of 2020 and 2021. For the past three years, constituent entities of the Russian Federation have not increased their budgets for independent procurement of ARVs.

   In 2022 auctions were held in 63 regions of Russia. The leaders in expenses are traditionally Moscow (42% of the amount of procurement of all subjects of the Russian Federation), the Moscow region (18%) and St. Petersburg (8%). The Moscow ARV budget amounted to 1.5 bln. rubles, which is almost 10 times more than the total cost of the 43 regions of the country that were not included in the top 20.

3. The amount of ARV drugs procured in 2022, including procurements using the 2023 budget, was estimated to be for about **592,906** people living with HIV. This covers about **74%** of the people registered for HIV care by the end of 2021 (25% more than in the previous year) and about 52% of all registered people living with HIV. The 2022 therapy coverage percentage was the highest in a five-year period, but **only because of the 2023 money**.

4. According to the analysis, the procurement budget for ARV drugs for the Federal Penitentiary System in 2022 was 1.8 bln. rubles, which was 30% more than the budget for 2021. With budget growth, the total number of courses decreased by 13% (28,612 annual courses in 2022, 32,773 annual courses in 2021). This was the most significant drop in volume since 2019. According to official figures and government procurement data, less than half of all HIV patients in Federal Penitentiary Institutions are provided with therapy for the year.

5. The last two-year trend indicates a shortfall of the budget for ARV therapy. Spending 2023 funds in 2022 bears certain risks for the uninterrupted supply of ARV drugs in 2023. At the same time, the budget for ARV drugs for 2023 was not increased and amounts to 31.7 bln. rubles. Given that drugs procured using 2023 funds and under some three-year contracts are already being used, patients may face drug shortages in the second half of 2023 unless the government urgently increases the ARV budget.

6. At the time of writing this report, the Ministry of Healthcare of the Russian Federation has concluded 60 contracts for 2023 for a total amount of 21.5 billion rubles. The volume of drugs procured is estimated to be for about 292,000 patients. In other words, almost the entire 2023 budget has already been spent, but only 36% of all patients in need of ARV therapy (registered for treatment at the end of 2021) are provided with drugs. Based on the cost of treatment regimens in 2022, the government must allocate at least 20 bln. rubles extra to provide drugs to all patients in HIV care in 2023.

7. As in 2021, most of the ARV budget was spent on the procurement of five INNs (at unchanged prices). In 2022 they accounted for 67% of funds (28.57 bln. rubles). The leader in terms of total costs is dolutegravir, i.e., 6.58 bln. rubles, which is 559 mln. rubles less than in 2021 (–8%).

   The second place is held by lopinavir/ritonavir with an amount of 6.31 bln. rubles. The amount of expenses increased by 74% from 3.6 bln. in 2021 to 6.3 bln. rubles.

   Rilpivirine/tenofovir/emtricitabine with an amount of 6.2 bln. rubles is traditionally among the leaders in costs. The amount of expenses increased by 13%.

   5.31 bln. rubles were spent on raltegravir, which was proportionate to the costs of 2021.

   Elsulfavirine was in the top five in expenses for the first time, having displaced etravirine. Elsulfavirine costs increased by +228% (from 1.3 bln. rubles in 2021 to 4.3 bln. rubles in 2022).

8. Efavirenz once again took the top position in the number of courses procured, partially returning the figures from 2020. After a reduction in 2021, the increase in 2022 was 77%. Efavirenz accounted for about 30% (163,000 annual courses) in the total structure of third drugs. The amount of dolutegravir decreased by 7% (minus 7,000 annual courses), and its share in the group of third drugs decreased by 9%, i.e., down to 15%. Declining volumes of dolutegravir and the ahead-of-schedule supplies raise serious concerns regarding the access to the drug. If procurement of dolutegravir is not increased in 2023, the drug shortage will continue to grow.

   Volumes of elsulfavirine tripled, from 16,500 annual courses in 2021 to 54,200 courses in 2022.

   Volume of efavirenz 400 mg increased by 15%; a reduced dosage of efavirenz with lamivudine and tenofovir is recommended in an alternative first-line regimen.

   Volume of lopinavir/ritonavir procurement increased by 75% (48,789 annual courses).

   Volumes of atazanavir in all dosages increased (+48%), but, as with other options, volumes only returned to 2021 levels.

9. In 2022, unlike in previous years, ARV prices did not decrease significantly. Prices for most drugs remained the same as in 2021. Drugs included in the list of vital drugs for 2022 had a reduction in price most of all. In 2022, bictegravir/tenofovir alafenamide/emtricitabine (TN Biktarvy) was procured for the first time using federal budget funds. After the inclusion of the drug in the VED list, the price decreased from 32 thousand to 15.8 thousand rubles per pack (–51%). The price of doravirine/lamivudine/tenofovir (TN Delstrigo) dropped from 25.6 thousand rubles to 12.4 thousand rubles per pack (–51%) after inclusion in the VED list. Prices for some NRTIs slightly decreased, which affected the overall cost of the treatment regimen, i.e., a decrease of an average of 2,000 rubles per year.

10. When comparing prices for ARVs before centralized procurement (2016), by the end of 2022, prices decreased for all procured drugs. The average percentage reduction for third drugs was 45% and 60% for NRTIs. Thanks to centralized procurement and the price-volume mechanism, the emergence of generics, and long-term contracts, ARV therapy has become much more affordable, which has significantly increased the number of people with HIV receiving treatment.

11. The high prices of some drugs make their share in the budget much larger than their share in the procurement volumes. Thus, with the expenses for rilpivirine/tenofovir/emtricitabine of 16% (6.22 bln. rubles), only 3% of patients (20,000 people) are provided with this combination. The situation with raltegravir is similar: with the expenses of 13% (5.1 bln. rubles), this drug is present in the regimens of only 4% of patients (22.6 thousand people). At the same time, with a comparable amount of expenses of 6.6 bln. rubles, dolutegravir is provided to 83 thousand people.

12. Long-term contracts in 2021 were a mechanism for lower prices and higher volumes, but this subsequently led to stagnation in both volume and price.

13. Due to the fact that in recent years several modern FDCs have been included in the VED list, these combinations have been procured in larger volumes. However, in general, patients' access to FDCs is still limited. The share of single-pill regimens has been slowly growing over the past 7 years, but the percentage of patients who can access this therapy remains small, despite current treatment recommendations. Over the past year, the increase was one percentage point, while 87% of patients were receiving monodrug regimens.

14. The volume of combination drugs increased: bictegravir/tenofovir alafenamide/emtricitabine, increased from 564 courses in 2021 to 10,038 courses in 2022; cobicistat/tenofovir alafenamide/elvitegravir/emtricitabine increased from 2,367 to 7,191 courses; doravirine/lamivudine/tenofovir increased from 509 to 2,129 courses; rilpivirine/tenofovir/emtricitabine increased from 17,878 to 20,243 courses.

15. In 2022, 533,989 courses of lamivudine (+205% over 2021) and 39,071 courses of emtricitabine (+71% over 2021) were procured. A total of 573,059 annual courses of lamivudine and emtricitabine (XTC) were procured. The significant increase in lamivudine volumes in 2022 is due to irregular procurement of NRTIs over the past three years. From the dynamics since 2016, it is evident that there was a sharp increase in lamivudine procurement in 2020, and there was a strong decline in 2021. In 2022, the volume has recovered, and the volume of lamivudine in 2022 is comparable to that of 2020. A similar situation is observed with respect to the rest of the NRTIs. Other NRTIs (abacavir, zidovudine, tenofovir, phosphazide) were procured at a volume of 538,477 annual courses, which was also a significant increase from 2021 (+60%).

16. The volumes of NRTIs (2 in each regimen) and third drugs in 2022 are comparable, as opposed to the imbalance thereof in 2021. This shows the harmonization of ARVT regimens in procurement.

17. 66% auctions of the Ministry of Healthcare of the Russian Federation were held without competition (i.e., only one bid was submitted), and the contract was concluded at the initial highest price. In 2021, this share was 89%. Competition increased mostly in the auctions in the second half of the year for the 2023 budget, when the number of bidders increased. At the same time, 82% of the budget was spent under contracts concluded without competition (31.55 bln. rubles).

18. In 2022, the Ministry of Healthcare of the Russian Federation signed 102 contracts for the supply of ARV drugs with 9 distributors. However, four of them shared 99% of the entire budget.

19. The Ministry of Healthcare of the Russian Federation, which is the main procurer of ARV drugs, spent 25.7 bln. rubles (67%) on original drugs and 12.8 bln. rubles (33%) on generics. The constituent entities of the Russian Federation procure original drugs more often than the Ministry of Healthcare (96% of the total budget of the constituent entities was spent on original drugs). The picture of 2022 repeats the trends of recent years: an sizable portion of the centralized procurement budget is spent on original third-party drugs that have no analogues. In this group, original drugs accounted for 74% of the value of all contracts (29.3 bln. rubles), with a share of 32% of all annual courses.

    The most funds in 2022 were spent on the original dolutegravir (Tivicay), with the highest volume of courses among the original drugs. Then, in terms of costs, but with much smaller volumes, come Eviplera (rilpivirine/tenofovir/emtricitabine), Isentress (raltegravir), and Elpida (elsulfavirine).

20. According to government procurement data, the most common first-line regimens are:

    – lamivudine 300 mg + tenofovir 300 mg + efavirenz 600 mg;

    – lamivudine 300 mg + tenofovir 300 mg + dolutegravir 50 mg;

    – lamivudine 300 mg + tenofovir 300 mg + elsulfavirine 20 mg;

    The price of first-line regimens ranged from 8,400 to almost 85,000 rubles per year, depending on the third drug in the regimen. The cheapest first-line regimen is lamivudine 300 mg + tenofovir 300 mg + efavirenz 600 mg, the price of which decreased from 9,400 rubles in 2021 to 8,400 rubles in 2021.

21. The most procured second-line regimens were:

    – lamivudine 300 mg + tenofovir 300 mg + lopinavir/ritonavir 200+50 mg;

    – lamivudine 300 mg + abacavir 600 mg + atazanavir 300 mg + ritonavir 100 mg.

    The price of the main second-line regimens ranges from 23 thousand rubles to 305 thousand rubles (from $343 to $4,450). The cheapest second-line regimens include atazanavir and cost 25–29 thousand rubles per year. Lopinavir/ritonavir regimens cost in the range of 59–65 thousand rubles per year.

    The most expensive regimens include raltegravir (228 thousand rubles).

    The price of combination drugs in single-pill regimens ranges from 151 thousand to 304 thousand rubles.

    Doravirine/lamivudine/tenofovir costs 151 thousand rubles per year, bictegravir/tenofovir alafenamide/emtricitabine and cobicistat/tenofovir alafenamide/elvitegravir/emtricitabine cost 191 thousand rubles each. The most expensive regimen is the rilpivirine/tenofovir/emtricitabine combination (304,000 rubles per year). The high price of these combinations will not let increase their volume significantly in the near future. An increase in volume is only possible with a significant reduction in prices.

    The weighted average cost of the treatment regimen at the end of 2022 was 69.7 thousand rubles per patient.

22. From 01.01.2022 to 31.12.2022 the website www.pereboi.ru received 502 reports from Russian citizens, 318 of them were about interruptions in the supply of ARV drugs and diagnostic equipment from 53 regions of Russia, 15 institutions of the Federal Penitentiary Service and 2 institutions of the Federal Medical and Biological Agency (FMBA). Most complaints were about the absence of dolutegravir (50 reports from 23 regions, 2 FMBA institutions, and 6 FPS institutions).

In the first quarter of 2023, there were 86 reports of interruptions in the supply of ARVs from 28 regions and 9 FPS institutions. Most of the complaints were about the lack of dolutegravir (63 reports from 22 regions and 7 FPS institutions).

RECOMMENDATIONS

Immediate measures for 2023 and 2024

It is necessary to immediately allocate at least 20 bln. rubles[1] for the rest of 2023 in order to provide for all patients who already received treatment in 2022.

Preference should be given to drugs recommended by the WHO, which are more effective and safer. **Increase the federal budget for ARV procurement.**

It is necessary to substantially increase the federal budget for ARV drugs by at least 2 times, up to 50–60 bln. rubles annually, taking into account new patients.

According to the data on the increasing number of PLHIV in need of treatment documented in the State Strategy on HIV Prevention for the period until 2030 and the indicators on treatment coverage, it is impossible to achieve coverage of 84% in 2023 and 95% by 2030 if the current level of funding is maintained.

Moreover, we consider it necessary to allocate a separate budget for hepatitis C and HIV infections as part of Decree No. 1512 with a specific amount for each area.

1. Price reductions on antiretroviral drugs

It is necessary to reduce the prices of antiretroviral drugs. To do this, a set of measures must be implemented.

Dolutegravir: we recommend continuing negotiations with the patentee under the price-volume concept in order to increase the volume of dolutegravir procurement with a price reduction.

The first step is to conclude long-term contracts for dolutegravir for a period no longer than the patent term of the main substance, with possible additional agreements on an annual basis if the need for the drug increases.

An important measure to reduce the price of dolutegravir/lamivudine and dolutegravir/rilpivirine will be their inclusion in the VED list.

Bictegravir/tenofovir alafenamide/emtricitabine, doravirine/lamivudine/tenofovir, cobicistat/tenofovir alafenamide/elvitegravir/emtricitabine, rilpivirine/tenofovir/emtricitabine: conclusion of multiyear contracts within the price-volume concept for a period no longer than the patent term of the main substance, with the possibility of concluding additional agreements when the need for the drug increases.

Raltegravir: the next contract should be concluded, given that generics of this drug are already present and supplied on the market.

[1]Based on the average price of a treatment regimen. See Prices of the most common treatment regimens in 2022.

2. The use of modern and effective medications

A well-developed plan for the gradual reduction in procurement and further abandonment (by 2030) of the following options is needed, taking into account their positions in the international guidelines:

- Efavirenz 600 mg;
- Lopinavir/ritonavir 200+50 mg;
- Etravirine 200 mg;
- Zidovudine 300 mg, phosphazide 200, 400 mg.

It is necessary to make the broadest possible use of combination drug forms.

3. Proper procurement planning

It is imperative to ensure an uninterrupted supply of drugs and diagnostics, including through improving the maintenance of the Federal Register to monitor the availability and effectiveness of antiretroviral therapy with a personalized need for ARV drugs.

ARV DRUGS REGISTERED IN RUSSIA

The prices of medicines on the territory of the Russian Federation are regulated by the state through the following:

- Approval of the Vital and Essential Drugs (VED) list by the government of the Russian Federation. The list is prepared and revised at least once a year in accordance with the procedure established by the Government, based on a comprehensive assessment of drugs, including analysis of information on the comparative clinical effectiveness and safety of drugs and assessment of the economic impact of the use of drugs;
- Approval of the methodology for calculating manufacturers' maximum selling prices for drugs that are included in the VED list, as well as the introduction of mechanisms to establish a system of reference prices;
- State registration of manufacturers' maximum selling prices for drugs included in the VED list, maintaining a state register on the State Drug Registry portal;[2]
- Approval of the methodology for the establishment by the executive authorities of the constituent entities of the Russian Federation of maximum wholesale mark-ups and maximum retail mark-ups on the actual selling prices of drugs that are included in the VED list;
- A discounted VAT rate of 10% for medicines.

As of March 2023 (at the time of writing this report), according to the State Register of Medicines (status 'effective'), 43 INNs of drugs for the treatment of HIV infection and more than 200 trade names with different dosages and dosage forms were registered in Russia.

The Ministry of Healthcare of the Russian Federation procures only drugs included in the VED list. In 2022, the VED list[3] was expanded by three INNs to include 29 INNs for the treatment of HIV infection (not including forms and dosages).

Table 1. ARV drugs included in the 2022 VED List

INN		
abacavir	zidovudine	stavudine[4]
abacavir/lamivudine	lamivudine/zidovudine	saquinavir
abacavir/lamivudine/zidovudine	cobicistat/tenofovir alafenamide/ elvitegravir/emtricitabine	tenofovir
atazanavir	lamivudine	phosphazide
bictegravir/tenofovir alafenamide/emtricitabine	lopinavir/ritonavir	fosamprenavir
didanosine [5]	maraviroc	elsulfavirine
darunavir	nevirapine	emtricitabine
dolutegravir	raltegravir	etravirine
doravirine	ritonavir	efavirenz
doravirine/lamivudine/tenofovir	rilpivirine/tenofovir/emtricitabine	

In early 2022, rilpivirine could have been added to the VED list. At the meeting of the Commission[6] of the Ministry of Healthcare of the Russian Federation, the dolutegravir/rilpivirine combination

[2] http://grls.rosminzdrav.ru/
[3] http://kcbux.ru/Statyy/ZA_zizny/za-015_lekarstva-2022.html
[4] Not recommended for use as a high toxicity drug. Stavudine was recommended for exclusion starting in 2023.
[5] Not recommended for use as a high toxicity drug.
[6] The Commission of the Ministry of Healthcare of the Russian Federation on the development of lists of drugs for human use and the minimum range of drugs required for the provision of medical care.

(TN Juluca) was reviewed. Juluca contains two INNs from different manufacturers: dolutegravir (GSK) and rilpivirine (Janssen). According to the current rules, all single-component drugs registered in the Russian Federation, of which the combinations are composed, are included in the lists concurrently with the inclusion of combination drugs. The Commission eventually sent the dossier back for further revision due to the absence of price data from the manufacturer of rilpivirine and promised to return to the issue of inclusion of the dolutegravir/rilpivirine combination in the VED list after negotiations with Janssen.

According to the authors of this report, such a decision of the Commission is at least ambiguous, because in similar situations with drugs in other nosologies, the Commission members made different decisions. Such interpretations of unfinished rules for inclusion of drugs in the VED list will have a negative impact on the availability of innovative drugs for people living with HIV in the Russian Federation. In this regard, the algorithm for the inclusion of drugs in such situations should be more clearly defined. During 2022 the situation with rilpivirine was not resolved, and the drug is still not included in the VED list.

Dolutegravir/lamivudine (Dovato) was recommended for inclusion in the VED list for 2023, however it was not included in the final version of the list. Thus, both combinations with dolutegravir intended for bitherapy were not included in the VED list and cannot be procured by the Ministry of Healthcare of the Russian Federation.

In 2022, the combination tenofovir/elsulfavirine/emtricitabine (Elpida Combi) was registered in the Russian Federation. It is the only ARV drug that was included in the VED list for 2023.

In December 2022, long acting cabotegravir was registered in the Russian Federation, and in early 2023, prolonged rilpivirine was registered. Thus, both drugs are currently registered in Russia for full-fledged HIV injection therapy.

Prices for drugs that are not included in the VED list are not subject to state regulation and are independently set by wholesalers and pharmacy organizations. They can only be procured at the expense of the constituent entities of the Russian Federation.

ARV drugs that were not included in the 2022 VED list, but that were registered in the Russian Federation before the revision of the list in 2022 are:

- atazanavir/ritonavir
- dolutegravir/lamivudine;
- dolutegravir/rilpivirine;
- zidovudine/lamivudine/nevirapine;
- indinavir (outdated, not procured for more than 10 years);
- lamivudine/tenofovir/efavirenz;
- lamivudine/phosphazide;
- rilpivirine;
- tenofovir/emtricitabine;
- tenofovir/emtricitabine/efavirenz;
- tenofovir + emtricitabine + efavirenz [set].

VOLUMES AND STRUCTURE OF ARV DRUG PROCUREMENTS IN THE RUSSIAN FEDERATION IN 2022

Budget for ARVs

According to the established practice of centralized procurement conducted at the expense of the federal budget for ARV drugs, contracts were usually concluded for the current year's budget with the supply in the current year and the termination of the contract concurrently with the end of the budget year and calendar year. That is, if the procurement was announced, for example, in 2021, it was carried out at the expense of the federal budget allocated for 2021.

In 2022, however, this system changed. At the beginning of the year, auctions were traditionally held using federal funds for 2022. In the middle of the year, FGHI Federal Center for Planning and Organization of Drug Provision to Citizens of the Ministry of Healthcare of Russia (hereinafter MoH RF) held auctions using a part of the 2023 federal budget funds. The deadline for delivery was set until March 1, 2023, but the documentation shows that the delivery was mostly completed during 2022. The authors of this report believe that in this way the agency tried to prevent a break in the supply cycle and, consequently, a shortage of ARVs. The Ministry of Healthcare of the Russian Federation reported in one of the responses to the request that '[... in 2022 the Federal Center preventively concluded 37 public contracts for the supply of ARVs using funds from the federal budget for 2023]'.

Disruptions in ARV supplies could have begun by the end of 2022 due to a significant decrease in the volume of courses procured in 2021 (with an 11% increase in the federal budget in 2021 compared to the previous year, the total volume of annual treatment courses procured[7] was reduced by 15%. The decline in absolute terms was almost 67 thousand courses). **This fact is important to keep in mind when considering and estimating the consolidated procurement amount of 2022.**

The total amount of all procurements in 2022 was 42.5 bln. rubles (42,500,580,968.95 rubles), including:

1. Federal budget of 2022: **29,996,269,963 RUR (70%)**;
2. Federal budget of 2023: **8,592,049,266 RUR (21%)**;
3. The total amount of procurement at the expense of regional budgets: **3,775,825,685 RUR (9%)**;
4. The total amount of procurements of federal state medical institutions (FSIs) under the jurisdiction of the Ministry of Healthcare of the Russian Federation: **136,436,055,69 RUR (0,3%);**

The total value of contracts paid from the federal budget, including procurements for the Federal Penitentiary Service, was 38.6 bln. rubles (38,588,319,228 rubles). This includes all contracts announced by the Ministry of Healthcare in 2022, whereas the procurements themselves were carried out using both the 2022 budget and the 2023 budget.

[7] For the third drugs

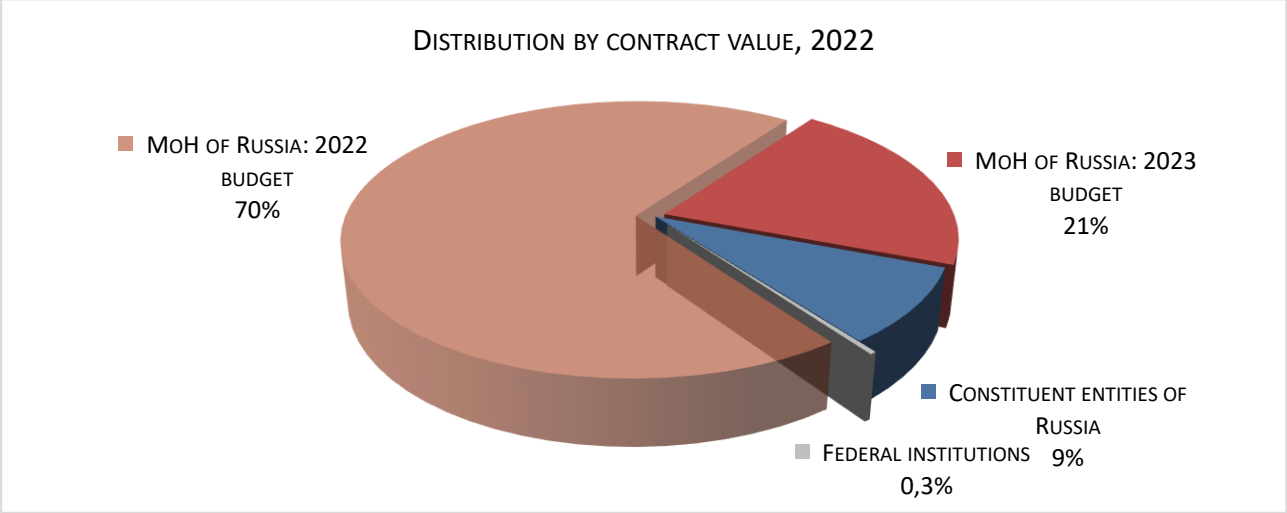
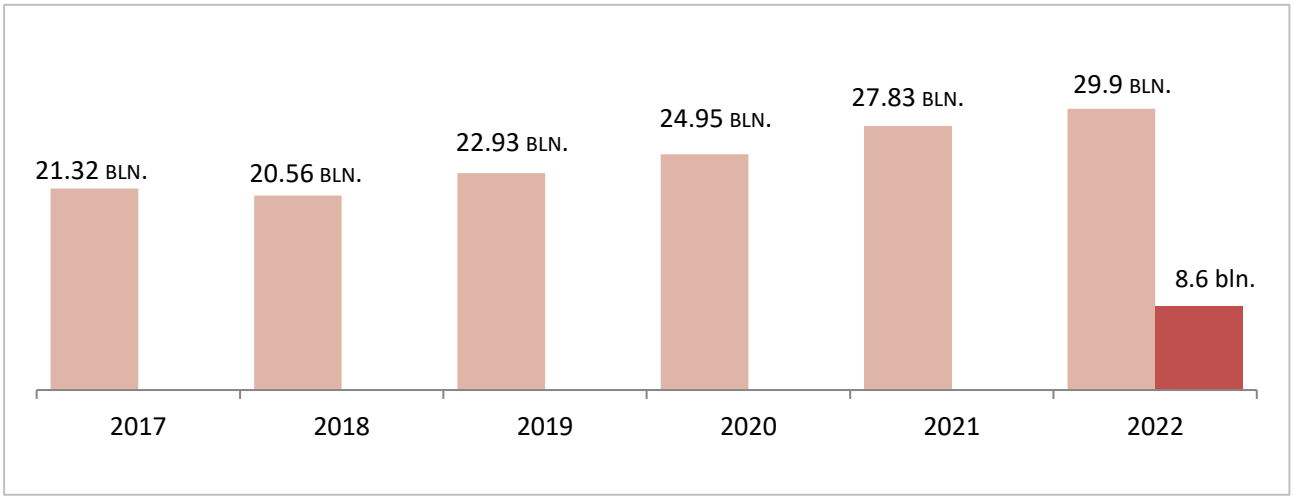


Figure 1. Distribution of total budget by procurers, 2022

Comparing directly the costs within the allocated budgets for 2021 and 2022, the amount of the Ministry of Healthcare **increased by 2,163,564,318.88 rubles** (+11.6%). At the same time, even the budget, which was historically the largest in all the years of centralized procurement, was not enough to meet the need for ARVs, and the 2023 budget was used.



**budget funds for 2023.*

Figure 2. Budget for ARV drugs of the Ministry of Healthcare of the Russian Federation by year (in bln. rubles).

The amounts of procurement by regions and federal agencies remained at the level of 2020 and 2021. This shows that over the past three years, constituent entities of the Russian Federation have not increased their budgets for independent procurement of ARVs.

Table 2. Distribution of the 2019–2022 budget by customer.

Customer/Year	2021	2021	2022	2022/2021
MoH RF (2022 and part of the 2023 budget)	24,948,420,943	26,474,475,349	36,816,680,742	39%
RF constituent entities	3,771,875,310	3 715,808,554	3,775,825,685	2%
Federal institutions (FSIs)	124,341,797	151,472,667	136,436,056	-10%
The FPS (as part of the MoH procurement)	2,066,131,586	1,358,230,295	1,771,638,487	30%
TOTAL	**30,910,769,636**	**31,699,986,865**	**42,500,580,969**	**34%**

Structure of ARV procurements in 2022 by expenditures

Because some of the drugs in 2022 were procured using 2023 funds, and because auctions for 2023 funds were announced in mid-2022 (with no indication that the supply was expected to be only in 2023), **the authors of this report assumed that the volume of all drugs procured in 2022 represented the volume of 2022.**

As in 2021, most of all the budget for ARVs was spent on the procurement of five INNs: in 2022, 67% of funds (28.57 bln. rubles) were spent on them.

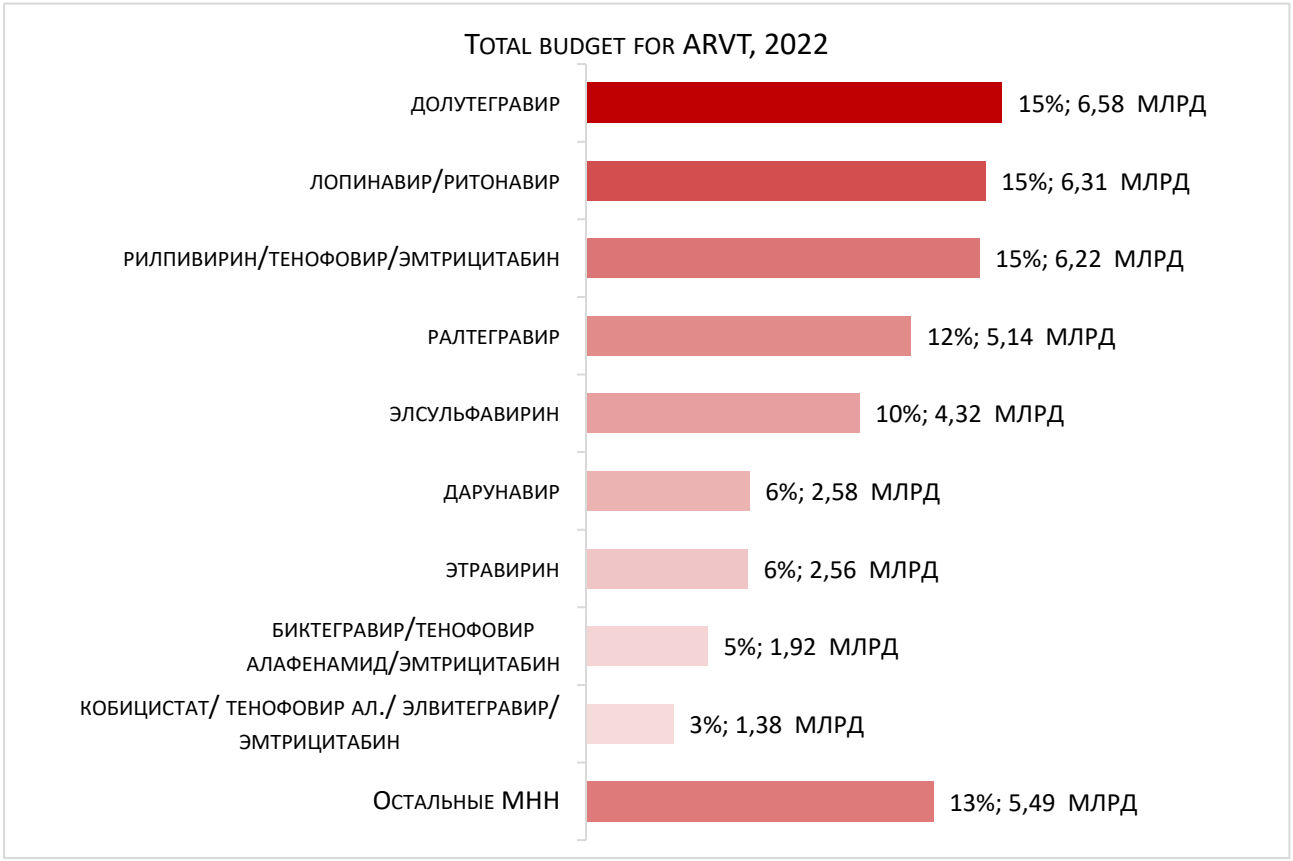


Table 4 presents information about the drugs for which the largest share of the budget was spent in 2022. Prices for the top five drugs have not changed since 2021.

Table 3. Costs distribution by amount of INN procurements excluding dosages for all contracts concluded in 2022 (MoH + constituent entities of RF + FSI).

INN*	Value of contracts, rub.	Percentage of all procurements	Increase in 2022 vs. 2021, %
dolutegravir	6,577,703,443	15%	-8%
lopinavir/ritonavir	6,312,811,598	15%	+74%
rilpivirine/tenofovir/emtricitabine	6,218,551,857	15%	+13%
raltegravir	5,136,788,029	12%	-3%
elsulfavirine	4,322,215,765	10%	+228%
other drugs	13,932,510,277	33%	+58%

INN*	Value of contracts, rub.	Percentage of all procurements	Increase in 2022 vs. 2021, %
Total	**42,500,580,969**	**100%**	**+34%**

The leader in the total expenses is dolutegravir: in 2022 it will cost 6.58 bln. rubles, but this is 559 mln. rubles less than in 2021 (–8%).

Lopinavir/ritonavir was second in expenses (6.31 bln. rubles), with a 74% increase in expenses in 2022 compared to 2021 (from 3.6 to 6.3 bln. rubles).

Rilpivirine/tenofovir/emtricitabine, with an amount of 6.2 bln. rubles, took third place. This combination is traditionally among the leaders in expenses. Its expenses increased by 13%.

5.31 bln. rubles were spent on raltegravir, which was proportionate to the expenses of 2021.

Elsulfavirine was in the top five in expenses for the first time, having displaced etravirine. Elsulfavirine costs increased by +228% (from 1.3 bln. rubles in 2021 to 4.3 bln. rubles in 2022).

Budget distribution for different drug groups

The analysis was performed for the following groups: 1) NRTIs; 2) third drugs (NNRTIs, PIs, INIs, CCR5 inhibitors, and fusion inhibitors; 3) single-pill regimen drugs; 4) ritonavir. See Appendix 1 for detailed calculation method. Methodology.

Funds are distributed by group as follows:

Table 4. Percentage of expenses by groups of ARV drugs, 2022

Type of drug	Contract value, rub.	Percentage of the contract value
Third drug	28,968,805,650.7	68%
Single-pill regimen	9,902,713,668.75	23%
NRTI	2,709,472,202.30	6%
Ritonavir	919,589,447.20	2%
Total	**42,500,580,968.95**	**100%**

The percentage spent on the procurement of third drugs essentially remained unchanged in recent years (about 70% of the total amount). The amount of NRTIs procurements remained at the level of 2021 (~6%).

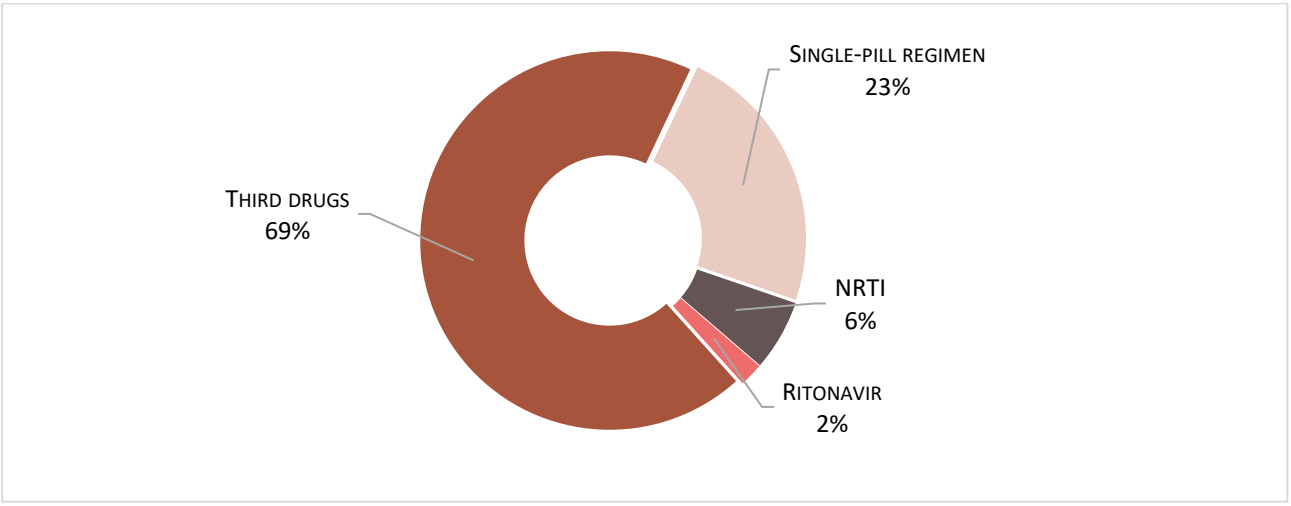


Figure 3. Budget burden in 2022 by drug group.

Table 6 shows how funds were redistributed among drug classes compared to 2021.

Table 5. Difference in the values of all contracts by drug class in 2021 and 2022 (in rubles)

Type	Value of contracts in 2021	Value of contracts in 2022	Difference, 2022/2021	Difference of 2022 vs 2021, %.
INI	13,095,211,361.95	15,052,633,937.70	1,957,422,575.75	15%
NNRTI2	9,921,339,528.14	13,534,874,014.94	3,613,534,486.80	36%
PI	5,609,130,311.29	9,545,665,736.41	3,936,535,425.12	70%
NNRTI	514,381,441.77	716,775,568.64	202,394,126.87	39%
INI+NNRTI2	-	15,888,875.70	15,888,875.70	-
BR	7,335,201.72	5,681,186.06	-1,654,015.66	-23%
Ritonavir	540,376,626.74	919,589,447.20	379,212,820.46	70%
NRTI	2,012,212,393.39	2,709,472,202.30	697,259,808.91	35%
Total	**31,699,986,865.00**	**42,500,580,968.95**	**10,800,594,103.95**	**34%**

Most of the money was spent on drugs of the class of integrase inhibitors (i.e., over 15 bln. rubles). At the same time, in the group of third drugs, the INI class increased in expenses, but decreased in its share in the group (from 41% to 35%). The proportion of NNRTI2 in the total amount remained virtually unchanged (~30%). The share of PIs increased from 18% to 22% (by 3.9 bln. rubles). The least amount of money is spent on NRTIs and NNRTIs. This is because of their low cost due to the availability of many registered generics. BRs are procured in very insignificant quantities.

Table 6. Share of drugs in the total amount of all procurements by group, 2022

Class of drug	Contract value, rub.	Percentage of the contract value, %
INI: raltegravir, dolutegravir*, bictegravir**, elvitegravir*	15,052,633,937.70	35%
NNRTI2: etravirine, elsulfavirine, rilpivirine***, doravirine***	13,534,874,014.94	32%
PIs: darunavir, atazanavir, lopinavir/ritonavir, saquinavir, fosamprenavir	9,545,665,736.41	22%
NNRTI: efavirenz, nevirapine	716,775,568.64	2%
INI+NNRTI2: dolutegravir/rilpivirine	15,888,875.70	0,04%
BR: maraviroc	5,681,186.06	0,01%
NRTI: abacavir, lamivudine, tenofovir, zidovudine, phosphazide, emtricitabine	919,589,447.20	2%

Class of drug	Contract value, rub.	Percentage of the contract value, %
Ritonavir	2,709,472,202.30	6%
Total	**42,500,580,968.95**	**100%**

** except FDC: dolutegravir/rilpivirine*
*** in combination*
**** in combination and separately*

Procurement structure by number of annual courses by class and type of drugs

In 2022, **592,907** annual courses of third drugs were procured[8]. Compared to 2021, the total number of courses increased by 201,837 (+52%). Based on the original 2022 budget, third-party drug procurements would have been 474,504 annual courses (118,403 fewer than actual number of courses). At the same time, as with the NRTI class, the total number of courses returned to the numbers of 2020.

Table 7. Number of courses by drug class, 2020 and 2022

Class of drug	Number of courses in 2020	Number of courses in 2021	Number of courses in 2022	2022/ 2021	2022/ 2020
PI	140,634	117,902	198,653	68%	41%
NNRTI	241,933	97,089	170,332	75%	-30%
INI	86,666	121,744	129,395	6%	49%
NNRTI2	35,878	54,301	94,415	74%	163%
INI+NNRTI2	0	0	84	-	-
BR	79	35	27	-25%	-67%
Total of third drugs	505,190	391,070	592,906	52%	17%
Total of NRTIs[9]	**606,854**	**198,189**	**573,059**	**-67%**	**189%**

NRTI class drugs

According to international and Russian guidelines, almost all regimens must include lamivudine or emtricitabine (international abbreviation: XTC). Based on this condition, the number of NRTIs is calculated.

In 2022, 533,989 courses of lamivudine (+205% over 2021) and 39,071 courses of emtricitabine (+71% over 2021) were procured. A total of 573,059 annual courses of XTC were procured.

Emtricitabine is still procured in small quantities, despite being included in the VED list and in clinical guidelines and standards as part of the preferred regimens. At the same time, the volume of contracts for the supply of emtricitabine has been steadily growing over the last few years only because of combination drugs. Emtricitabine is not available as a separate drug in procurement by the Russian Ministry of Health.

[8] One year's course = the number of pills per day recommended in the instructions for use * 365 days.
[9] Calculations made for lamivudine, emtricitabine.

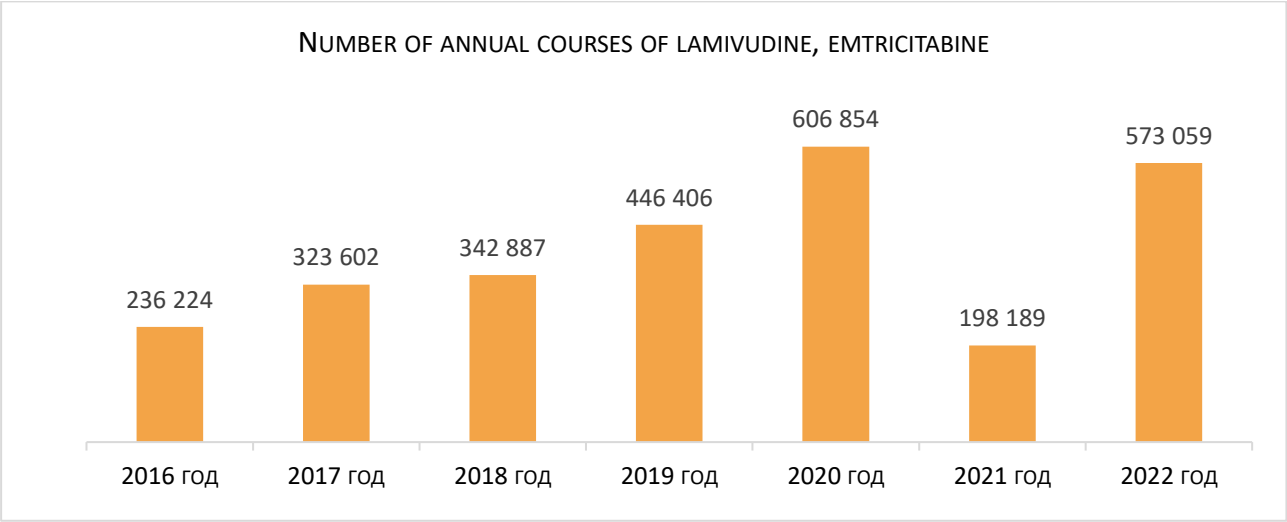


Figure 4. Number of courses of lamivudine, emtricitabine, from 2016 to 2022

The significant increase in lamivudine volumes in 2022 is attributed to the fluctuating procurement trend in recent years. From the dynamics since 2016, it is evident that there was a sharp increase in lamivudine procurement in 2020, and there was a strong decline in 2021. In 2022, the procurement volumes have recovered and are commensurate with 2020. A similar situation is observed with respect to the rest of the NRTIs.

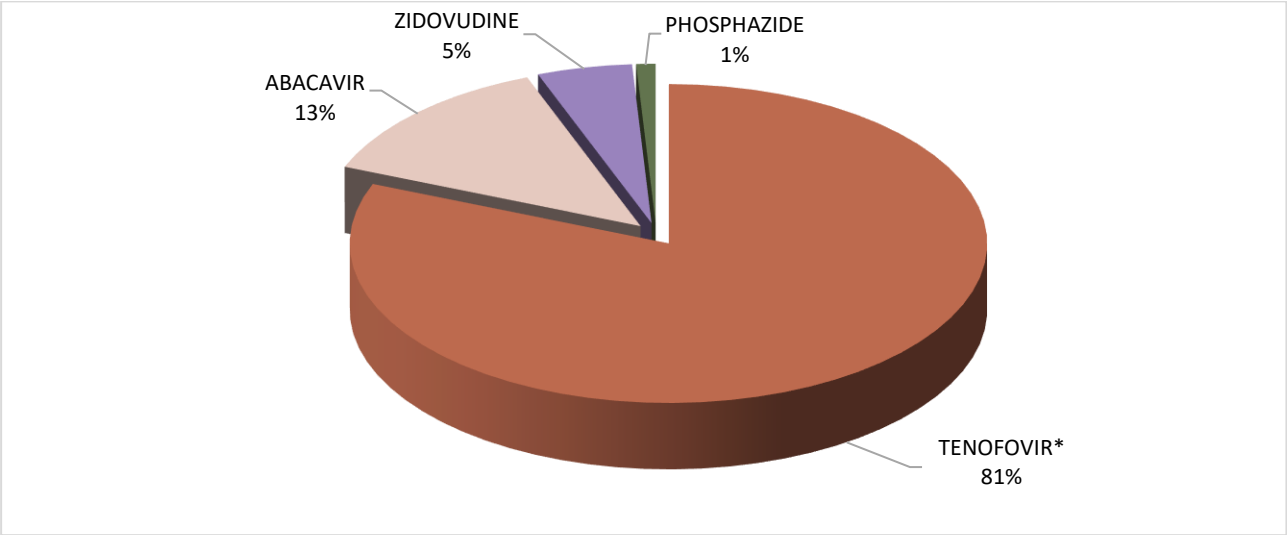
Other NRTIs (abacavir, zidovudine, tenofovir, phosphazide) were procured at a volume of **538,477** annual courses, which was also a significant increase from 2021 (+60%).

In 2022, most regimens potentially included two NRTIs (lamivudine and tenofovir) as separate drugs. In reduced regimens, only lamivudine is used, according to the clinical guidelines.

Table 8. Distribution of procured courses of NRTI class drugs and trends in 2021 and 2022

INN	Estimated number of patients receiving the drug 2021	Share in the NRTI group, 2021	Estimated number of patients receiving the drug 2022	Share in the NRTI group, 2022	Difference in patients, 2022/2021	Change in share within the group, 2022/2021	Increase, 2022/2021
tenofovir*	259,948	77%	436,612	81%	176,664	4%	68%
abacavir	38,002	11%	70,649	13%	32,647	2%	86%
zidovudine	27,241	8%	25,951	5%	-1,291	-3%	-5%
phosphazide	10,557	3%	5,266	1%	-5,291	-2%	-50%

**including tenofovir alafenamide in combination products in 2022*



**including tenofovir alafenamide in combination products in 2022*

Figure 5. Distribution of INNs in the NRTI group (excluding lamivudine and emtricitabine), 2022

The graph (*Figure 6*) shows the volumes of lamivudine, emtricitabine and the remaining NRTIs and their ratio with third drugs for the period from 2016 to 2022. The calculation is based on the principle that a regimen should include one third drug and two NRTIs.

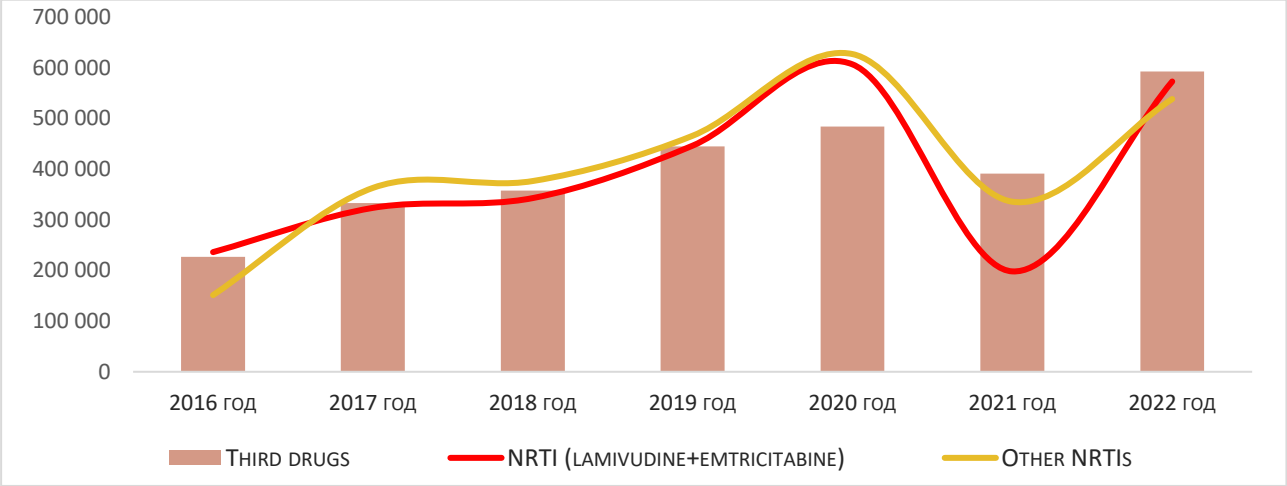


Figure 6. Ratio of number of annual courses of lamivudine and emtricitabine, other NRTIs and third drugs by year.

Note: lamivudine (emtricitabine) and the other NRTIs are not summarized, as treatment regimens should primarily include two NRTIs, one of which is lamivudine or emtricitabine in the vast majority of cases.

Following the sharp increase in 2020, a downturn in 2021 and a recovery of volumes in 2022 are evident.

It should also be noted that the number of NRTIs (2 per regimen) and the number of third drug courses in 2022 are correlated, which points to a desire to harmonize ARV therapy regimens in procurement.

Third drugs

The distribution in the third drug group is shown in the diagram below:

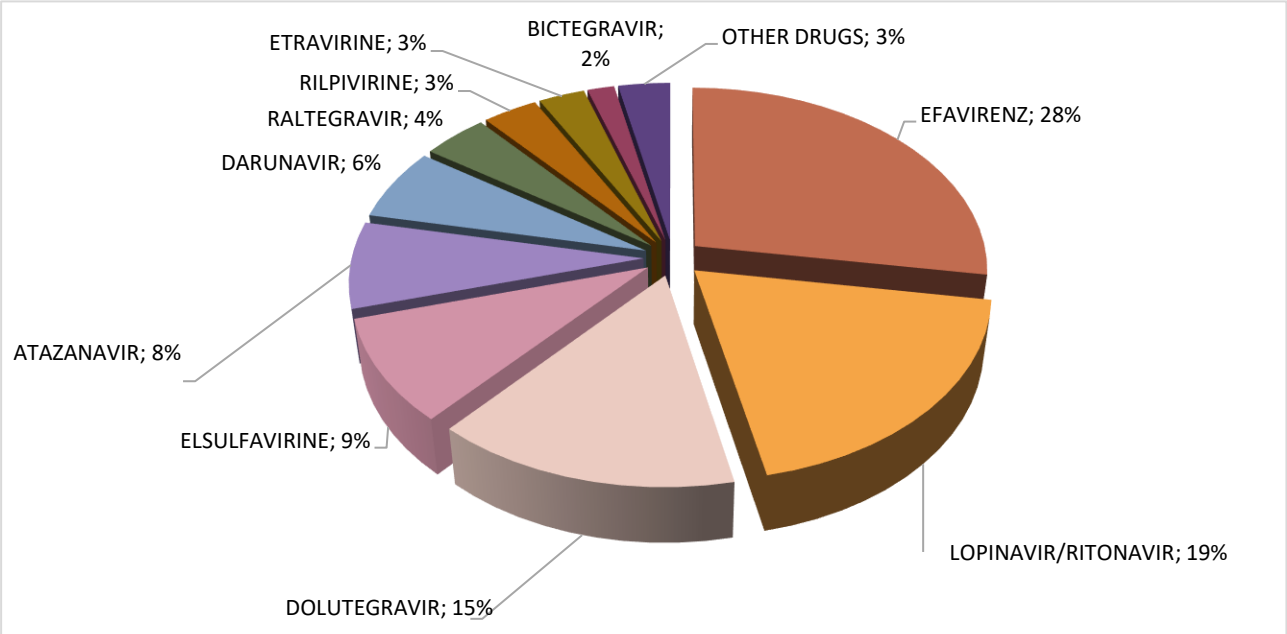


Figure 7. Procurement structure in the group of third drugs (share by number of courses), 2022

Efavirenz once again took the top position in the number of courses procured, partially returning the figures from 2020. After a reduction in 2021, the increase in 2022 was 77%. In 2020, efavirenz accounted for 41% of total third drugs (230,000 courses), in 2021 it was only about 20% (92,000 courses), in 2022 the volume increased to 163,000 courses (28%). Thus, the hypothesis that the Ministry of Healthcare decided to abandon efavirenz in 2021 is not yet confirmed, but there is still a downward trend. Efavirenz may be used as a cheap and widely studied option to increase treatment coverage when coverage needs to be increased quickly.

Compared with 2021, the number of dolutegravir courses decreased by 7% (minus ~7,000 annual courses) and its share of the group of third drugs decreased by 9% to 15%. The main amount of dolutegravir was procured using federal budget funds under a three-year contract, and part of the 2023 volumes was supplied to a number of regions as early as the second half of 2022 to eliminate the drug shortage. **Declining dolutegravir volumes and outpacing supplies raise serious concerns about the future availability of the drug.** If dolutegravir volumes do not increase in 2023, the shortage will grow.

Table 9. Dynamics of changes in volumes and shares of third drugs in procurement, 2021 and 2022

INN	Estimated number of people receiving the drug, 2020	Estimated number of people receiving the drug, 2021	Share by number of patients in 2021	Estimated number of people receiving the drug, 2022	Share by number of patients in 2022	Increase, 2022/ 2021	Increase, 2022/ 2020	Change in share within the group, 2022/2021
efavirenz	230,164	91,984	24%	163,178	28%	77%	-29%	4%
lopinavir/ritonavir	66,070	64,695	17%	113,484	19%	75%	72%	3%
dolutegravir	70,847	94,766	24%	87,862	15%	-7%	24%	-9%
elsulfavirine	10,588	16,487	4%	54,223	9%	229%	412%	5%
atazanavir	48,542	30,544	8%	45,216	8%	48%	-7%	0%
darunavir	21,261	20,970	5%	37,671	6%	80%	77%	1%
raltegravir	15,600	24,046	6%	24,388	4%	1%	56%	-2%
rilpivirine	13,353	17,942	5%	20,354	3%	13%	52%	-1%
etravirine	11,741	19,277	5%	17,166	3%	-11%	46%	-2%
bictegravir	4	564	0%	10,038	2%	-	-	2%
elvitegravir	215	2,367	1%	7,191	1%	204%	-	1%
nevirapine	11,769	5,105	1%	7,154	1%	40%	-39%	0%
doravirine	196	595	0%	2,672	0%	-	-	0%
fosamprenavir	3,180	1,266	0%	1,622	0%	28%	-49%	0%
saquinavir	1,582	427	0%	661	0%	55%	-58%	0%
maraviroc	79	35	0%	27	0%	-25%	-67%	0%
Total*	**505,190**	**391,070**	**,**	**592,906**	**-**	**52%**	**17%**	**-**

Rilpivirine, doravirine, bictegravir, elvitegravir are considered as the third components and in the combination drug. Dolutegravir/rilpivirine is included in the INN as dolutegravir

In 2022, elsulfavirine volumes tripled from 16,500 courses in 2021 to 54,200 courses in 2022. Elsulfavirine was the only drug procurement of which increased compared to 2020 and 2021 (volumes increased 5-fold compared to 2020).

There was a 15% increase in efavirenz 400 mg. Volume of efavirenz 400 mg increased by 15%; a reduced dosage of efavirenz with lamivudine and tenofovir is recommended in an alternative first-line regimen.

Volume of lopinavir/ritonavir procurement increased by 75% (48,789 annual courses). In clinical guidelines, lopinavir/ritonavir is listed as the drug of choice in special cases for patients who cannot be treated with the main preferred regimens and as an alternative drug in second-line regimens. However, at the moment, judging by procurement patterns, the drug is being used more widely, probably as the most universal and affordable second-line option.

Volumes of atazanavir in all dosages increased (+48%), but, as with other options, volumes only returned to 2021 levels.

Figure 8 shows how the volume of third drugs procurements was changing. The decrease in 2021 was mainly due to lower volumes of efavirenz. At the same time, it was not possible to increase therapy coverage with other third drugs at that time.

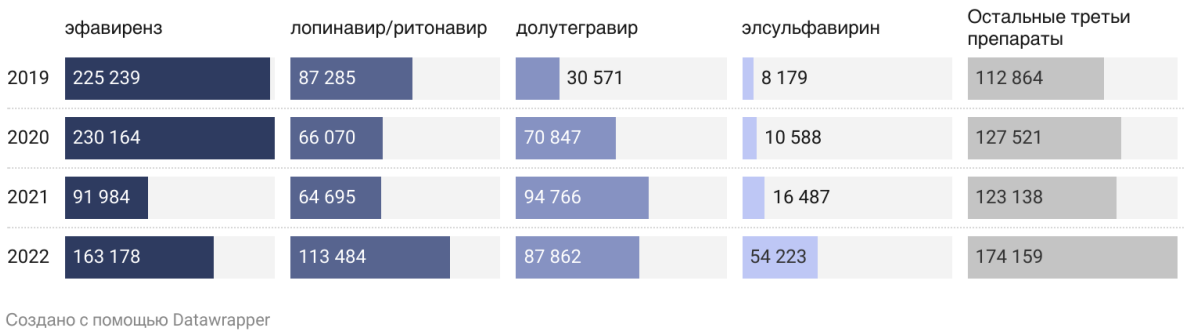


Figure 8. Changes in annual course volumes of the INNs efavirenz; lopinavir/ritonavir; dolutegravir, elsulfavirine, and the remaining third drugs from 2019 to 2022

Therapy coverage in 2022 increased mainly due to growth in efavirenz 600 mg, lopinavir/ritonavir and elsulfavirine, while dolutegravir, the main drug in first- and second-line regimens according to international and Russian guidelines, decreased.

Combination forms

The current Russian Clinical Guidelines 'HIV Infections in Adults' provide the following instructions: 'It is recommended that physicians responsible for the follow-up of HIV-infected patients use the less toxic and most convenient treatment regimens in the form of fixed-dose combination therapies (FDCs) when prescribing first-line ARV therapy (starter ARV therapy).'

As of 31.12.2022, the following drugs were registered in Russia, representing a single-pill regimen[10]:

Table 10. Combination drugs by class, registered in the Russian Federation as of 2022

Single-pill regimen	2-in-1 NRTI	2-in-1 PI**
abacavir/lamivudine/zidovudine*; bictegravir/tenofovir alafenamide/emtricitabine; dolutegravir/lamivudine; dolutegravir/rilpivirine; doravirine/lamivudine/tenofovir disoproxil; cobicistat/tenofovir alafenamide/ elvitegravir/emtricitabine; lamivudine/zidovudine/nevirapine; rilpivirine/tenofovir/emtricitabine; tenofovir/emtricitabine/efavirenz; tenofovir/elsulfavirine/emtricitabine.	abacavir/lamivudine; lamivudine/zidovudine; lamivudine/phosphazide; tenofovir/emtricitabine;	atazanavir/ritonavir lopinavir/ritonavir

** not recommended for use in the clinical guidelines*
***These PIs are not included in the calculations as combination drugs, since at the current stage ritonavir's own antiviral activity is not applied, and it is used only as a booster to PIs.*

Compared to 2021, *bictegravir/tenofovir alafenamide/emtricitabine* (TN Biktarvy) showed the highest growth in procurement. The number of people who could receive this drug amounted to about 10,000 compared to 564 people in 2021. The volume of INN rilpivirine/tenofovir/emtricitabine increased by 2,365 courses, the volume of cobicistat/tenofovir alafenamide/elvitegravir/emtricitabine combination increased by 5,000 courses.

[10] Bitherapy drugs only if a number of conditions are met.

Among the 2-in-1 NRTIs, the abacavir/lamivudine combination increased the most, compared to 2021 (+5,233 courses). Volumes of other NRTI combinations slightly decreased.

Table 11. Number of combination drug courses in the 2022 procurement

INN	Class of drug	Number of courses in 2022
Full regimen		
rilpivirine/tenofovir/emtricitabine	NNRTI2	20,243
bictegravir/tenofovir alafenamide/emtricitabine	INI	10,038
cobicistat/tenofovir alafenamide/ elvitegravir/emtricitabine	INI	7,191
doravirine/lamivudine/tenofovir	NNRTI2	2,129
dolutegravir/lamivudine	INI	371
lamivudine/tenofovir/efavirenz	NNRTI	187
dolutegravir/rilpivirine	INI+NNRTI2	84
2-in-1 NRTI		
lamivudine/zidovudine	NRTI	21,224
abacavir/lamivudine	NRTI	13,980
tenofovir/emtricitabine	NRTI	374
lamivudine/phosphazide	NRTI	95

Cumulative procurements of **combination drugs** bictegravir/tenofovir alafenamide/emtricitabine (Biktarvy), cobicistat/tenofovir alafenamide/elvitegravir/emtricitabine (Genvoya), doravirine/lamivudine/tenofovir (Delstrigo) increased over **three years from 310 courses in 2020 to 19,358 courses in 2022**.

Figure 9. Dynamics of volumes of single-pill annual drug courses in procurements from 2020 to 2022

Due to the fact that in recent years several modern FDCs have been included in the VED list, these combinations have been procured in larger volumes. However, in general, patients' access to FDCs is still limited. The share of single-pill regimens has been slowly growing over the past 7 years, but the percentage of patients who can access this therapy remains small, despite current treatment recommendations. Over the past year, the increase was only one percentage point, while 87% of patients were receiving mono-drug regimens.

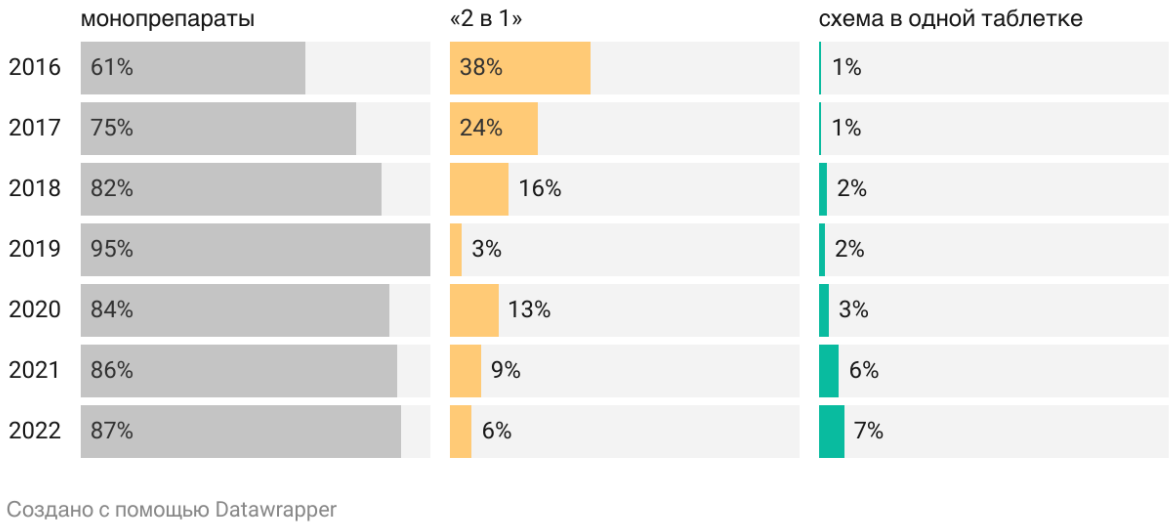


Figure 10. Ratio of the shares of drugs with FCDs in the total number of annual courses for 2016-2022

This is due to the high cost of the drugs and the lack of registered modern options until 2020. For many years, the only complete combination regimen in the Russian Federation was the combination of rilpivirine/tenofovir/emtricitabine (Eviplera).

Despite the fact that combination drugs have been procured in larger volumes, the drugs are distributed unevenly among the constituent entities of the Russian Federation.

Based on RF MoH contract data, 70% of the total volume of Biktarvy was distributed to 10 Russian regions and FPS. The leaders in terms of Biktarvy supply volumes are Moscow Region (7% of the total volume of supplies by the Russian Ministry of Healthcare), St. Petersburg (7%), Moscow (5.5%), Krasnodar Krai (4%) and the FPS of Russia (23%, excluding the additional agreement concluded in 2023).

Figure 11. Distribution in the leading constituent entities for the delivery of Biktarvy (in number of annual courses).

Moscow, the Moscow Region and St. Petersburg are the regions that procure the most FCDs with regional funds.

Table 12. Leaders of procurement using regional budget among the constituent entities of the Russian Federation for each FCD INN in 2022 (excluding supplies from the Ministry of Healthcare of the Russian Federation)

INN FCD/region	Moscow	Moscow Region	Saint-Petersburg	Khanty-Mansi Autonomous Okrug - Yugra	Irkutsk Region	Krasnodar Krai
rilpivirine/tenofovir/emtricitabine	2 511	641	158	244	213	56
bictegravir/tenofovir alafenamide/emtricitabine	953	651	493	75	x	20
doravirine/lamivudine/tenofovir	230	395	953	14	20	20
cobicistat/tenofovir alafenamide/ elvitegravir/emtricitabine	113	421	-	57	47	27
dolutegravir/rilpivirine	-	-	62	21	-	-
lamivudine/tenofovir/efavirenz	-	-	-	-	-	187

Drugs not included in the VED list

The Ministry of Healthcare of the Russian Federation does not procure drugs not included in the VED. These drugs were procured exclusively by constituent entities of the Russian Federation and medical institutions of federal jurisdiction.

Table 13. Values of contracts for the procurement of drugs not included in the VED list procured in 2022 in the constituent entities of the Russian Federation

drug name	Value of contracts, rub.	Number of courses*
tenofovir/emtricitabine 300/200 mg	50,971,988	374
doravirine 100 mg	43,370,527	300
rilpivirine 25 mg	36,496,188	111
dolutegravir/lamivudine 50/300 mg	39,386,969	371
dolutegravir/rilpivirine 50/25 mg	15,888,876	84
atazanavir/ritonavir 300/100 mg	10,609,067	402
lamivudine/tenofovir/efavirenz 300/300/600 mg	6,147,900	187
Total	**208,996,645**	

**The courses are not summed because the table shows various drug classes.*

It is important that the VED list included drug combinations containing dolutegravir. These drugs in the form of bitherapy are approved and presented in Russian and international guidelines as complete ARV regimens.

Pediatric forms and dosages

Pediatric forms are antiretroviral drugs in dosages and dosage forms that are convenient for younger children and for those patients who have difficulty taking tablets (syrups, solutions, powders, suspensions).

Based on official data for the entire follow-up period, 232,285 live children were born in the Russian Federation to HIV-infected mothers by December 31, 2021, of whom 12,107 had confirmed HIV infection (5.2%). In 2021, 13,203 children were born in Russia to HIV-infected mothers, of whom 146 children (1.1%) had confirmed HIV infection.

The main volume of pediatric forms is procured by the Ministry of Healthcare of the Russian Federation. The total procurement amount increased to 402.8 mln rubles, however, the share in the total volume of ARV drugs did not change and remained less than 1%.

On the back of the last year's problems with the supply of nevirapine suspension, in 2022 it was procured in greater quantities. Procurements of several drugs increased, but the total procurement amount decreased due to the emergence of inexpensive generic forms (abacavir, lamivudine).

Table 14. Dynamics of pediatric forms procurement volumes in 2021 and 2022

Drug name	Number of packs 2021, pcs	Number of packs 2022, pcs	2022/2021	Value of contracts in 2021	Value of contracts in 2022	2022/2021
lamivudine solution 240 mL	32,446	42,182	30%	30,724,678	9,672,070	-69%
raltegravir chewable tablets 100 mg	25,080	31,623	26%	198,709,991	243,721,346	23%
zidovudine solution 200 mL	17,622	26,103	48%	9,380,099	13,160,365	40%
abacavir solution 240 mL	19,642	22,239	13%	36,106,692	7,210,396	-80%
nevirapine suspension 240 mL	1,709	10,607	521%	1,333,839	7,911,414	493%
zidovudine solution 20 mL	4,271	7,833	83%	8,123,546	15,161,634	87%
lopinavir/ritonavir 80/20 mg	5,426	6,872	27%	20,223,674	26,843,242	33%
etravirine 100 mg	1,360	3,446	153%	26,434,396	66,805,155	153%
raltegravir chewable tablets 25 mg	1,363	1,693	24%	2,888,435	3,447,625	19%
etravirine 25 mg	967	1,152	19%	7,988,258	8,899,891	11%
Total	**109,886**	**153,750**	**40%**	**341,913,609**	**402,833,137**	**18%**

In 2022, no bidders came forward for the 71 auctions for pediatric forms (i.e., one-third of all announced bids). More than half of all failed procurements were for INN lopinavir/ritonavir 80/20 mg, 60mL solution, nevirapine suspension 240 mL, zidovudine solution 200 mL.

ARV DRUGS PRICES IN 2022

The main focus of the analysis is on prices fixed in the contracts of the Ministry of Healthcare of the Russian Federation in 2022, as the largest volume of ARVs is centrally procured by the Ministry of Healthcare of the Russian Federation. When analyzing the procurement of drugs that were procured only by institutions of the constituent entities of the Russian Federation and FSIs, information from the respective contracts was used.

Since the end of 2020, when the next State Strategy to Counter the Spread of HIV Infection in the Russian Federation until 2030 was approved, the cost of several drugs in centralized procurement has decreased. This was due to the inclusion of these drugs in the VED list, the conclusion of three-year contracts and an increase in the number of registered generics. These achievements were more attributed to the year 2021, which at the same time was not a record year for treatment coverage growth, but instead was characterized by regression. In 2022, prices have not changed significantly, and therapy coverage has only increased due to next year's budget. This indicates a clear problem with the approach to financing ARV procurement and planning the nomenclature and volumes of procured drugs.

Third drugs (base drugs)

Weighted average prices for ARVs

In 2022, unlike in previous years, the prices did not decrease significantly. The table below shows the prices of third drugs compared to 2021.

Table 15. Dynamics of prices for third drugs in procurement by the Ministry of Healthcare of the Russian Federation in 2021 and 2022

INN and dosage	Weighted average price per item, rub., 2021	Weighted average price per item, rub., 2022	2022 vs 2021
atazanavir 150 mg	13.24	13.24	0%
atazanavir 200 mg	17.3	16.66	-4%
atazanavir 300 mg	25.95	25.92	0%
bictegravir/tenofovir alafenamide/emtricitabine	-	524.33	-
darunavir 400 mg	94.08	89.21	-5%
darunavir 600 mg	115.52	104.61	-9%
darunavir 800 mg	189.12	180.26	-5%
dolutegravir 50 mg	204.82	204.82	0%
doravirine	-	387.42	-
doravirine/lamivudine/tenofovir	-	414.22	-
cobicistat/tenofovir alafenamide/ elvitegravir/emtricitabine	524.33	524.33	0%
lopinavir/ritonavir 100/25 mg	56.45	56.45	0%
lopinavir/ritonavir 200/50 mg	37.86	37.82	0%
lopinavir/ritonavir 80/20 mg, solution 60 mL	672.6	672.6	0%
maraviroc 150 mg	184.91	184.91	0%
maraviroc 300 mg	336.05	336.05	0%
nevirapine 200 mg	5.51	2.69	-51%

INN and dosage	Weighted average price per item, rub., 2021	Weighted average price per item, rub., 2022	2022 vs 2021
nevirapine suspension 240 mL	748.8	744	-1%
raltegravir 400 mg	307.82	307.82	0%
raltegravir chewable tablets 25 mg	34.28	33.94	-1%
raltegravir chewable tablets 100 mg	129.11	127.82	-1%
ritonavir 100 mg	27.99	27.83	-1%
saquinavir 500 mg	65.85	65.85	0%
fosamprenavir 700 mg	92.27	81.13	-12%
elsulfavirine 20 mg	218.16	218.16	0%
rilpivirine/tenofovir/emtricitabine	835.01	835.01	0%
etravirine 25 mg	68.21	64.38	-6%
etravirine 100 mg	160.29	160.29	0%
etravirine 200 mg	201.97	201.97	0%
efavirenz 100 mg	3.29	3.24	-2%
efavirenz 400 mg	14.52	7.08	-51%
efavirenz 600 mg	14.59	12.52	-14%

The price of efavirenz, darunavir and nevirapine has decreased due to competition among generics. Despite the obvious benefits of the price-volume approach, where drug procurement volumes are increased by lowering the price, this was not the case in 2022.

The three-year contracts concluded in 2021 are valid up to and including 2023, therefore the prices for etravirine 200 mg, raltegravir 400 mg and dolutegravir 50 mg are fixed at the 2021 price level.

The price of certain first- and second-line drugs

The price of first-line drugs other than efavirenz remains relatively high.

Figure 12. Dynamics of prices for first-line drugs (dolutegravir, elsulfavirine, efavirenz 600) in 2020-2022 (in rubles per tablet).

As noted above, the procurement volumes of elsulfavirine in 2022 increased three times compared to 2021 (229%), however, the drug price did not decrease and amounted to 218.17 rubles per tablet (6,544.8 rubles per pack). Starting from 2017, the volume of state procurement of elsulfavirine increased from 61 courses to 48.5 thousand courses (the volume of procurement by the Ministry of Healthcare of the Russian Federation is shown) at an unchanged price. Russian guidelines recommend elsulfavirine (TN Elpida) for the preferred first-line regimen along with dolutegravir and efavirenz. Elsulfavirine is used exclusively in Russia and is not included in international guidelines.

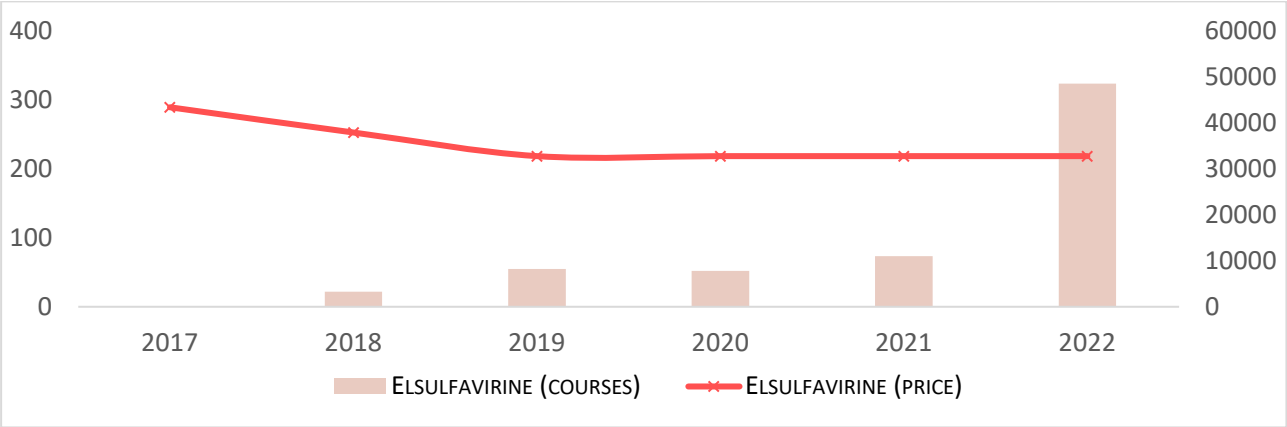


Figure 13. Increasing courses and no price dynamics for elsulfavirine in 2017–2022

The prices of the most procured second-line drugs (atazanavir, lopinavir/ritonavir, darunavir) have decreased in recent years due to patent expiry and generics entering the market. However, in three years, they have slightly fallen in price.

Figure 14. Dynamics of prices for first-line drugs (atazanavir 300 mg, darunavir 800 mg, lopinavir/ritonavir 200+50) in 2020–2022 (in rubles per tablet).

At the same time, 9.4 bln rubles were spent on these three INNs in all dosages alone. The price of generics of darunavir 800 mg and lopinavir/ritonavir 200+50 mg is 5.4 and 4.5 thousand rubles per pack, respectively, which is still a high burden on the budget. At the same time, lopinavir/ritonavir is not an optimal option, given the regimen of 4 tablets per day and a number of side effects. In the clinical guidelines, the drug is recommended only as part of alternative treatment regimens, but at the same time, almost every fifth patient in Russia receives a regimen with lopinavir/ritonavir (113,484 people), and 6.3 billion rubles (16% of the budget) have been allocated for its procurement. A plan to gradually cancel lopinavir/ritonavir should be developed, given its place in the 2030 international guidelines.

Long-term contracts and their impact on price and access to drugs

At the end of 2022, the maximum selling price for dolutegravir was reduced by 37% and amounted to 6,144.6 rubles including VAT per pack (204.82 rubles per tablet). That is, the price was re-registered at the price of procurement by the Ministry of Healthcare in the three-year contract. Reducing the maximum registered price for dolutegravir could become the basis for greater savings in the next long-term contract of the Ministry of Healthcare in 2024.

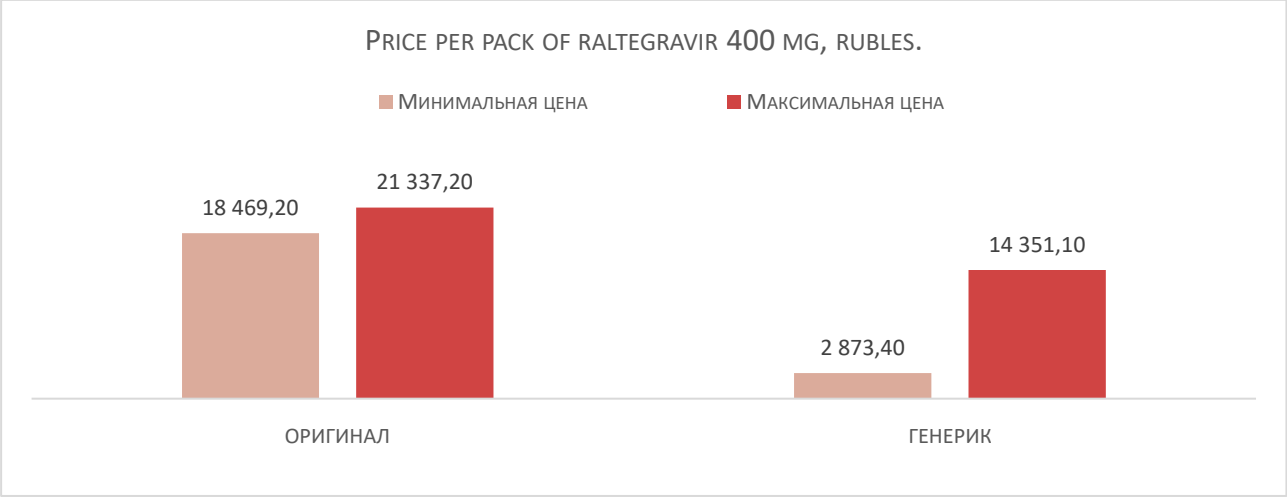
The price of raltegravir 400 mg (TN Isentress) in state procurements remained consistently high for several years. Raltegravir 400 mg should be taken 2 times a day, and the manufacturer has no

plans to register a once-daily dosage in the Russian Federation[11]. The three-year contract helped reduce the price of the drug on a one-time basis, but it remains one of the most expensive ARVs. 13% of the consolidated budget for the procurement of antiretroviral therapy (5.1 billion rubles, the 4th place in terms of expenses) is spent on raltegravir, while only 4% of patients receive the drug. The cost per patient per year is 224 thousand rubles (excluding other drugs in the regimen).

Patent analysis for raltegravir

As part of the patent analysis performed, it was determined that the acquisition of generic raltegravir does not contradict the current Russian legislation, as patent No. EA 007060 for the basic chemical compound expired in the fall of 2022. The current patent No. EA 012418 for potassium salt is a secondary patent, protecting one crystal modification out of many possible ones. According to the patent analysis, the potassium salt, a pharmaceutical composition for inhibiting HIV integrase for treating or preventing HIV infection (or delaying the onset of AIDS), and their uses are fully described *in the specification to the first patent. The invention of 'potassium salt' does not meet the patentability criterion of 'inventive step' and, accordingly, its patent is not blocking and should not prevent raltegravir generics from entering the market.*

In 2023, the third-year delivery under the three-year contract is due in the amount of 14.67 million tablets for a total value of 4.5 bln. rubles. However, the price for raltegravir in some regional procurements in early 2023 has decreased significantly due to generics entering the market. For example, the price for raltegravir 400 mg in the contract of SPI of Moscow 'Procurement Agency of the Moscow City Healthcare Department'[12] dated 25.01.2023 is 2,873.4 rubles per pack including VAT (47.89 rubles per tablet) despite the fact that the registered price for this generic in the State Register of Medicines is 12,479.56 rubles (208 rubles per tablet). The price of raltegravir generic in this contract is 6 times lower than the price of the original. If the Ministry of Healthcare contract for raltegravir 400 mg is renegotiated even for 1 year at this price, the savings for the year could amount to 3.81 bln. rubles. If the contract is concluded at the price in the State Register of Medicines, even in this case the savings could amount to 1.46 bln. rubles.



** Raltegravir generic prices are taken from 2023 contracts.*

Figure 15. Price of original and generic raltegravir 400 mg in government procurement in 2023.

According to the latest international guidelines, integrase inhibitors, particularly dolutegravir and raltegravir, **are the preferred first- and second-line treatment options in patients with HIV**. The effectiveness of the drugs and fewer side effects play a special role in this. In Russian clinical guidelines, dolutegravir is included in preferred and alternative first-line ARV therapy regimens,

[11] Minutes of the meeting on improving access to HIV, hepatitis and tuberculosis treatment in the Russian Federation with MSD (MSD Pharmaceuticals LLC) https://www.eeca-cat.info/wp-content/uploads/2018/10/Protokol-MSD-Irkutsk-2021-Final.pdf

[12] Procurement price for one of the most expensive HIV drugs decreased in Moscow https://www.m24.ru/news/medicina/19012023/542225

while raltegravir is used as a third drug in the ARV therapy regimen as an alternative to efavirenz or dolutegravir, as well as in special cases.

Long-term contracts were applied in 2021 as a mechanism for lower prices and higher volumes, but this has subsequently led to stagnation in both volume and price. At the same time, procurement analysis shows that the volume of dolutegravir in 2023 has decreased, the volume of raltegravir is not increasing due to its high price, while the drug still imposes a significant burden on the budget.

The price for etravirine 200 mg under the multi-year contract has not changed (12.2 thousand rubles per pack). The patent for the basic chemical compound of etravirine in the Russian Federation expires on June 17, 2023[13]. After that, there may be generics that should be cheaper than the original. According to the website of grls.rosminzdrav.ru, as of early April 2022, two generics of etravirine were registered, and several generics are undergoing clinical trials for bioequivalence[14].

Practice has shown that when applying multi-year contracts, all possible factors that may affect the price over the life of the contract should be anticipated and monitored. These include, in particular, increased demand for the drug, price re-registration, expiration of patent protection, release of generics, possibility of additional auctions during the year, regional procurement and so on. Long-term contracts will be beneficial over the entire period and will help to increase treatment coverage only through a flexible approach and timely response to changes in the market.

The volume and duration of contracts for raltegravir and etravirine are actually a barrier to increasing the number of people on ARVs and improving treatment standards. The authors of the report believe that it is not reasonable to enter into new long-term contracts for these two options under current conditions.

Combination drugs

The price for the combination drug rilpivirine/tenofovir/emtricitabine (Eviplera) did not change and amounted to 25,053 rubles. The patent for this combination is valid until 2027, and Janssen stated in a dialogue with representatives of public organizations that 'no further reduction in the Russian local market is planned'[15].

It is doubtful that Eviplera volumes will remain at the 2021-2022 level. This is due to the presence of a patent blocking generics from entering the market until at least 2027, the manufacturer's refusal to lower the price, and the fact that there are more modern combination drugs on the market at more affordable prices.

Thus, at the level of 2021 increase of 71% (+~6 thousand courses), in 2022, the volumes of Eviplera increased only by 16% (+2.3 thousand rubles), while the volume of procurement of other combination drugs increased significantly.

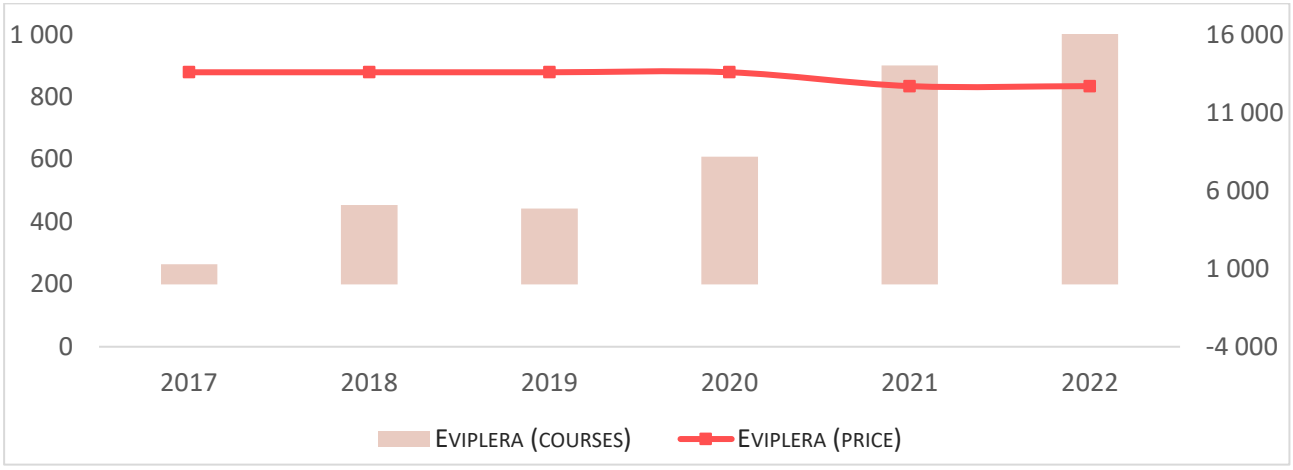


Figure 16. Change in volumes of procured INN rilpivirine/tenofovir/emtricitabine and price per tablet.

However, this combination was initially significantly reduced in procurement using 2022 funds (–55% by 2021), and then the drugs were additionally procured using 2023 funds due to the resulting shortages (see Disruptions).

The RF MoH letter for 2023[16] points to a need for only 3,312 courses, and at the time of reporting, no auctions for Eviplera had been announced.

Rilpivirine as a separate component is practically unavailable in Russia: it is not included in the VED list, and its price remains stably high (about 320 thousand rubles per patient per year). Taking into account the clinical importance of the drug, as well as the low price of the original on other markets, measures are required to increase the availability of rilpivirine in the Russian Federation (inclusion in the VED list with a price reduction or use of the patent by the state without Janssen's consent).

In 2022, the combination of bictegravir/tenofovir alafenamide/emtricitabine (TN Biktarvy) was procured for the first time using federal budget. After the inclusion of the drug in the VED list, its price decreased from 32 thousand to 15.8 thousand rubles per pack (–51%). A similar situation was with doravirine/lamivudine/tenofovir (TN Delstrigo) - after its inclusion in the VED list, the price for this combination fell from 25.6 thousand to 12.4 thousand rubles per pack (–51%).

The price of cobicistat/tenofovir alafenamide/elvitegravir/emtricitabine combination (TN Genvoya) did not change and was 15.7 thousand rubles. Rilpivirine/tenofovir/emtricitabine (TN Eviplera) is traditionally the most expensive combination option (25 thousand rubles per pack).

[17] Minutes of the meeting with Gilead https://www.eeca-cat.info/wp-content/uploads/2018/10/Protokol-Gilead-16.10.2019.-Final-1.pdf

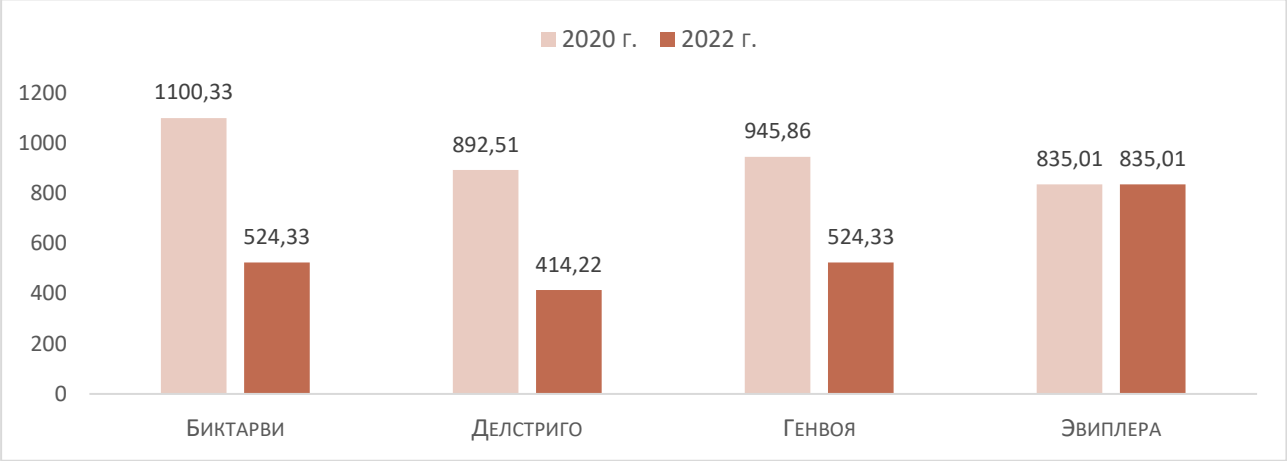


Figure 17. Comparison of FDC prices in 2020 and 2022 (per tablet, in rubles).

To summarize, from 2021-2022, modern combination drugs are included in the VED list, which is a complete single-pill once-a-day regimen. These combinations are much cheaper than raltegravir and etravirine and more convenient to administer, and significantly cheaper than rilpivirine/tenofovir/emtricitabine. In the long term, price-volume contracts for the supply of new FDCs could help to significantly increase therapy coverage, including by optimizing regimens based on personalized need.

Price trends for all ARVs for the period 2018-2022 are shown in Appendix 5. Prices for all ARVs per package and per annual course in 2022 are shown in Appendix 6.

The high prices of some drugs make their share in the budget much larger than their share in the procurement volumes. Thus, with the expenses for rilpivirine/tenofovir/emtricitabine of 16% (6.22 bln. rubles), only 3% of patients (20,000 people) are provided with this combination. The situation with raltegravir is similar: with the expenses of 13% (5.1 bln. rubles), this drug is present in the regimens of only 4% of patients (22.6 thousand people). At the same time, with a comparable amount of expenses of 6.6 bln. rubles, dolutegravir is provided to 83 thousand people.

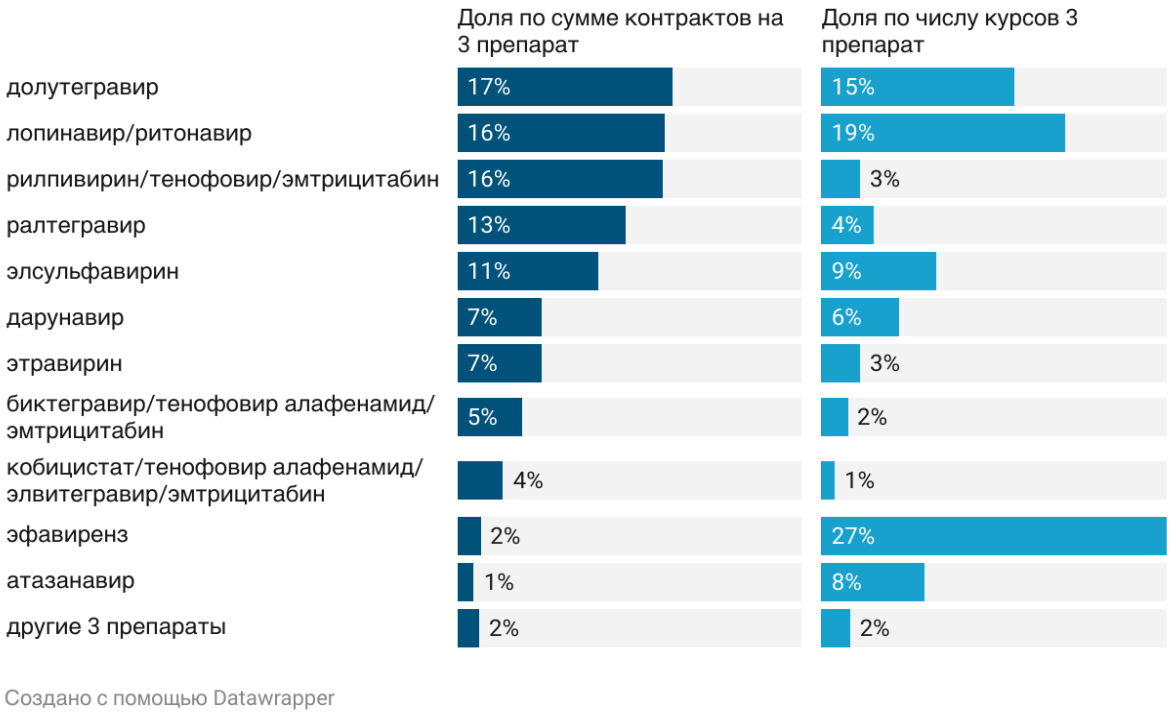


Figure 18. Ratio of expenses and volumes of procured courses for third drugs in the 2022 procurement.

When comparing prices for ARVs before centralized procurement (2016), by the end of 2022, prices decreased for all procured drugs. The average percentage reduction for third drugs was 45% and 60% for NRTIs. Thanks to centralized procurement of drugs and the price-volume mechanism and long-term contracts, ARV therapy has become much more affordable, which has significantly increased the number of people with HIV receiving treatment.

NRTI drugs

The price of drugs in the NRTI group began to decrease in the second half of 2022 during the auctions held using 2023 funds.

Table 16. Prices for drugs in the NRTI group in 2021 and 2022.

Drug name for the graph	Weighted average price per item, rub., 2021	Weighted average price per item, rub., 2022	2022/2021
abacavir/lamivudine 600/300 mg	44.16	28.44	-36%
abacavir 150 mg	4.97	4.97	0%
abacavir 300 mg	14.31	11	-23%
abacavir 600 mg	28.63	24.39	-15%
zidovudine 300 mg	5.14	4.44	-14%
lamivudine/zidovudine 150/300 mg	10.06	8.64	-14%
lamivudine 150 mg	1.83	1.83	0%
lamivudine 300 mg	4.49	3.85	-14%
lamivudine/phosphazide 150/400 mg*	88.77	88.77	0%
tenofovir 150 mg	6.4	6.38	0%
tenofovir 300 mg	6.71	6.71	0%
phosphazide 200 mg	35.97	34.17	-5%

Drug name for the graph	Weighted average price per item, rub., 2021	Weighted average price per item, rub., 2022	2022/2021
phosphazide 400 mg	35.53	31.03	-13%
tenofovir/emtricitabine 300/200 mg*	374.81	395.83	6%
emtricitabine 200 mg	21.89	14.06	-36%

** not included in the VED list, weighted average price in procurements by constituent entities of the Russian Federation or FSIs*

The price of abacavir/lamivudine combination decreased significantly (–36%). After the generic entered the market in 2021, the price of a pack fell from 4.3 thousand rubles in 2020 to 853 rubles in 2022.

The weighted average price of tenofovir/emtricitabine has continued to remain high for many years, even though several generics were recently registered.

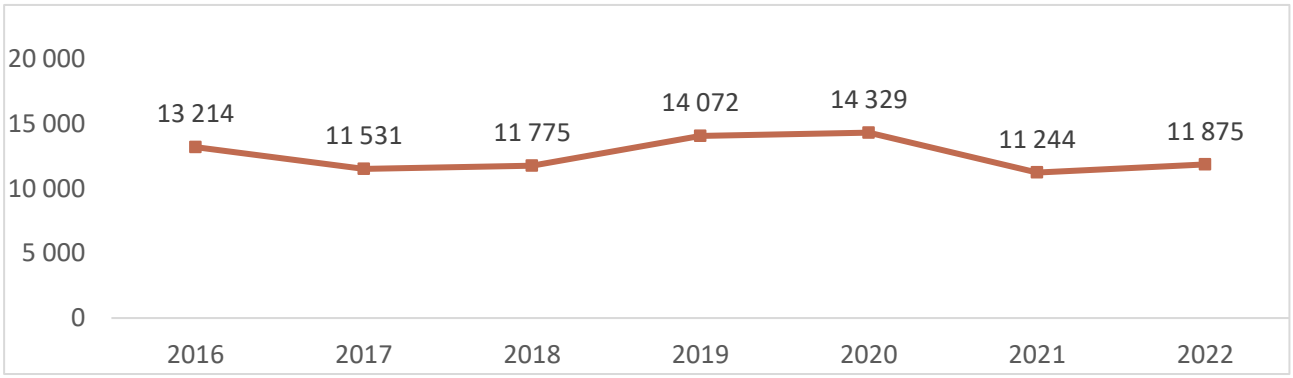


Figure 19. Dynamics of weighted average cost of one pack (No. 30) of tenofovir/emtricitabine TN Truvada in 2016-2021 (in rubles).

It was registered in Russia in 2011. In 2017, Gilead applied for inclusion of the drug in the VED list, but the commission found the proposed price too high. At the same time, tenofovir and emtricitabine as separate drugs are included in the VED list. The presence of the combination in the VED list would make it possible to procure it in large volumes using federal budget funds, which in turn would further reduce the price (the price-volume principle). This combination is protected by a patent (EA 15145) until 2024. The patent holder, Gilead, has repeatedly stated in public discussions[17] with representatives of patient organizations that it is not interested in promoting tenofovir/emtricitabine on the Russian market.

It is important to note that patent No. EA 15145 was revoked in Kazakhstan, while the remaining CIS countries (Armenia, Azerbaijan, Belarus, Kyrgyzstan, etc.) are part of a voluntary license granted by Gilead to the Medical Patent Pool. Under this license, the price of a pack of tenofovir/emtricitabine 30 tablets is about 5 US dollars (about 500 rubles).

At the same time, some constituent entities of the Russian Federation procure generics of tenofovir/emtricitabine from several manufacturers at an average price of 1,500 rubles per pack, which is 8 times cheaper than the original.

The tenofovir/emtricitabine combination is of particular importance because it is currently the main option recommended for pre-exposure prophylaxis of HIV infection (PrEP). Because the drug is under patent protection and the patentee does not plan to include it in the VED list, the availability of PrEP in the Russian Federation is extremely limited.

[17] Minutes of the meeting with Gilead https://www.eeca-cat.info/wp-content/uploads/2018/10/Protokol-Gilead-16.10.2019.-Final-1.pdf

Emtricitabine was included in the VED list for 2021, but in 2021 and 2022 it was not procured by the Ministry of Healthcare as a separate drug; auctions were held only in the constituent entities of the Russian Federation.

Generally, the nomenclature of NRTIs has been unchanged for many years, except for the abandonment of stavudine and didanosine in accordance with international recommendations. Neither international nor Russian companies are practically developing in this area.

Pediatric forms

In recent years, prices for pediatric forms have begun to gradually decrease due to the emergence of generics. In 2022, the price of pediatric lamivudine and abacavir fell significantly (by almost 90%).

Table 17. Prices for pediatric forms of ARVs in 2021 and 2022

drug name	Weighted average price per item, rub., 2021	Weighted average price per item, rub., 2022	Difference, rub.	Difference, %
abacavir solution 240 mL	1759.2	231.08	-1528.12	-87%
zidovudine solution 200 mL	520	495.03	-24.97	-5%
zidovudine solution for infusion, 20 mL	371.6	371.6	0	0%
lamivudine solution 240 mL	964.8	118.28	-846.52	-88%
lopinavir/ritonavir 80/20 mg, solution 60 mL	672.6	672.6	0	0%
nevirapine suspension 240 mL	748.8	744	-4.8	-1%
raltegravir chewable tablets 25 mg	34.28	33.94	-0.34	-1%
raltegravir chewable tablets 100 mg	129.11	127.82	-1.29	-1%
etravirine 25 mg	68.21	64.38	-3.83	-6%
etravirine 100 mg	160.29	160.29	0	0%

THE PRICE OF THE MOST COMMON TREATMENT REGIMENS IN 2022

According to government procurement data, the most common first-line regimens are:

- lamivudine 300 mg + tenofovir 300 mg + efavirenz 600 mg;
- lamivudine 300 mg + tenofovir 300 mg + dolutegravir 50 mg;
- **lamivudine 300 mg + tenofovir 300 mg + elsulfavirine 20 mg**

The price of main first-line regimens ranged from 8.4 thousand to almost 85,000 rubles per year ($123 to $1200), depending on the third drug in the regimen.

The most procured second-line regimens were:

- lamivudine 300 mg + tenofovir 300 mg + lopinavir/ritonavir 200+50 mg;
- lamivudine 300 mg + abacavir 600 mg + atazanavir 300 mg + ritonavir 100 mg.

The price of the main second-line regimens ranges from 23 thousand rubles to 305 thousand rubles (from $343 to $4,450).

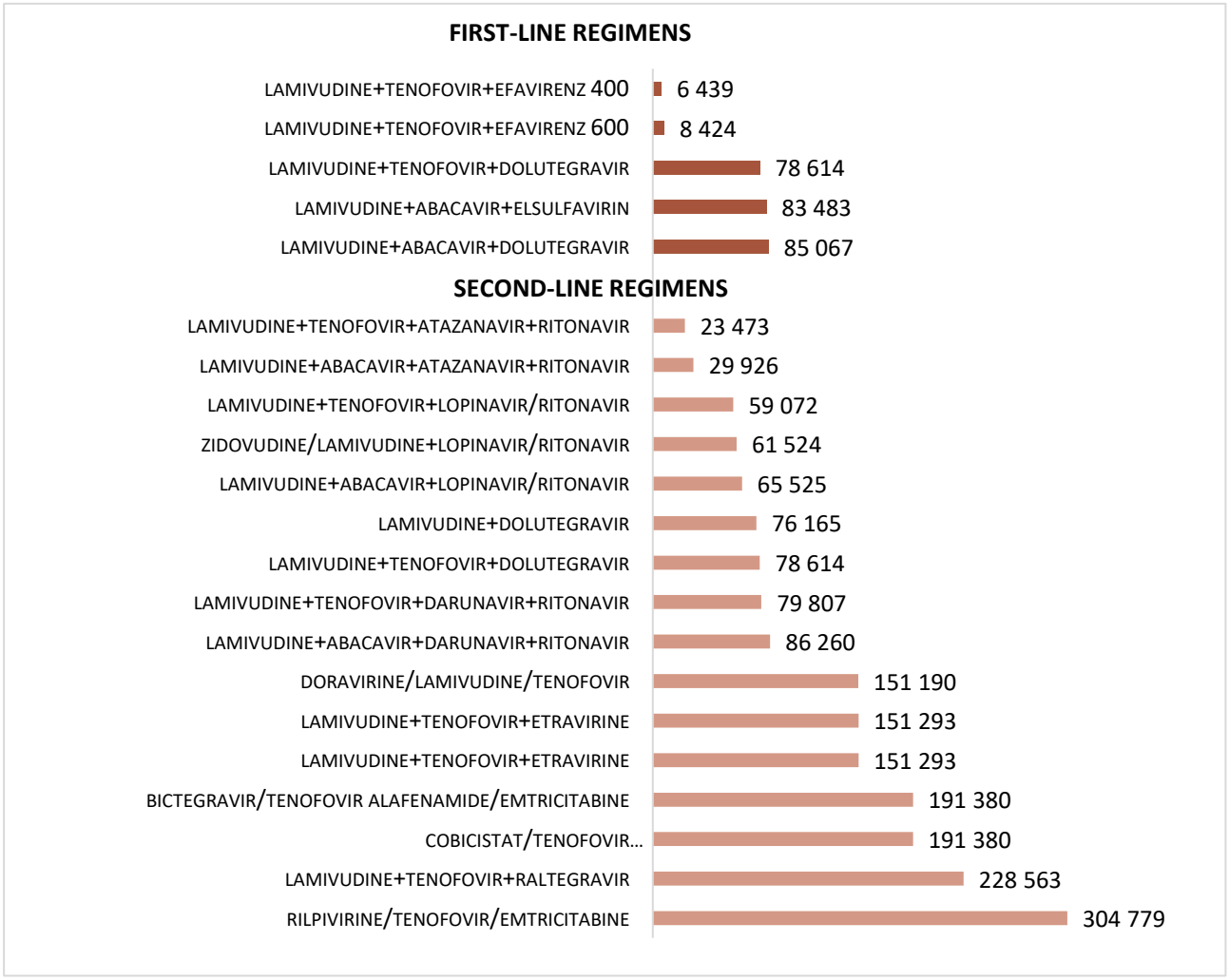


Figure 20. Price of treatment regimens in 2022 in ascending order of price, in rubles, per 1 patient per year.

Although the prices of most drugs did not decrease significantly in 2022, the aggregate price of the regimens did decrease due to a reduction in the price of some NRTI options and a drop in the prices of a number of drugs after inclusion in the VED list.

Table 18. Price of main treatment regimens in 2022

First line	2021	2022	Difference of 2021/2022
lamivudine+tenofovir+efavirenz 400	9,388	6,439	-31%
lamivudine+tenofovir+efavirenz 600	9,413	8,424	-11%
lamivudine+tenofovir+dolutegravir	78,847	78,614	0%
lamivudine+abacavir+elsulfavirine	83,716	83,483	0%
lamivudine+abacavir+dolutegravir	86,848	85,067	-2%
Second line			
lamivudine+tenofovir+atazanavir+ritonavir	23,776	23,473	-1%
lamivudine+abacavir+atazanavir+ritonavir	31,777	29,926	-6%
lamivudine+tenofovir+lopinavir/ritonavir	59,364	59,072	0%
zidovudine/lamivudine+lopinavir/ritonavir	62,619	61,524	-2%
lamivudine+abacavir+lopinavir/ritonavir	67,364	65,525	-3%
lamivudine+dolutegravir	76,398	76,165	0%
lamivudine+tenofovir+dolutegravir	78,847	78,614	0%
lamivudine+tenofovir+darunavir+ritonavir	83,333	79,807	-4%
lamivudine+abacavir+lopinavir/ritonavir	91,334	86,260	-6%
lamivudine+abacavir+darunavir+ritonavir	151,526	151,293	0%
lamivudine+tenofovir+raltegravir	228,797	228,563	0%
rilpivirine/tenofovir/emtricitabine	304,779	304,779	0%
bictegravir/tenofovir alafenamide/emtricitabine	389,287	191,380	-51%
cobicistat/tenofovir alafenamide/elvitegravir/emtricitabine	191,380	191,380	0%
doravirine/lamivudine/tenofovir	311,725	151,190	-51%

**Price per regimen may vary slightly due to different dosages of NRTIs.*

The weighted average cost of the treatment regimen at the end of 2022 was 69.7 thousand rubles.

The cheapest first-line regimen is lamivudine 300 mg + tenofovir 300 mg + efavirenz 600 mg, the price of which decreased from 9,400 rubles in 2021 to 8,400 rubles in 2021.

The most expensive drugs in first-line regimens are elsulfavirine and dolutegravir. The price of regimens with them has remained at the level of 2021.

The cheapest second-line regimens include atazanavir. The average price of such regimens is 25–29 thousand rubles per year. Lopinavir/ritonavir regimens cost in the range of 59–65 thousand rubles per year.

Regimens with darunavir became cheaper by an average of 2 thousand rubles per year and cost 79,86 thousand rubles per year.

The regimen including raltegravir costs 228 thousand rubles.

The most popular reduced regimen, according to the research data[18], is dolutegravir + lamivudine with a price of 76,000 rubles. The price of the same regimen in the combined form amounted to 86,000 rubles.

The price of combination drugs in single-pill regimens ranges from 151,000 to 304,000 rubles. Doravirine/lamivudine/tenofovir costs 151 thousand rubles per year, bictegravir/tenofovir alafenamide/emtricitabine and cobicistat/tenofovir alafenamide/elvitegravir/emtricitabine cost 191 thousand rubles each. The most expensive regimen is the rilpivirine/tenofovir/emtricitabine combination (304,000 rubles per year). The high price of these combinations will not let increase their volume significantly in the near future. The increase in volume is only possible with a significant reduction in prices.

[18] https://itpcru.org/2020/11/27/rezultaty-issledovaniya-izuchenie-rasprostranennosti-koronavirusnoj-infekczii-covid-19-sredi-inficzirovannyh-vich-paczientov-v-rossii-i-vliyaniya-epidemii-koronavirusnoj-infekczii-covid-19-na/

RATIO OF ORIGINAL AND REPRODUCED ARV DRUGS IN THE 2022 PROCUREMENT STRUCTURE

In the consolidated amount of procurements, original drugs comprised 69% of expenses, while generic drugs amounted to 31%. Information on the main active patents for ARV drugs registered in the Russian Federation is given in Appendix 4.

Table 19. Share of original and generic drugs in contract values by type of customer

	Value of contracts*	Distribution by contract value, %
Original	29,492,954,642.44	69%
Generic	13,003,099,300.36	31%
Total	**42,496,053,942.80**	**100%**

** drugs without TNs in the contracts are not included.*

The Ministry of Healthcare of the Russian Federation, which is the main procurer of ARV drugs, spent 25.7 bln. rubles (67%) on original drugs and 12.8 bln. rubles (33%) on generics. 96% of the entire budget of the constituent entities of the Russian Federation was spent on originals.

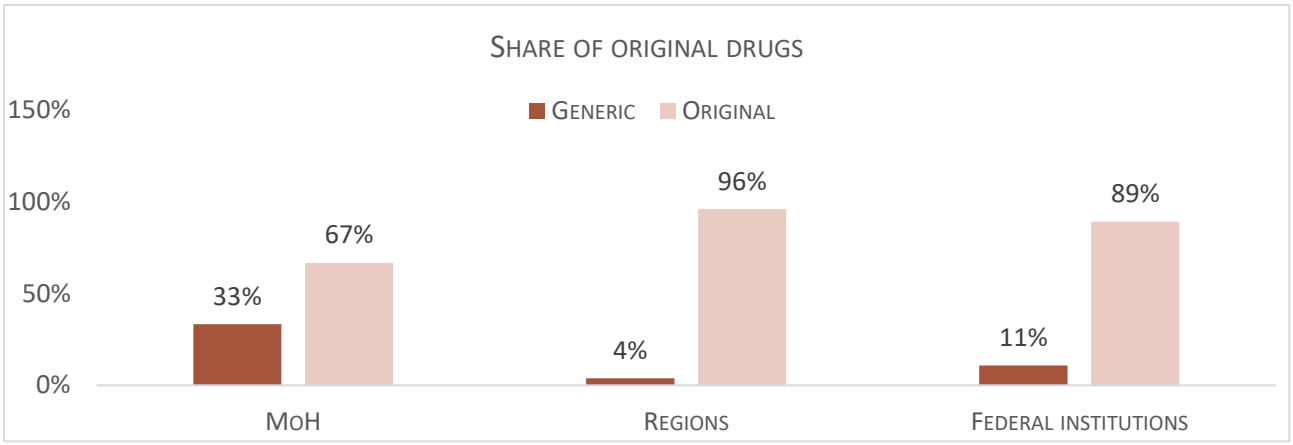


Figure 21. Original/Generic for 2022 contract values.

The difference between the prices of original drugs of the Ministry of Healthcare and the constituent entities of the Russian Federation can be explained by several factors. Firstly, the constituent entities of the Russian Federation additionally procure combination drugs, which in most cases are originals. Secondly, constituent entities of the Russian Federation procure drugs that are not included in the VED list (they are mostly originals). Thirdly, in the Ministry of Healthcare's contracts, prices for original drugs may be lower than prices for the same drugs in regional procurements, as the Ministry of Healthcare reduces the price due to volume.

Traditionally, the main volume of originals was third drugs. In this group, original drugs accounted for 74% of the value of all contracts (29.3 bln. rubles). In the NRTI class, originals account for only 7% (192.2 mln. rubles).

The picture of 2022 repeats the trends of recent years: a sizable portion of the centralized procurement budget is spent on original third-party drugs that have no analogues. Integrase inhibitors and second-generation NNRTIs represent the major share of expenses for third drugs.

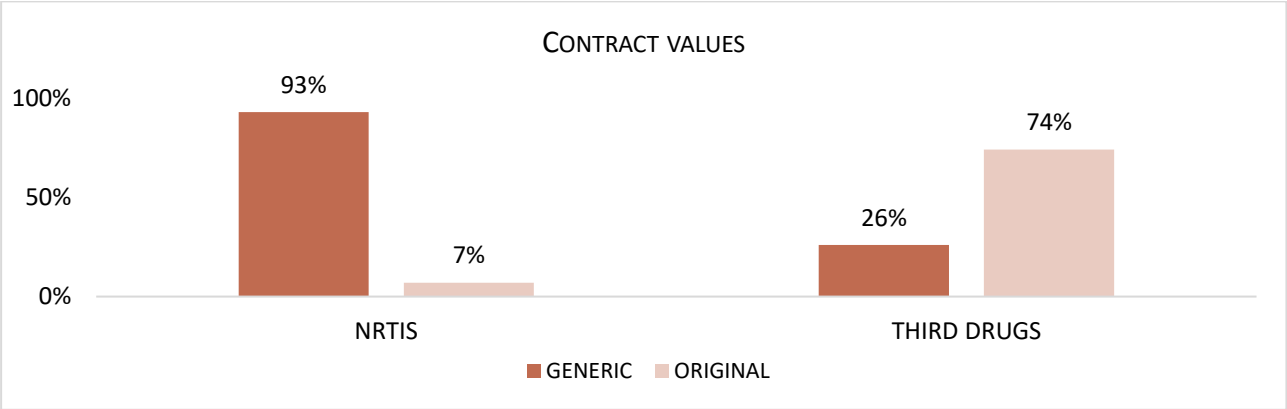


Figure 22. Original/generic ratio in the NRTI group and in the group of third drugs by contract value, 2022.

The share of original drugs in the total number of courses is only 32%, if the group of third drugs is considered separately.

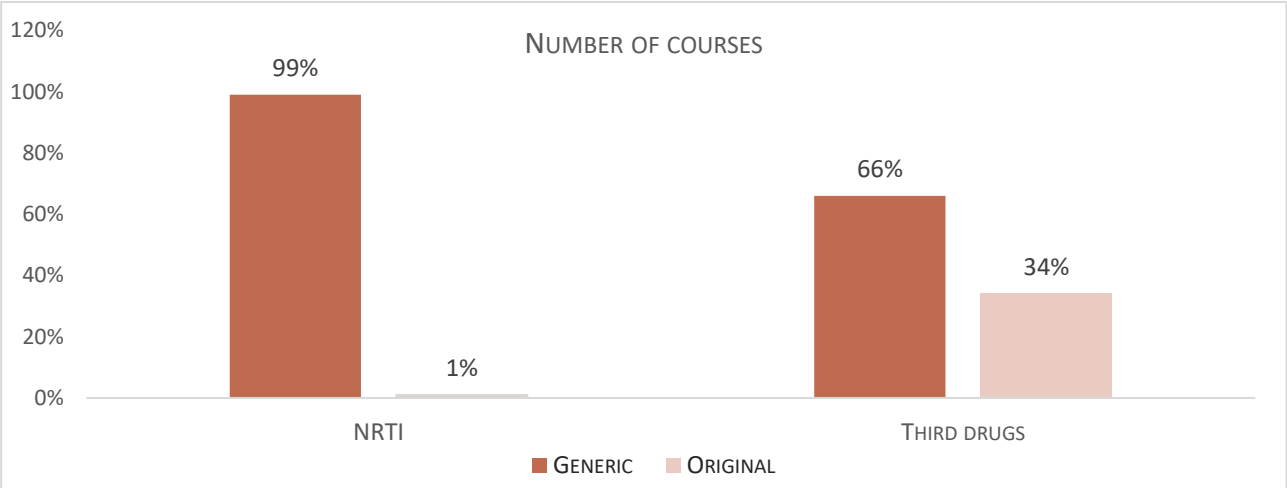


Figure 23. Original/generic ratio in the NRTI group and in the group of third drugs by number of courses, 2022.

The most funds in 2022 were spent on the original dolutegravir (Tivicay), with the highest volume of courses among the original drugs. Following dolutegravir, but with much smaller volumes, come Eviplera (rilpivirine/tenofovir/emtricitabine), Isentress (raltegravir), and Elpida (elsulfavirine).

The charts below show the expenses and volume shares of the contracts for the original TNs.

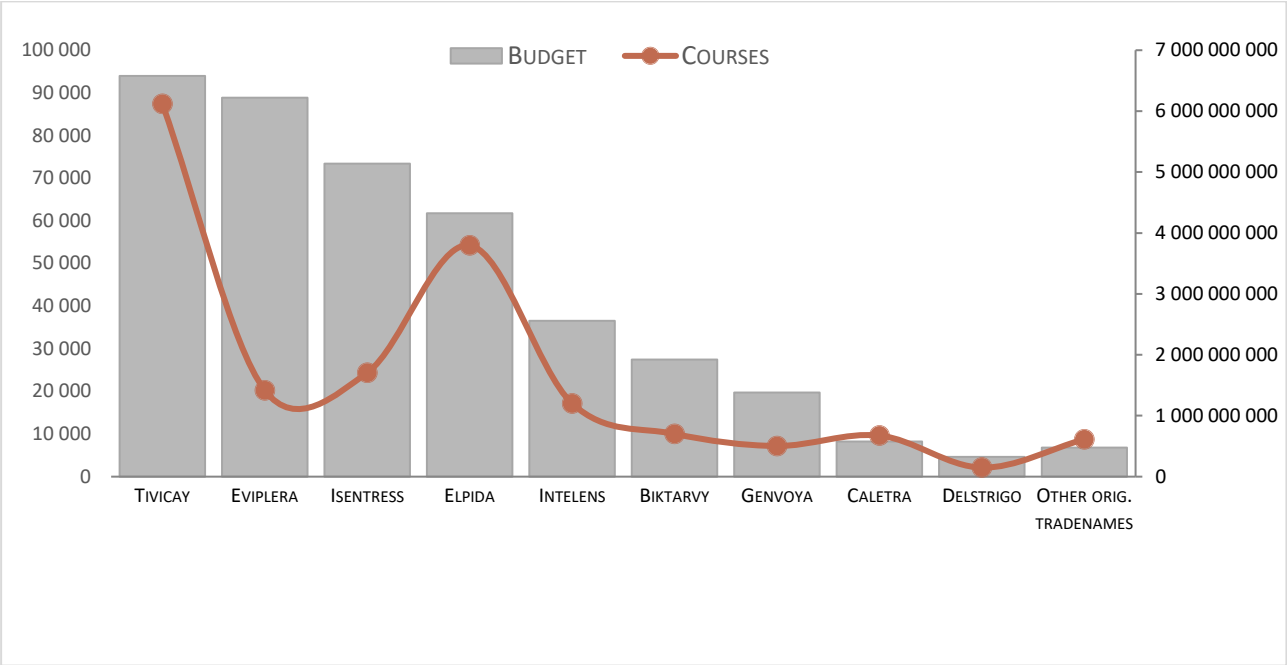


Figure 24. Budget/number of courses ratio for original drugs in the 2022 procurements.

At the same time, production of almost all original INNs is localized in Russia (production facilities are located at different stages of the production cycle). Localization may include secondary packaging and/or release quality control; primary and secondary packaging, release quality control; all stages of production, including release of the pharmaceutical substance.

It is important to note that prices for generics are often very high. For example, generic and original lopinavir/ritonavir with the same price (4,538.4 rubles per pack (55 thousand per patient per year)) were supplied under one contract of the Ministry of Healthcare of the Russian Federation. Procurement of lopinavir/ritonavir continues to be a major burden on the budget despite the fact that this drug has been procured as a generic for several years. Such situations show that the availability of generics on the market does not guarantee lower prices in all cases. This also requires work of the regulators and procurers.

NUMBER OF ARVT PATIENTS, 2022

According to the monitoring data, t**he amount of ARV drugs procured in 2022, including procurements using the 2023 budget, was estimated to be for about 592,906 people living with HIV**.

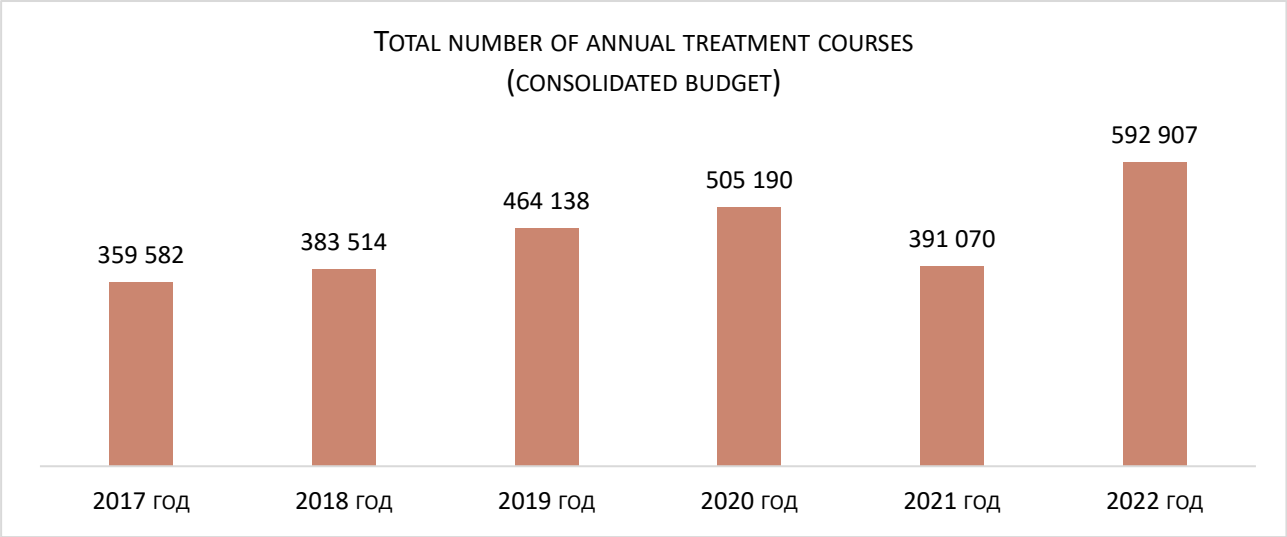


Figure 25. Total number of procured annual courses distributed by year.

The main procurer of the drugs is the Russian Ministry of Healthcare (represented by FGHI Federal Center for Planning and Organization of Drug Provision to Citizens). The Ministry of Healthcare of the Russian Federation procures an average of 95% of all treatment courses annually. Accordingly, about 4% of patients per year are provided at the expense of regional budgets.

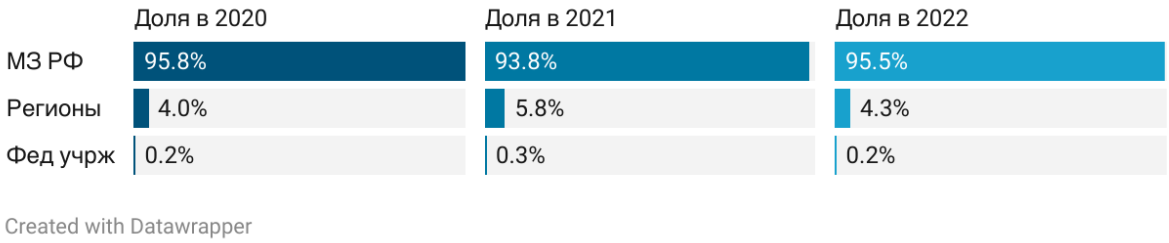


Figure 26. Distribution of procured courses by customer, 2022

However, the trend over the past two years indicates a shortfall in the federal budget for ARV therapy. If we count the volume of annual courses of third drugs procured by the Ministry of Healthcare in 2022 using the 2022 federal budget, the total number of courses would be 448,000 and the increase to 2021 would be 22%. At the same time, as noted earlier, the Ministry of Healthcare procured 24% fewer courses in 2021 than it did in 2020. If no additional auctions had been announced for the 2023 budget, the growth compared to 2020 would have been negative (–7%).

The graph shows a steady increase in therapy coverage up to 2020, but there was a regression in 2021. In 2022, the volumes originally procured by the Ministry of Healthcare (447,953 courses) did not even reach the volumes of 2020. **The increase was ultimately achieved solely through borrowing of the funds from 2023.**

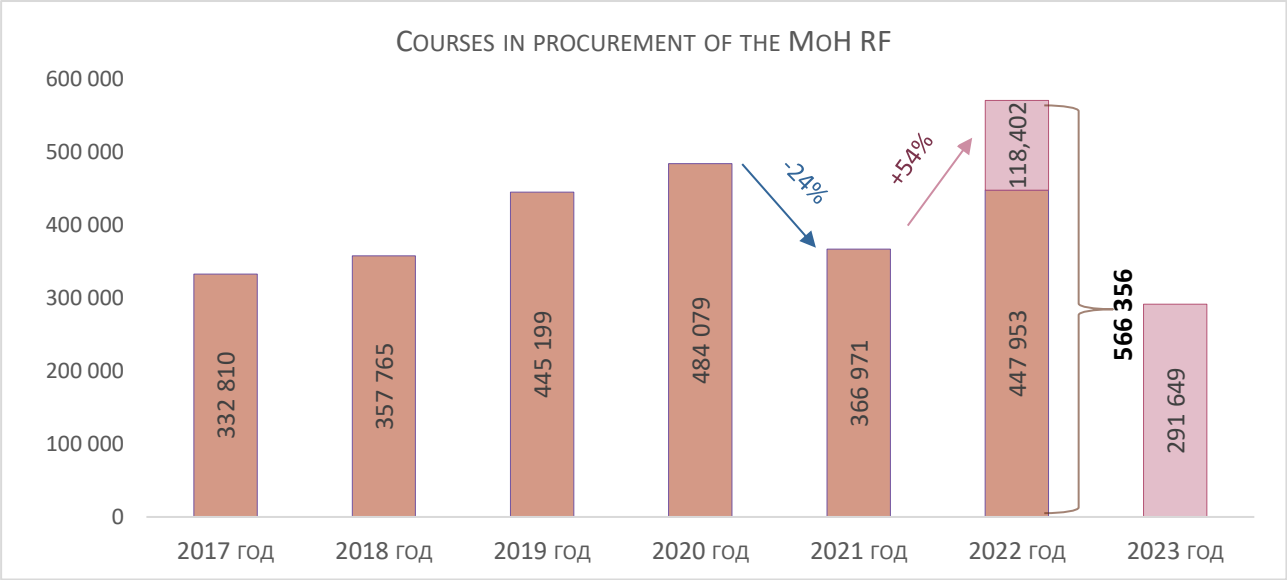


Figure 27. Estimated number of annual treatment courses in centralized state procurement of the Ministry of Healthcare of the Russian Federation in 2017–2023.

Based on the procurement data, it can be stated that the amount of drugs procured annually is enough to provide therapy to a maximum of about 400–500 thousand patients. At the same time, only one third of the patients who are in HIV-care can be provided with treatment at the expense of procurements carried out in 2023.

Table 20. Annual course volumes and contract amounts of the Ministry of Healthcare of the Russian Federation, 2017–2023.

Year	Volume of annual courses	Value of contracts, rub.	Number of PLHIV according to the data of the Federal Scientific and Methodological Center for the Prevention and Control of AIDS [19]	Number of patients on therapy according to data of the Federal Scientific and Methodological Center for the Prevention and Control of AIDS
2017	332,809	21,324,514,731	943,999	346,132
2018	357,765	20,555,619,885	1,007,369	443,000
2019	420,777	22,924,992,167	1,068,839	534,990
2020	433,813	24,948,420,943	1,104,768	604,999
2021	366,971	27,832,705,644	1,137,596	660,821
2022	447,953	29,996,269,963	1,137,596*	660,821*
2022 (using 2023 budget)	118,402	8,592,049,266		

[19] References of the Federal Scientific and Methodological Centre for the Prevention and Control of AIDS of FBIS Central Research Institute of Epidemiology of Rospotrebnadzor (2017–2022)http://www.hivrussia.info/dannye-po-vich-infektsii-v-rossii/

Year	Volume of annual courses	Value of contracts, rub.	Number of PLHIV according to the data of the Federal Scientific and Methodological Center for the Prevention and Control of AIDS [19]	Number of patients on therapy according to data of the Federal Scientific and Methodological Center for the Prevention and Control of AIDS
2023	291,649	21,514,857,366	x	x

** Due to the lack of publicly available data for 2022, the 2021 data was used.*

Given that the Federal Register of people living with HIV, which should reflect the personalized need for ARVs for each patient, has been in place in the Russian Federation since 2018, **fluctuations in the volume of procurement over the past few years can only be explained by the budget deficit.**

Spending 2023 funds in 2022 bears certain risks for the uninterrupted supply of ARV drugs in 2023. The situation could have been prevented by providing additional funding for 2021 and 2022. However, no additional funds were provided in 2021, and in 2022 they began spending the 2023 budget. However, the budget for ARVs for 2023 was not increased. For the centralized procurement of drugs for HIV infection, including in combination with hepatitis B and C viruses and MDR tuberculosis (Decree No. 1512), 31.7 bln. rubles annually is allocated in the federal budget for 2023–2025.[20].

If we take into account that out of ≈32 billion of the planned 2023 budget, part of the funds in the amount of 13.15 bln. rubles will be used to pay for three-year contracts signed in 2021, and 8.8 bln. rubles have already been spent in 2022, then about 10 bln. rubles remain for the procurement of ARVs in 2023. This is indirectly confirmed by the fact that 10 bln. rubles are allocated for ARVs in the schedule plan of the Ministry of Healthcare of the Russian Federation for 2023. This amount does not include the expenses for MDR tuberculosis and hepatitis C drugs.

Given that drugs procured using 2023 funds and under some three-year contracts are already being used, patients may face drug shortages in the second half of 2023 unless the government urgently increases the ARV budget.

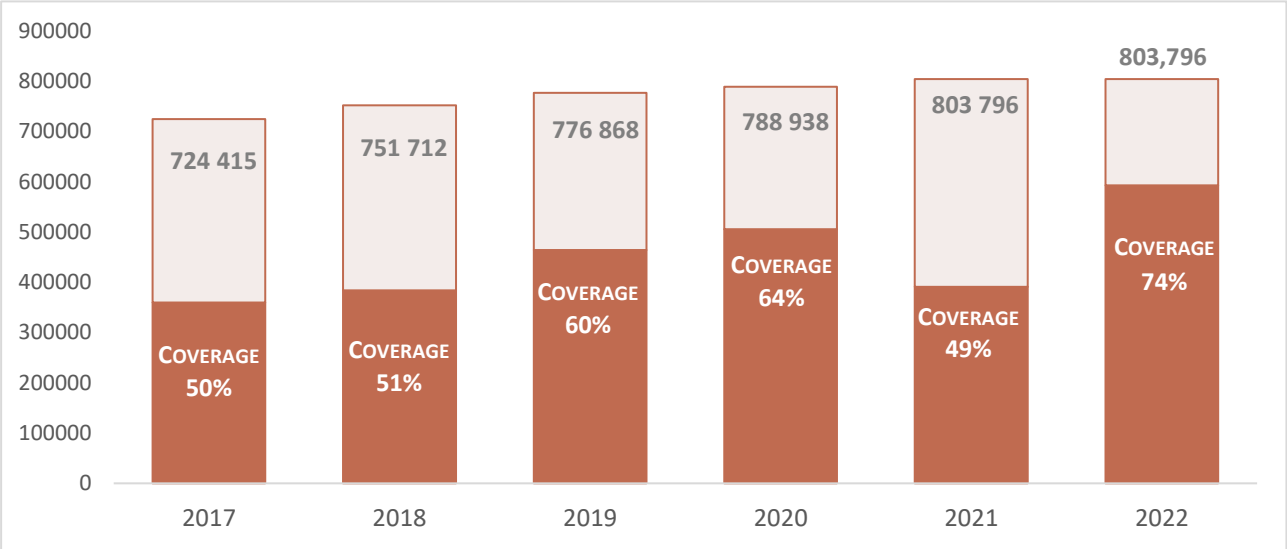
At the time of writing this report, the Ministry of Healthcare of the Russian Federation has concluded 60 contracts for a total amount of 21.5 billion rubles. At the same time, 292,000 annual courses have been procured. **Thus, almost the entire 2023 budget has already been spent, but the volume of drugs was estimated for only 36% of the number of patients in need of ARV therapy[21].**

It is important to note that the State Duma of the Russian Federation, approving in the third reading the Draft 'On the Federal Budget for 2023 and for the planning period of 2024 and 2025', gave an important recommendation to the Government of the Russian Federation. It reads as follows: **'if additional budget revenues are received, consideration should be given to increasing funding for priority areas, among which are activities in the health sector, including the measures to combat HIV and hepatitis B and C'.** However, there is no information on such an increase at this time. Alternatively, to prevent ARV drugs shortages, the Ministry of Healthcare could begin using 2024 funds as early as 2023.

[20] The letter of the Ministry of Healthcare of the Russian Federation with the data is available to the authors of the report. Annual data from the Specialized Research Unit for the Prevention and Control of HIV/AIDS of FBIS 'Central Research Institute for Epidemiology of Rospotrebnadzor' were used http://www.hivrussia.info/dannye-po-vich-infektsii-v-rossii/

Based on the cost of the 2022 treatment regimens, **the amount of additional funding required to provide ARV therapy to all patients on HIV-care in 2023 is at least 20 bln. rubles.**

The increase in volumes in 2022 is achieved only due to centralized procurement by the Ministry of Healthcare of the Russian Federation. Based on the statistics on the number of PLHIV on HIV-care and ARV therapy[22], the percentage coverage is as follows:



Given that 2021 data is used, actual coverage may differ from that presented, assuming that the number of people with HIV on HIV-care increased in 2022.

Figure 28. Percentage of treatment coverage of the number of people on HIV-care, based on the procured volume of annual ARV courses in 2021.

The 2022 therapy coverage was the highest in a five-year period, but **only because of the 2023 money**.

Based on the reference 'HIV infection in the Russian Federation as of December 31, 2021', which states that there are 1,137,596 people with laboratory-confirmed HIV infection in Russia, **ARV coverage is about 52% of the total number of people living with HIV in Russia.**

[22] See above.

PROCUREMENT IN THE CONSTITUENT ENTITIES OF THE RUSSIAN FEDERATION

In 2022 auctions were held in 63 regions of Russia. Traditionally, the following three regions spend the most: Moscow (42% of the amount of procurement of all subjects of the Russian Federation), the Moscow region (18%) and St. Petersburg (8%).

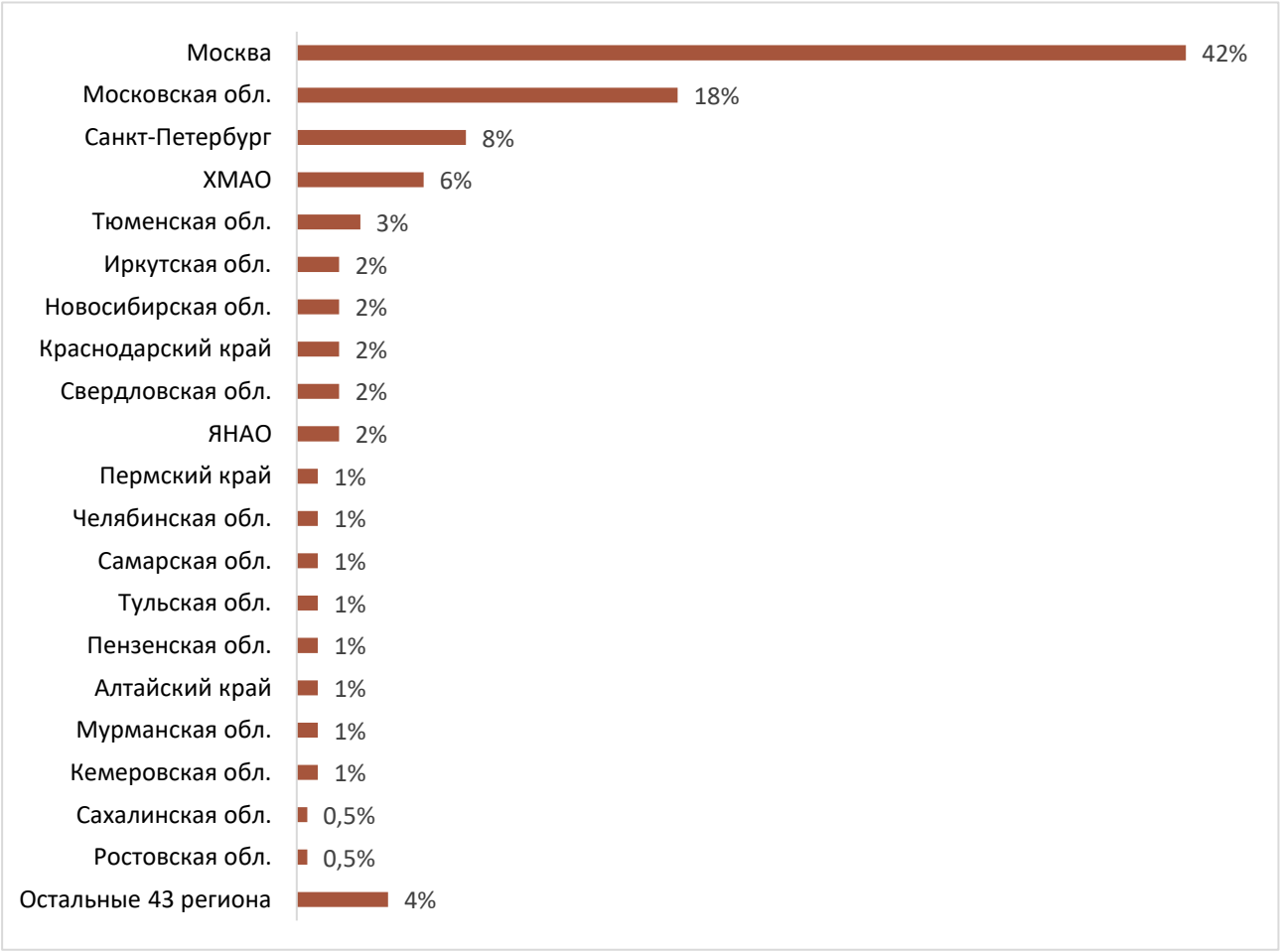


Figure 29. Top 20 regions by expenditures on procurement of ARV therapy using regional budget, 2022.

The Moscow ARV budget amounted to 1.5 bln. rubles, which is almost 10 times more than the total cost of the 43 regions of the country that were not included in the top 20. The following constituent entities of the Russian Federation did not procure ARV drugs in 2022: Republic of Adygea, North Ossetia-Alania, Ingushetia, Udmurtia, Chechnya, Kabardino-Balkaria, Kalmykia, Karachay-Cherkess Republic, Primorsky Krai, Arkhangelsk, Ivanovo, Kirov, Kostroma, Kurgan, Orel, Pskov, Ryazan, Tver, Ulyanovsk Region, Jewish Autonomous Okrug, Nenets Autonomous Okrug, Chukotka Autonomous Okrug.

85% of total regional expenditures were for seven INNs. One third of the total amount was spent on rilpivirine/tenofovir/emtricitabine. This is due to the fact that in the original procurement of the Ministry of Healthcare of the Russian Federation using the 2022 budget, the volume of the procured drug was reduced. The volume subsequently returned to near the previous year's levels with the 2023 budget.

Table 21. Budget distribution by INN in procurement by constituent entities of the Russian Federation, 2022

INN	Value of contracts, rub.	Distribution by contract value, %
rilpivirine/tenofovir/emtricitabine	1,231,770,218.40	33%
bictegravir/tenofovir alafenamide/emtricitabine	544,578,270.90	14%
elsulfavirine	447,192,160.70	12%
raltegravir	383,564,481.81	10%
dolutegravir	313,906,163.44	8%
doravirine/lamivudine/tenofovir	270,178,629.84	7%
cobicistat/tenofovir alafenamide/ elvitegravir/emtricitabine	187,076,761.40	5%
The other 24 INNs	397,558,998.38	11%

Moscow (8,781 courses), Moscow Region (3,301) and St. Petersburg (1,741) were the leaders in terms of the number of procured courses. All of these constituent entities increased procurement volumes compared to 2021 by 21%, 4% and 31%, respectively.

The courses of the following drugs were procured the most:

Table 22. Total volume of courses by INN in contracts of all constituent entities of the Russian Federation that made procurements in 2022.

INN	Number of courses in 2022
elsulfavirine	5,561
lamivudine	3,909
rilpivirine/tenofovir/emtricitabine	3,884
tenofovir	3,778
dolutegravir	3,701
bictegravir/tenofovir alafenamide/emtricitabine	2,832
ritonavir	2,632
doravirine/lamivudine/tenofovir	1,775
raltegravir	1,748
atazanavir	1,582
The other 21 INNs	5,872

The procurement volumes of doravirine (+395%) and bictegravir/tenofovir alafenamide/emtricitabine combination (+402%) grew most significantly.

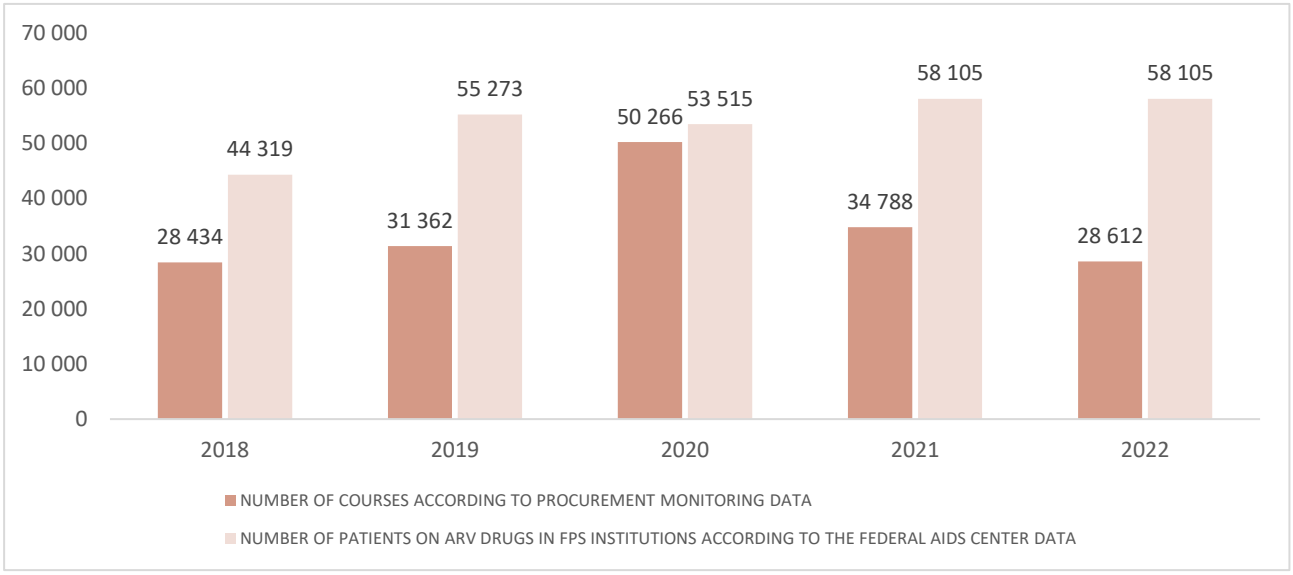
As already mentioned, the prices for drugs from the VED list are limited by the maximum selling price and regional wholesale mark-ups, and the guaranteed maximum price of contract (GMPC) must be determined based on the lowest price. However, the analysis shows that for many years, prices for the same drugs, including the same trade name, may differ several times in different constituent entities of the Russian Federation. At the same time, there are known cases when the generic is more expensive than the original.

For example, TN Lamivudine-Advanced 150 mg was procured in Kaliningrad Region for 1,589.4 rubles per pack, while in Belgorod Region it was procured for 93.7 rubles per pack. Tenofovir/emtricitabine was procured in Moscow for 12,338.7 rubles per pack (TN Truvada) and in Bashkortostan it was procured for 1,375.2 rubles (TN Dokvir).

PROCUREMENT FOR INSTITUTIONS OF THE FEDERAL PENITENTIARY SERVICE (IFPS OF RUSSIA)

The reference of the Federal Scientific and Methodological Center for the Prevention and Control of AIDS states that 58,105 people in FPS institutions were receiving antiretroviral therapy as of the end of 2021.

According to the analysis, the procurement budget for ARV drugs for the Federal Penitentiary System in 2022 was 1.8 bln. rubles, which was 30% more than the budget for 2021. With budget growth, the total number of courses decreased by 13% (28,612 annual courses in 2022, 32,773 annual courses in 2021). This was the most significant drop in volume since 2019. According to official figures and government procurement data, **less than half of all HIV patients in Federal Penitentiary Institutions are provided with therapy for the year.**



For 2022, data from 2021 were used, assuming that the number of PLHIV in prisons in 2022 was at least the same as in 2021[23].

Figure 30. Number of annual courses for patients with HIV in IFPS, 2018-2022.

The procurement structure of FPS differs from the national procurement structure, where dolutegravir is the leading drug. Efavirenz holds the first place in terms of procurement volume in FPS institutions, while its procurement volumes fell by more than 2.5 times compared to 2021. Lopinavir/ritonavir is in the second place with 5,083 annual courses. Lopinavir/ritonavir also declined, by almost 1,500 courses. Dolutegravir is only the third, its procurement volume in 2021, on the contrary, increased (by 11%), but it did not reach the 2020 levels. Therefore, the decrease in efavirenz procurement is not practically compensated by procurement of other drugs, and the total volume of annual courses procured is insufficient to provide treatment to all people with HIV in FPS institutions (according to official data).

[23] The 2021 schedule did not include lopinavir/ritonavir procured at the end of 2021 using 2022 budget. For 2022, an additional agreement for bictegravir/tenofovir/emtricitabine entered into in 2023 to the 2022 contract, with delivery in 2023, was not considered.

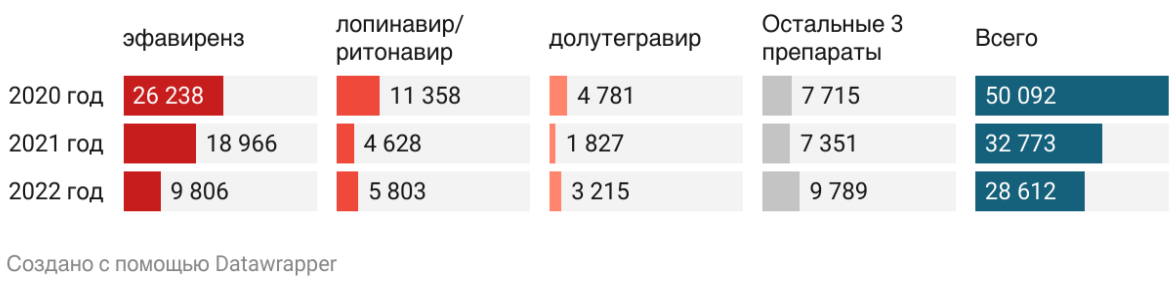


Figure 31. Number of courses of third drugs in FPS, 2020–2022.

The 30% increase in the budget is due to the supply of TN Biktarvy to several FPS institutions. The volumes of this drug were a record for FPS, both at the level of nationwide supplies in 2022 and in all years of procurement.

The main volume in the amount of 1,381 annual courses totaling 264.3 mln. rubles was sent to the Kabardino-Balkar Republic, for which a separate auction was held at the end of 2022. In February 2023, an additional agreement was concluded, according to which an additional 1,238 annual courses will be supplied to Rostov-on-Don. Thus, in total, FPS institutions of the two regions of the Russian Federation alone received 2,862 annual courses, which is 34% of the total amount of Biktarvy procured by the Ministry of Healthcare in 2022 and 2023.

Figure 32 shows data for the 15 constituent entities of the Russian Federation, which, according to statistics, have the most PLHIV held in FPS institutions.

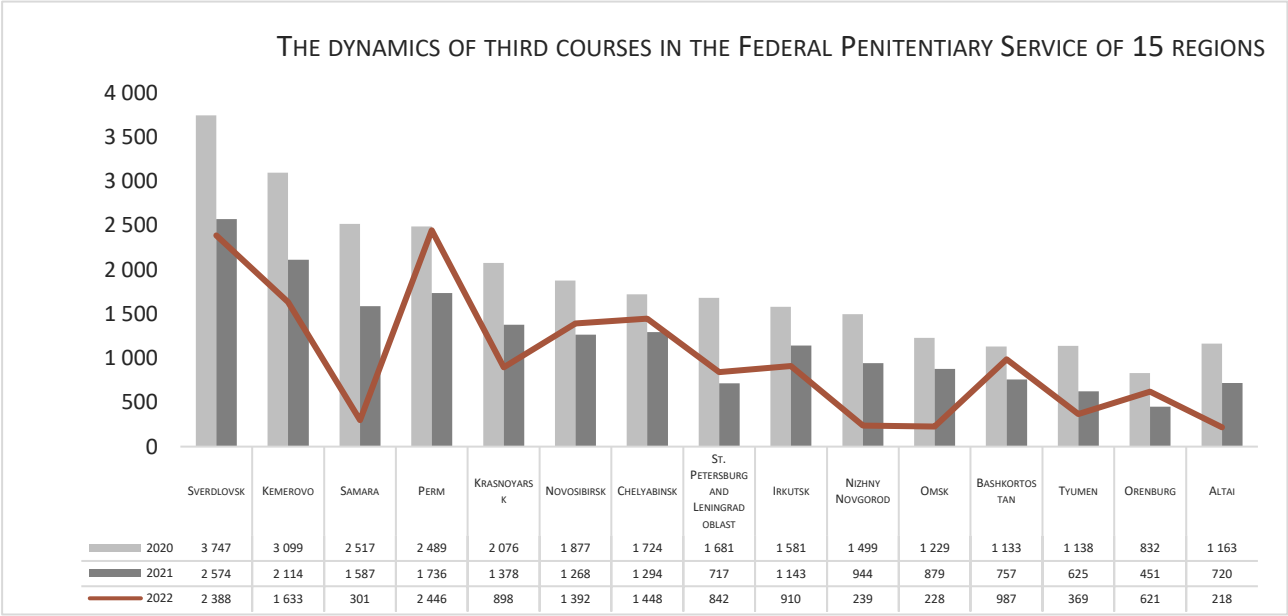


Figure 32. The dynamics of the total volume of third drug courses in 15 constituent entities of the Russian Federation, 2020–2022.

Three-year dynamics shows that, for example, in the Samara region the decrease in course volumes reached 81% by 2021, in the Nizhny Novgorod region it reached 75%, in the Omsk region it reached 74%, and in the Altai region it reached 70%. Only the Orenburg Region (+38%) and Perm Krai (+41%) saw a significant increase in volumes, however, the 2020 figures were still not achieved.

COMPETITION IN BIDDING AND WINNERS OF AUCTIONS

Federal level

The year 2022 saw the next round of import substitution. This partially affected competition in procurement of ARV drugs. An increase in the number of generics logically increases competition in bidding. 66% auctions of the Ministry of Healthcare of the Russian Federation were held without competition (i.e., only one bid was submitted), and the contract was concluded at the initial highest price. In 2021, this share was 89%. The increase in competition occurred predominantly in the second half of the year auctions for the 2023 budget when the number of bidders increased. For example, in an auction for efavirenz, the price bid was received from six bidders. At the same time, 82% of the budget was spent under contracts concluded without competition (31.55 bln. rubles).

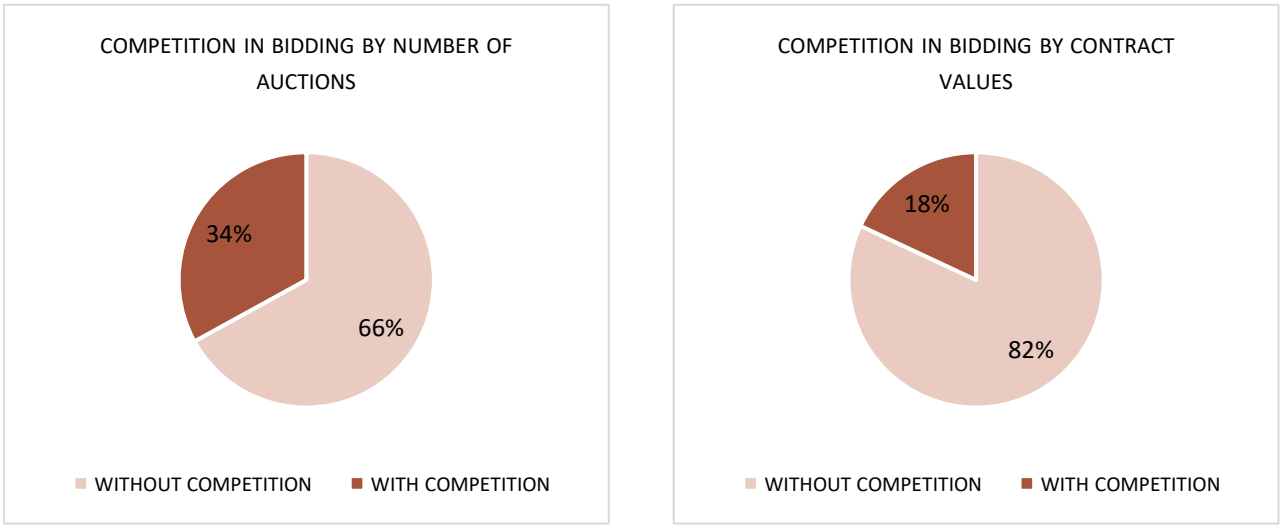


Figure 33. Competition in the Ministry of Healthcare bidding in 2022.

However, almost a quarter (21%) of all announced auctions for ARV drugs failed due to lack of bids from suppliers. They were later re-announced and were held, but the delivery dates were accordingly pushed forward.

In 2022, the Ministry of Healthcare of the Russian Federation signed 102 contracts for the supply of ARV drugs with 9 distributors. However, four of them shared 99% of the entire budget.

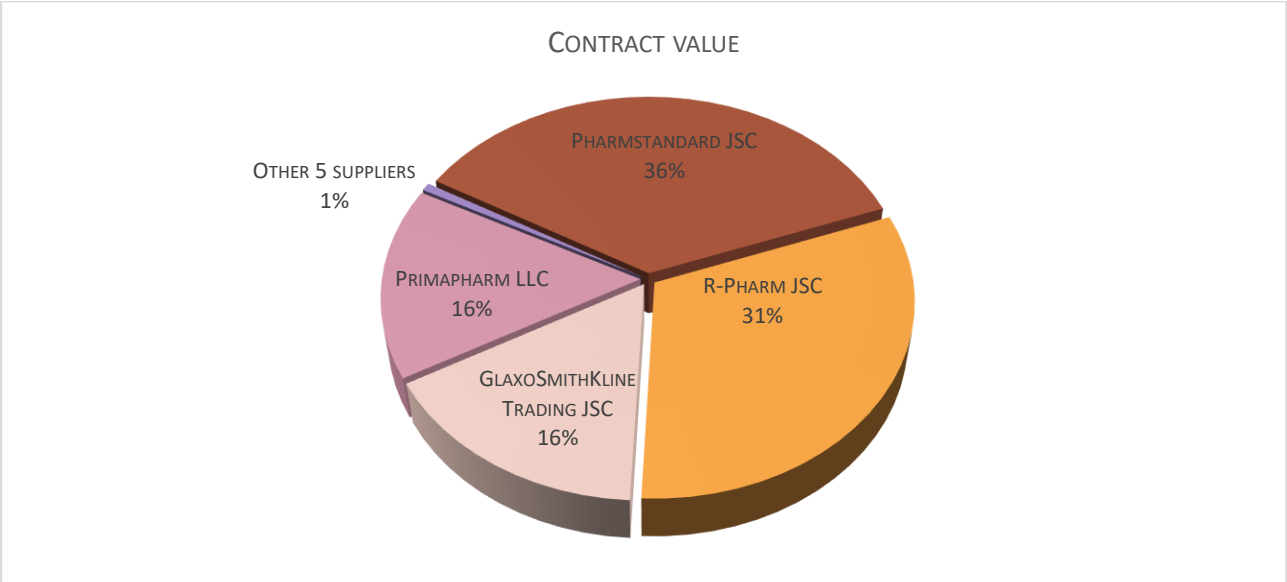


Figure 34. The share distribution of the four winners in the total amount of contracts in 2022 of MoH RF.

Pharmstandard JSC became the leader in 2022 in the value of contracts concluded, having replaced the previous year's leader R-Pharm.

Table 23. List of suppliers by the value of all contracts in procurement by the Ministry of Healthcare of the Russian Federation in 2022

Winner	Number of auctions	Share	Value of contracts	Distribution by contract value
Pharmstandard JSC	21	21%	13,906,950,716.97	36%
R-Pharm JSC	33	32%	12,114,280,042.01	31%
GlaxoSmithKline Trading JSC	4	4%	6,234,205,131.66	16%
Primapharm LLC	27	26%	6,082,280,042.45	16%
Cosmopharm LLC	7	7%	130,399,901.50	0.3%
Good Distribution Partners LLC	2	2%	96,075,721.80	0.3%
CV Protek JSC	5	5%	13,720,378.20	0.04%
Virend International LLC	1	1%	8,982,664.00	0.02%
Medintorg SPb LLC	2	2%	1,424,629.80	0.004%
Total	**102**	**100%**	**38,588,319,228.39**	**100%**

Regional level

In the auctions held in the constituent entities of the Russian Federation, 70% of auctions took place with just one bidder or as a procurement from a single supplier. Competition was observed in 24% of auctions, but it resulted in little or no price reduction. At the same time, 90% of the funds (3.41 bln. rubles) were spent in the course of auctions without competition. In general, the picture of procurement in the constituent entities of the Russian Federation is similar to centralized procurement in terms of competition.

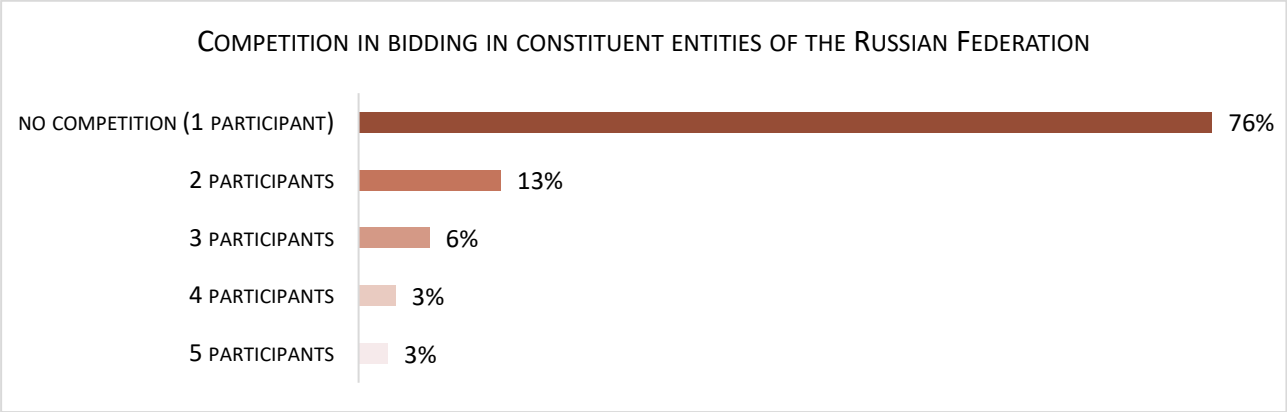


Figure 35. Number of auctions with the number of participants in constituent entities of the Russian Federation in 2022.

This trend has been going on for many years, despite the development of domestic pharmaceutical production.

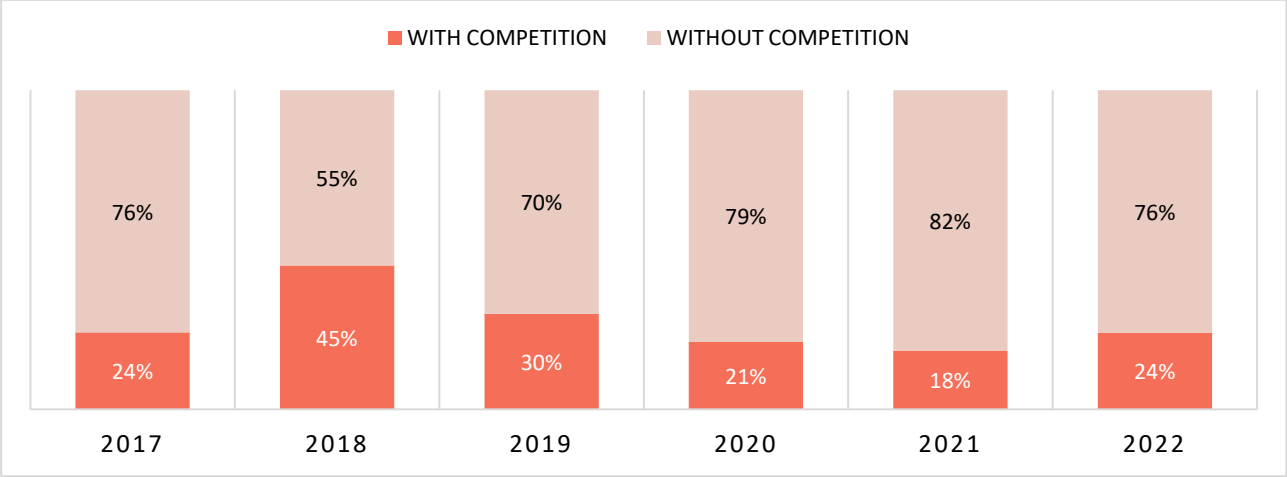


Figure 36. Bidding competition in regional procurements in 2017–2021.

Pharmstandard became the undisputed leader among suppliers to Russian regions with the amount of 1.8 bln. rubles, taking almost 50% of the ARV market (increasing its share in the total amount by 10%). This is due to the fact that Pharmstandard JSC supplies expensive combination drugs rilpivirine/tenofovir/emtricitabine, cobicistat/tenofovir alafenamide/elvitegravir/emtricitabine, bictegravir/tenofovir alafenamide/emtricitabine, as well as elsulfavirine. R-Pharm JSC is in the second place with the amount of 657,875,222.37 rubles and 17% of the total amount. Other suppliers (about a hundred of them in total) limited themselves to contracts ranging from 10,000 to 133 mln rubles.

DISRUPTIONS IN DRUG SUPPLY AND ACTIONS DURING MONITORING

The information used in this section is obtained from reports submitted to the website Pereboi.ru[24] and from activists of the Patient Control[25] movement.

From 01.01.2022 to 31.12.2022, 502 reports from Russian citizens were received, 318 of them were about disruptions in the supply of ARV drugs and diagnostic equipment from 53 regions of Russia, 15 institutions of the Federal Penitentiary Service and 2 institutions of the Federal Medical and Biological Agency.

Reports (184) not related to the topic of disruptions in HIV treatment of Russian citizens, including problems with anti-tuberculosis drugs and therapy for viral hepatitis, were excluded from the analysis.

In addition, in 2022, there was a large number of reports from foreign citizens living in the Russian Federation who needed to be provided with ARV drugs.

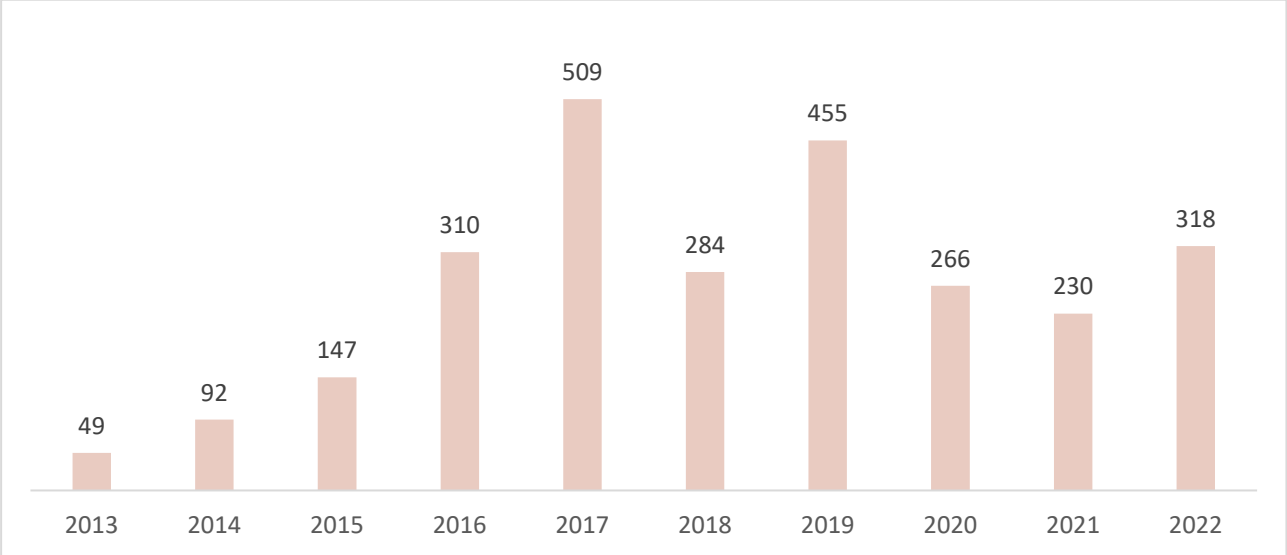


Figure 37. The number of reports to the website pereboi.ru for the period from 2013 to 2022.

Reports were coming in throughout the year. The maximum number of reports related to drug shortages occurred from mid-February through April. It is important to take into account that even a single report from a region can often point to a shortage of a particular ARV drug in the constituent entity of the Russian Federation. The second wave of disruptions in the fall, which we have seen over the past two years, was avoided mainly due to early supplies of ARV drugs using 2023 funds. For the third year we have seen a situation when the ARV drugs are out of stock long before the start of scheduled supplies. Despite the fact that according to the Ministry of Healthcare of the Russian Federation centralized procurement of ARV drugs is based on 15 calendar months, the stock of drugs is insufficient to provide patients even until the end of the year. Reports related to diagnostic deficiencies (viral load, immune status) also came in waves, with a peak in the period from May to July.

[24] The website www.pereboi.ru was created to monitor the situation with the provision of drugs for socially significant diseases.

[25] The movement uniting people affected by HIV/AIDS and other socially significant diseases.

The reduction in the volume of courses procured in 2022 caused shortages in early 2023. 86 ARV supply disruptions were reported in the first quarter of 2023.

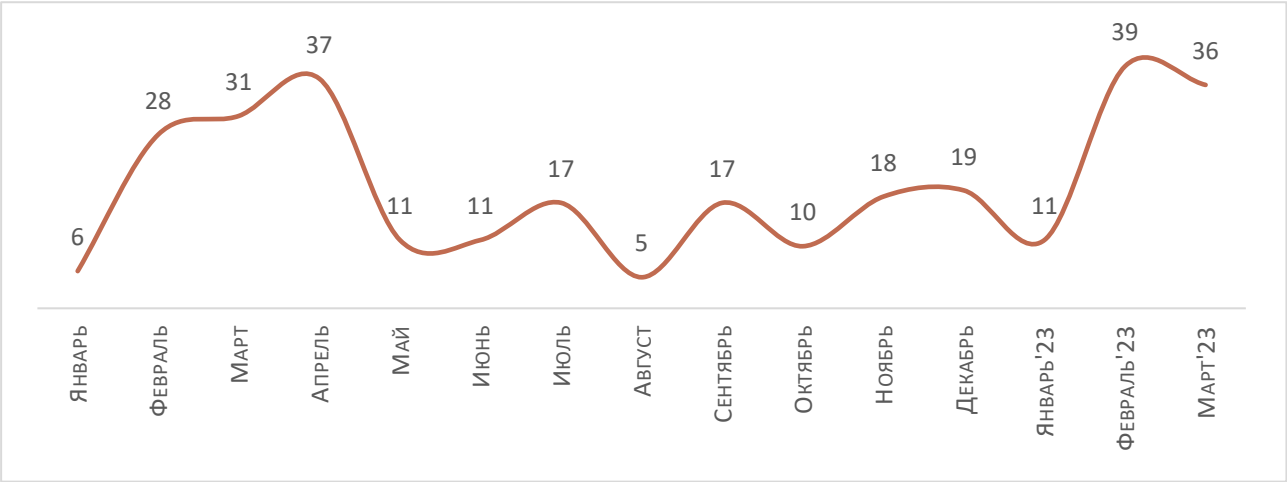


Figure 38. Number of reported ARVT disruptions by month in 2022 and early 2023.

In 2022, the maximum number of reports on problems with ARV drugs came from Kemerovo, Leningrad, Orenburg, Sverdlovsk regions, Moscow and FPS institutions located in different regions of the Russian Federation.

In 2022, the situation of 2019 repeated, when Moscow and FPS institutions became the leaders in the number of reported ARV drugs disruptions. The Sverdlovsk region is on the list of leaders for the third year.

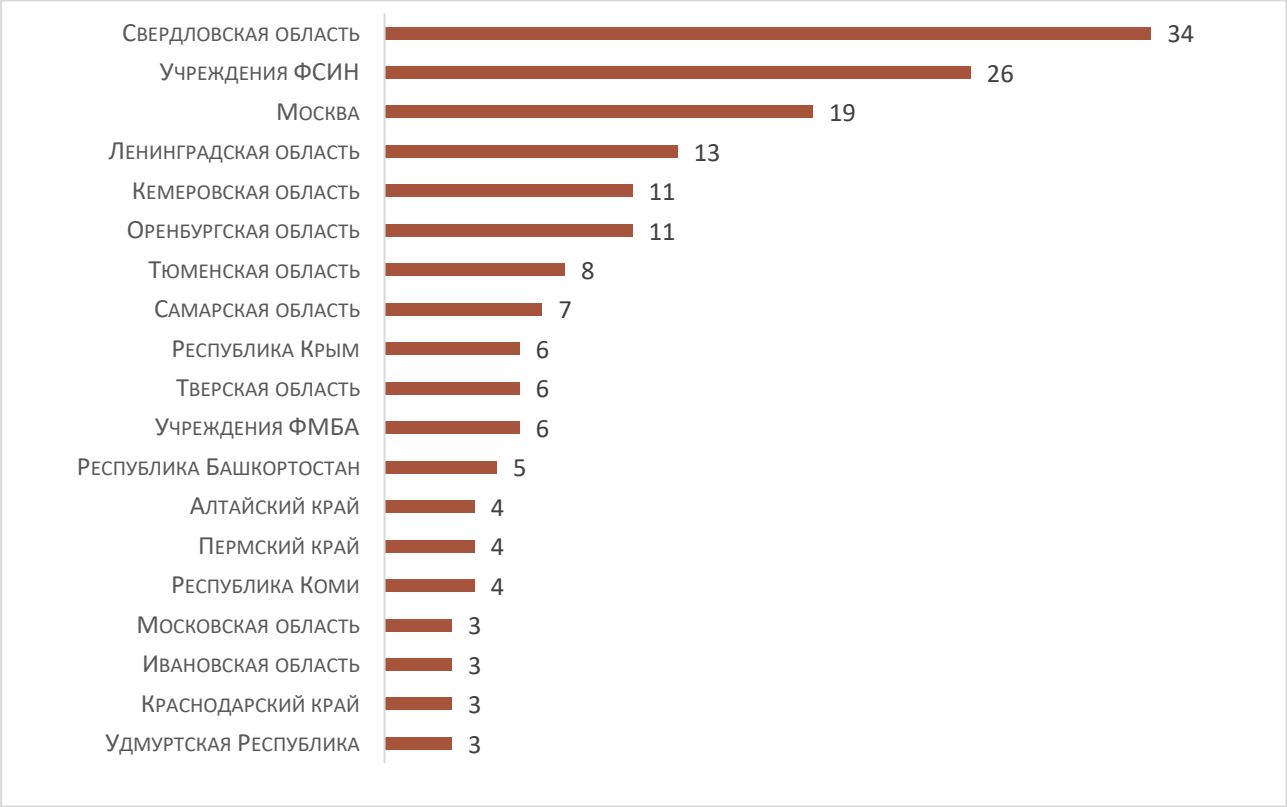


Figure 39. Reports of ARVT drugs disruptions by region in 2022.

There were also 1–2 reports from patients from the following regions: Belgorod, Vladimir, Voronezh, Irkutsk, Kaliningrad, Kaluga, Kursk, Murmansk, Nizhny Novgorod, Omsk, Oryol, Rostov, Ryazan, Saratov, Tula, Ulyanovsk, Chelyabinsk, Yaroslavl regions, Chechen Republic, St. Petersburg, Sevastopol, Zabaikalsky Krai, Kamchatsky Krai, Primorsky Krai, Mari El Republic.

Based on the problems described by patients, the reports received in 2022 are categorized into five groups. As in previous years, most of the reports are related to drug shortages. In 28% of cases, the reports were related to the change of treatment regimen without medical indications due to the unavailability of the required drugs. 17% of the reports were about denied dispensing of drugs.

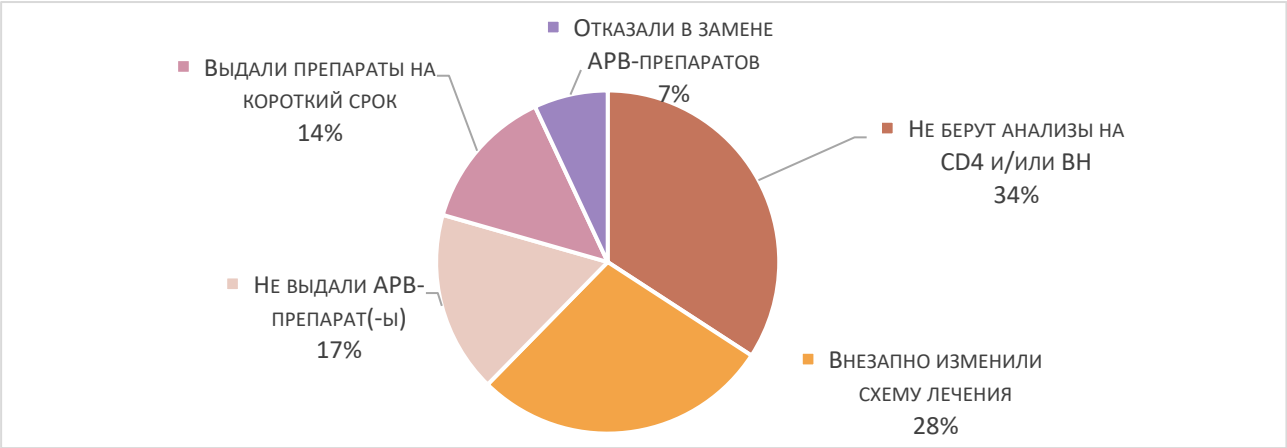


Figure 40. Problems described in the reports in 2022.

A large number of reports were related to denials of timely tests for immune status and viral load (108 reports were received from 28 regions and two institutions of FPS). The most significant part of such reports came from the Chelyabinsk and Ulyanovsk regions and St. Petersburg. According to the data received from patients, in most cases the reason for the reduced number of examinations was a shortage of testing systems due to the sanctions imposed on the Russian Federation.

In the second place are complaints about substitution of drugs without medical indications (89 reports), which traditionally lead every year. Most complaints related to replacement regimens were related to poor tolerance or intolerance of ARV drugs given in replacement of missing ones.

55 cases were related to refusals to provide ARV drug(s). Patients reported not receiving the entire treatment regimen or receiving an incomplete regimen, and there were also cases of refusals to prescribe therapy.

Patients more often than in previous years (22 cases) reported refusals to change therapy despite the pronounced side effects observed on the current regimen.

Most of the reports about shortages of the following ARV drugs were received in 2022:

- **dolutegravir** (50 reports from 23 regions, 2 FMBA institutions, and 6 FPS institutions);
- **rilpivirine/tenofovir/emtricitabine** (37 reports from 12 regions);
- **ritonavir** (20 reports from 3 regions);
- **tenofovir** (20 reports from 8 regions and 1 FPS institution);
- **elsulfavirine** (13 out of 7 regions).

In the first quarter of 2023, there were 86 reports of ARV drug supply disruptions from 28 regions and 9 FPS institutions and 26 reports of diagnostic means shortages from 14 regions and 3 FPS institutions.

Most of the complaints were about the lack of **dolutegravir** (63 reports from 22 regions and 7 FPS institutions).

In 2022, the situation was particularly difficult in FPS institutions, where, according to reports, there was a shortage of most ARV drugs, and patients were offered only efavirenz.

The distribution of reports on the mentioned problems is comparable to 2022.

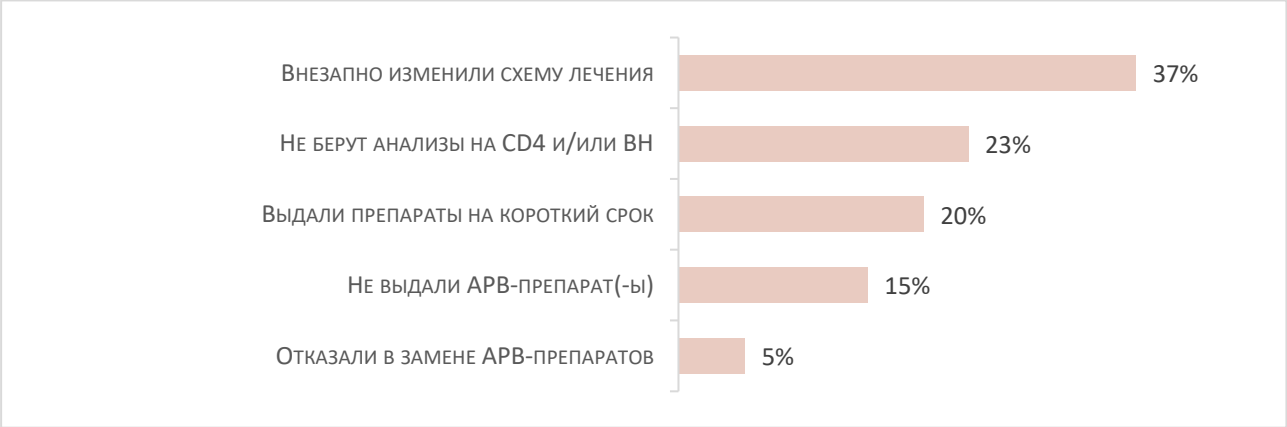


Figure 41. Problems described in the reports of the first quarter of 2023.

Treatment Preparedness Coalition together with activists of the Patient Control movement, with the help of Humanitarian Action Charity Foundation in St. Petersburg, and medical clinics ID-Clinic (St. Petersburg), H-Clinic (Moscow) organized gratuitous assistance in providing ARV drugs for citizens of Ukraine who arrived on the territory of the Russian Federation in an emergency mass order, or residing in Russia and unable to return to Ukraine to replenish ARV drugs.

From February 25 to December 31, 2022, 366 citizens of Ukraine, who were in 32 regions of the Russian Federation at the time of their appeal, applied for assistance. The largest number of appeals came from Moscow, Moscow Region, St. Petersburg and the Republic of Crimea.

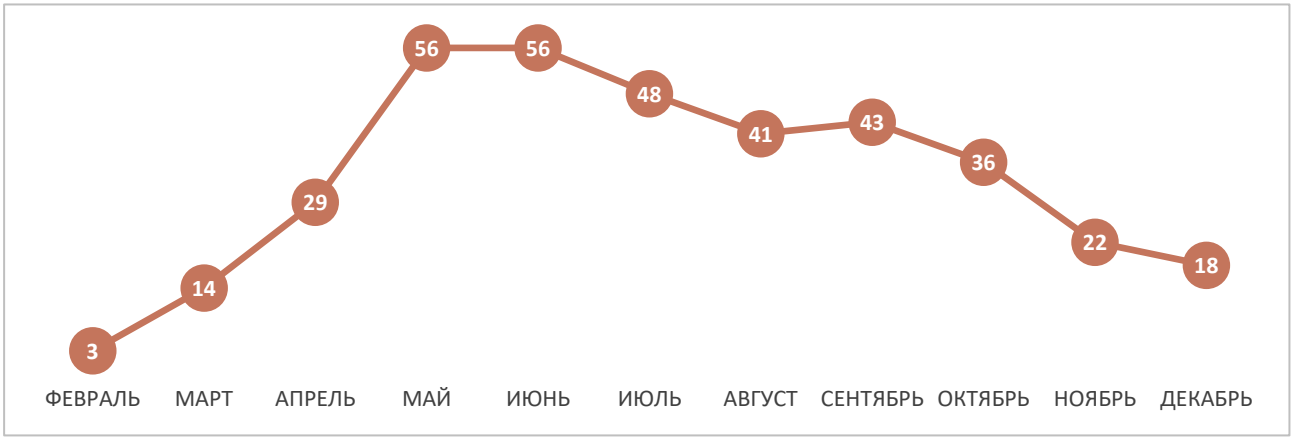


Figure 42. Number of requests for assistance with ARV therapy by month in 2022.

According to WHO guidelines, the main ARV regimen used in Ukraine is dolutegravir + tenofovir + lamivudine (emtricitabine). At the time of referrals, patients reported the following prescribed treatment regimens (third drugs are listed):

- dolutegravir – 77% of patients;
- efavirenz – 17%;
- lopinavir/ritonavir – 3%;

- other treatment regimens (new regimens prescribed in Russian healthcare institutions) elsulfavirine, darunavir, raltegravir – 3%.

Therapy as assistance was provided to internally displaced persons for the time required to prepare documents for registration at regional AIDS Centers. Many patients have had to seek help for several months: 29% of patients received one-month course of ARV drugs, 29% received 2-month courses, 16% received 3-month courses, 21% received 4-month courses, and 5% received 5-6 month courses of therapy.

During the year, there were cases of these patients being switched from dolutegravir to other drugs, particularly lopinavir/ritonavir and efavirenz, at the time of registration for HIV-care. The reports were received from the following regions: Voronezh region, Kaluga region, Leningrad region, Nizhny Novgorod region, Republic of Crimea. Patients reported poor drug tolerance or existing contraindications to ARV drugs given to replace dolutegravir.

APPENDIX 1: METHODOLOGY

The main steps of report preparation and writing:

Concept development

A study of the regulatory and legal framework in the field of procurement in the Russian Federation was conducted, and its implementation in the practice of ARV procurement was analyzed. A comparative and substantive analysis of the laws and bylaws was carried out.

Key quantitative and qualitative markers for further study and conclusions and recommendations were identified.

Information search and collection

The objects of the study and further analysis were the data on procurement carried out under Federal Law No. 44-ФЗ dated April 5, 2013 'On the contract system in the sphere of procurement of goods, works, services for state and municipal needs' and Federal Law No. 223-ФЗ dated 18.07.2011 'On procurement of goods, works, services by certain types of legal entities'.

Primary information was collected in real time by identifying all auctions for antiretroviral drugs during the study period and monitoring auction documentation posted on the open (public) section of the website of the Unified Information System for Procurement (www.zakupki.gov.ru).

The following search queries were used to search and identify the required auctions in the procurement registry:

- Supply of a drug product as part of the implementation of the Decree of the Government of the Russian Federation No. 1512 dated 28.12.2016;
- International nonproprietary names (INNs) of drugs for HIV infection according to the registry at grls.rosminzdrav.ru;
- Taxpayer Identification Numbers (TINs) and other details of AIDS centers and infectious diseases hospitals providing HIV treatment services in constituent entities of the Russian Federation, as well as regional healthcare departments and other procurement authorities;
- The words 'antiretroviral drugs', 'HIV', 'AIDS', 'HIV infection', 'medicines' and their forms.

The main focus of the analysis is on auctions with concluded contracts at the stages of 'execution completed' and 'execution'.

During data collection and analysis, auctions as of December 31, 2022, for the 'contract execution' and 'contract executed' steps of the procurement for the period from December 1, 2020 till December 31, 2022 were considered.

In 2022, the main volume of ARV drugs was procured by the Ministry of Healthcare of the Russian Federation, some drugs were procured by the constituent entities of the Russian Federation. Therefore, the analysis in some sections includes data for regions and for the Ministry of Healthcare of the Russian Federation separately.

Procurements of four federal state institutions (FSIs) founded by the Russian Federation and which may be subordinate to various ministries and services, were also analyzed:

- FBIS Central Research Institute of Epidemiology of Rospotrebnadzor (Federal Service for Supervision of Consumer Protection and Welfare).
- FGHI Republican Clinical Infectious Diseases Hospital of the Ministry of Healthcare of the Russian Federation;

- FSBI National Medical Research Center of Phthisiopulmonology and Infectious Diseases of the Ministry of Healthcare of the Russian Federation;
- FSBI of Higher Education Siberian State Medical University of the Ministry of Healthcare of the Russian Federation.

The study did not include auctions for procurement of ARV drugs for emergency prophylaxis of HIV infection for medical personnel in an emergency situation, procured by non-core institutions. Procurements that are conducted on electronic platforms or in electronic sites without publishing full data in the Unified Information System may also have been excluded from the analysis. Auctions held in constituent entities of the Russian Federation for the procurement of drugs for hepatitis B and C (tenofovir and ritonavir) were not taken into account.

In each of the auctions, the main objects of study were auction documents published on the website in Word, Excel, PDF, etc. formats.

The following were analyzed: methods of justification of the guaranteed maximum price of contract (GMPC), protocols of consideration of bids for participation in auctions and results summarizing, information on terms, payments and procurement items, contracts, information on performance or termination of contract.

Further data processing

The authors identified key parameters for further study and analysis, for each parameter they structured the necessary qualitative and quantitative characteristics essential for the study, as well as for further generalization and analysis.

The data for the Ministry of Healthcare of the Russian Federation, for each constituent entity of the Russian Federation, and FSIs were converted into separate tables. All information obtained was grouped and integrated into a single data set, which was edited, verified and unified for further formalized processing and analysis.

QlikView business analytics system was used for statistical analysis. The methods included data modification, descriptive statistics, object classification and identification, frequency analysis, and graphical representations of statistical information. After processing, the data set was uploaded in the form of tables in Microsoft Office Excel software.

The following attributes obtained from the statistical analysis were used to analyze and assess the identified values and the parameters considered:

- determining absolute, average and percentage (share), minimum and maximum values of the studied parameters;
- comparing values of the studied parameters, average values and deviations in the current period;
- calculating amounts for various items;
- comparative values of the studied parameters with the previous periods;
- systematization of the identified qualitative attributes.

Final analytical report preparation

The following data on procurement by the Ministry of Healthcare of the Russian Federation and regional procurement were used for the report:

- amount of funds for procurement of ARV drugs;
- minimum and maximum price of the drugs;
- weighted average cost of drugs;
- share of drugs (based on annual courses and funds spent) in the total volume of procurement by international nonproprietary names (INNs) and trade names (TNs);

- shares by types of drugs of the Ministry of Healthcare of the Russian Federation and in procurement by constituent entities of the Russian Federation (in terms of money and volumes);
- share of drugs included/not included in the VED list;
- auction announcement deadlines;
- percentage of failed and canceled auctions from the total number of auctions included in the sample;
- distributors winning auctions in the constituent entities of the Russian Federation and auctions of the Ministry of Healthcare of the Russian Federation;
- presence of bidding competition;
- share of reproduced/original drugs in procurement;
- number of annual courses of drugs in different drug groups;
- drugs manufacturers and country of origin;
- number of patients who could potentially be provided with ARV therapy.

The weighted average cost of drugs was calculated separately for procurement by the Ministry of Healthcare of the Russian Federation and constituent entities of the Russian Federation and FSIs. If the drug was not procured by the Ministry of Healthcare of the Russian Federation, the data on the procurement using regional and other budgets were used.

When comparing the minimum and maximum prices, the data on procurement in the constituent entities of the Russian Federation were used, while the drugs for which a single procurement was conducted were not taken into account.

Based on ARV procurement data for 2022, the authors of this report made rough estimates on the number of patients who could receive the therapy.

According to international and Russian recommendations, antiretroviral therapy regimens should usually consist of three drugs, i.e., two drugs from the nucleoside/nucleotide reverse transcriptase inhibitor (NRTI) class and one third drug from the following classes: non-nucleoside reverse transcriptase inhibitors (NNRTIs), protease inhibitors (PIs), integrase inhibitors (INIs), CCR5 inhibitors. Ritonavir is considered separately as a booster for drugs in the PI class. Among the two drugs in the NRTI class, the regimen should include lamivudine or emtricitabine. These rules may not apply to regimens that are selected on a case-by-case basis.

All ARV drugs were conventionally divided into three groups:

- base drugs – NRTIs;
- third drugs – NNRTIs, PIs, INIs, CCR5 inhibitors;
- other drugs - combination drugs (single-pill regimen).

Ritonavir, which is only used as a booster in combination with protease inhibitors, was considered separately in the analysis.

The number of NRTI courses was calculated based on the so-called 'optimistic scenario', i.e. by adding half of the simple sum of all annual courses of simple NRTIs plus the sum of all doses of combination drugs with two NRTIs, without taking into account allowed combinations of drugs and bi-therapies.

The drugs constituting the third component of ARV therapy (PIs, NNRTIs, INIs, etc.) were summarized (taking into account the need for ritonavir boosting) based on daily doses as recommended. The sum of drugs in this group was compared with the sum of NRTIs to verify the data.

Drugs representing a complete treatment regimen were added to the sum of the third drugs based on daily dosages as recommended, see 'Documents governing treatment standards' section.

The cost of the annual course of treatment was calculated according to the prices of contracts of the Ministry of Healthcare of the Russian Federation. The value in US dollars was calculated based on the average annual exchange rate[26] in 2022.

The regimens list is based on the 2020 clinical recommendations for the treatment of HIV infection in adults of the Ministry of Healthcare of the Russian Federation, as well as on the actually procured courses of drugs.

Emtricitabine is an alternative to lamivudine in the recommended regimens, but due to the low volume of emtricitabine in procurement, it can be said that lamivudine is more likely to be included in the regimen.

For ease of comprehension in a number of tables and in the text, the numbers were rounded to the nearest hundred.

The calculation was done per patient per calendar year (365 days) without taking into account the situation in which patients start treatment and interrupt it for some reason, as well as without taking into account possible carryover balances in treatment facilities that may have been formed for various reasons in previous periods.

The number of annual courses of drugs in the form of syrups, solutions, powders and suspensions was not calculated, as the recommended daily dosage depends on the body weight and age of the child and is determined individually. Pediatric forms can also be used to prevent perinatal mother-to-child transmission of HIV infection.

It should also be noted that supplies under procurements of the Ministry of Healthcare 'up to the whole package' were not taken into account. In contracts the quantity of drugs is specified in pieces and is not a multiple of the number of pieces in the factory packaging, therefore the supplier delivers to each address a slightly higher quantity than specified in the contract, each time bringing a non-fold number of tablets to 1 whole package; therefore, the actual procurement price under the contract may be slightly lower.

All prices and comparisons are presented in the national currency of the Russian Federation, .i.e., the Russian ruble (RUR). For information on the value in dollars, an annual average exchange rate of 68.4869 rubles per 1 US dollar was used.

Quotations and excerpts from official documents are given in their original form.

Comparable data from the Treatment Preparedness Coalition reports from 2015 through 2021 were used to compare and evaluate the findings (current versions of the publications are available at https://itpc-eeca.org/monitoring/).

[26] Average annual rate for 2022 https://www.kursvaliut.ru

APPENDIX 2: STATE GUARANTEES ON PROVISION OF TREATMENT FOR HIV INFECTION AND DOCUMENTS REGULATING HIV TREATMENT IN RUSSIA

Currently, the main treatment component for patients with HIV infection is ARV therapy, which can be used to achieve a controlled course of the disease. Early initiation of therapy not only improves clinical prognosis but also reduces the prevalence of HIV infection in the population[27].

ARV therapy targets are:

- increasing the duration and preserving (improving) the quality of life of patients;
- reduction of the patient's infectiousness, resulting in a significantly reduced risk of horizontal and vertical transmission of HIV infection;
- reduction of financial costs associated with the treatment of secondary diseases, patient's incapacity for work.

In Russia, antiretroviral drugs should be provided to citizens diagnosed with HIV infection (adults, children, pregnant women and children born to them) who need treatment and are on HIV-care. ARV therapy should be prescribed as early as possible and is given for a lifetime.

HIV-positive citizens of Ukraine who have been granted temporary asylum in the Russian Federation[28] and citizens of the Republic of Belarus temporarily staying and temporarily residing in the Russian Federation[29] are also provided with ARV drugs. In 2022, a number of legislative acts regulating assistance to internally displaced persons arriving from the territory of Ukraine were adopted.

The main laws guaranteeing **free treatment of HIV infection in the Russian Federation** are:

Constitution of the Russian Federation, Article 41, paragraph 1. Everyone has the right to health care and medical assistance. Medical assistance in state and municipal healthcare institutions shall be rendered to citizens free of charge at the expense of the respective budget, insurance premiums and other revenues.

Article 4 of the Federal Law dated 30.03.1995 No. 38-ФЗ (revision dated 23.05.2016) 'On preventing the spread in the Russian Federation of the disease caused by the human immunodeficiency virus (HIV infection)': the state guarantees, among other things, the availability of medical examination for the detection of HIV infection and free provision of drug products for human use for the treatment of HIV infection.

The Decree of the Government of the Russian Federation of December 28, 2021, No. 2505 'On the program of state guarantees of free medical care for citizens for 2022 and for the planned period of 2023 and 2024' states the following: 'Financial support for the procurement of antiviral drug products for human use included in the VED list for the treatment of persons infected with the human immunodeficiency virus, including in combination with hepatitis B and C viruses, shall be carried out using the allocations from the federal budget'.

Decree of the Government of the Russian Federation dated April 8, 2017. No. 426 'On approval of the rules for maintaining the Federal Register of persons infected with human immunodeficiency virus and the Federal Register of persons with tuberculosis'.

[27]from the Clinical Guidelines 'HIV infection in adults. 2020'.

In addition to federal guarantees, the constituent entities of the Russian Federation adopt various additional legislative acts to provide HIV-positive citizens with drugs.

ARV drugs are procured through state procurement and then distributed to the constituent entities of the Russian Federation. Centralized procurement for the whole country is carried out by the Ministry of Healthcare of the Russian Federation. Since 2021, the functions of centralized procurement of a number of medicines, including ARV drugs, have been entrusted to a specially created organization, i.e., the FGHI Federal Center for Planning and Organization of Drug Provision to Citizens of the Ministry of Healthcare of Russia. In the constituent entities of the Russian Federation, drugs are procured by authorized customers (ministries of health of the constituent entity of the Russian Federation, AIDS Centers, procurement agencies, etc.).

Drugs for the HIV infection are dispensed to patients in AIDS Centers, specialized medical institutions or in pharmacy organizations based on a prescription issued by an infectious disease doctor. When the drugs are dispensed, they are registered in the dispensing log, specifying patients' personal data, names of the drugs dispensed, dosages, number of packs and date of dispensing. The drugs can be dispensed for varying lengths of time, most commonly for three months; during the COVID-19 pandemic, the drugs could be dispensed for up to 6 months in some regions. Dispensing is documented and authenticated by the signatures of the healthcare provider and the patient.

In 2021, HIV infection was treated in accordance with the following documents:

Standards of medical care for HIV infection, November 2018: Orders of the Ministry of Healthcare of Russia dated 20.11.2018, No. c 796n, No. c 797n, No. c 798n, No. c 799n, No. 800n, No. 801n, No. 802n 'On approval of the standard of primary medical and sanitary care for disease caused by human immunodeficiency virus (HIV infection)'.

On April 13, 2021, a draft order of the Russian Ministry of Healthcare 'On approval of the standard of medical care for HIV infection (diagnosis, treatment and dispensary monitoring)' was published, but the draft was not approved in 2021.

Recommendations, December 2020: Clinical guidelines 'HIV infection in adults', 2020[30].

The updated guidelines provide[31] general principles for selecting antiretroviral drugs and ARV therapy regimens.

First-line regimens refer to regimens administered to patients who have not previously received ARV therapy. A first-line ARV therapy regimen includes 2 NRTIs (nucleoside-based) and a third drug, which may be an NNRTI, an INI, or a PI combined with ritonavir. A distinction is made between preferred, alternative, and ad hoc ARV therapy regimens.

Second-line and subsequent regimens refer to ARV therapy regimens used in case of ineffectiveness of the previous therapy regimens.

Preferred regimens are optimal according to a combination of parameters: efficacy, safety (lowest probability of life-threatening side effects), tolerability (incidence of side effects), convenience of administration, cost-effectiveness, including for certain groups of patients.

Alternative regimens are inferior to the preferred ones in some parameter or are less well studied.

In certain special cases, regimens with less studied efficacy or more adverse events compared to preferred or alternative regimens, or with significantly higher costs, are used.

Reserve (rescue) regimens are non-standard regimens that are used when second-line and subsequent regimens are ineffective.

[30] Clinical guidelines 'HIV infection in adults', 2020

When choosing a treatment regimen for a particular patient from a 'public health' perspective, it is advisable to first consider prescribing preferred regimens.

First-line APV therapy regimens for adults by ARV drug preference

Preferred regimens:

- efavirenz + lamivudine (or emtricitabine) + tenofovir.
- dolutegravir + lamivudine (or emtricitabine) + tenofovir.
- elsulfavirine + lamivudine (or emtricitabine) + tenofovir.

Alternative regimens:

- dolutegravir + lamivudine + abacavir.
- efavirenz 400 mg + lamivudine + tenofovir.

Special cases:

NRTIs (phosphazide, abacavir, lamivudine, tenofovir, emtricitabine) and atazanavir, darunavir (boosted with ritonavir), rilpivirine, etravirine, raltegravir; cobicistat/tenofovir alafenamide/elvitegravir/emtricitabine; bictegravir/emtricitabine/tenofovir alafenamide, doravirine.

Second-line regimen

Preferred (depending on the drugs the patient had in the first line):

NRTIs (zidovudine, abacavir, lamivudine, tenofovir, emtricitabine) + dolutegravir; raltegravir; atazanavir/ritonavir; darunavir/ritonavir.

Alternative regimens: Doravirine, etravirine; fosamprenavir/ritonavir, saquinavir/ritonavir, cobicistat/tenofovir alafenamide/elvitegravir/emtricitabine; bictegravir/emtricitabine/tenofovir alafenamide, doravirine.

An important observation about efavirenz was added: 'It is not recommended to prescribe efavirenz at a dose of 400 mg or 600 mg in regions with a high (greater than 10%) prevalence of primary drug resistance to NNRTIs to avoid ineffectiveness of current therapy.' In addition, when starting an ARV therapy regimen containing efavirenz, a resistance test should be recommended for all patients in regions with high resistance rates (>10%) to prevent primary ARV therapy ineffectiveness.

It is recommended that physicians responsible for the follow-up of HIV-infected patients use the less toxic and most convenient treatment regimens **in the form of fixed-dose combination therapies (FDCs)** when prescribing first-line ARV therapy (starter ARV therapy).

According to the clinical guidelines, a possible option for optimizing antiretroviral therapy (ARVT) is to simplify it by reducing the number of active drugs in the regimen (reduced ARVT regimens). ARVT can be administered as a bitherapy – PI/g + lamivudine, INI + lamivudine.

The following drug combinations are recommended as a reduced ARVT regimen: atazanavir/ritonavir + lamivudine, lopinavir/ritonavir + lamivudine, dolutegravir + lamivudine, darunavir/ritonavir + lamivudine.

APPENDIX 3. RESPONSE OF THE MINISTRY OF HEALTHCARE OF THE RUSSIAN FEDERATION ON PROCUREMENT OF ARV DRUGS IN 2022

ФЕДЕРАЛЬНОЕ КАЗЕННОЕ УЧРЕЖДЕНИЕ
«ФЕДЕРАЛЬНЫЙ ЦЕНТР ПЛАНИРОВАНИЯ И ОРГАНИЗАЦИИ ЛЕКАРСТВЕННОГО ОБЕСПЕЧЕНИЯ ГРАЖДАН»
МИНИСТЕРСТВА ЗДРАВООХРАНЕНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ
(ФКУ «ФЦПиЛО» Минздрава России)
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ОКПО 46520420 ОГРН 1207700453400
ИНН/КПП 9705150202/770501001

От 28 ФЕВ 2023 № 1-2/223

На № _____ от _____

Федеральное казенное учреждение «Федеральный центр планирования и организации лекарственного обеспечения граждан» Министерства здравоохранения Российской Федерации (далее – Федеральный центр) в ответ на Ваш запрос от 17.02.2023 № 05/2023 сообщает.

Централизованная закупка антиретровирусных лекарственных препаратов (далее – АРВП) в рамках постановления Правительства Российской Федерации от 28.12.2016 № 1512 «Об утверждении Положения об организации обеспечения лиц, инфицированных вирусом иммунодефицита человека, в том числе в сочетании с вирусами гепатитов В и С, антивирусными лекарственными препаратами для медицинского применения и Положения об организации обеспечения лиц, больных туберкулезом с множественной лекарственной устойчивостью возбудителя, антибактериальными и противотуберкулезными лекарственными препаратами для медицинского применения» осуществляется Федеральным центром в соответствии с Федеральным законом от 05.04.2013 № 44-ФЗ «О контрактной системе в сфере закупок товаров, работ, услуг для обеспечения государственных и муниципальных нужд» согласно утвержденной Минздравом России потребности (определяется в соответствии с данными федерального регистра лиц, инфицированных ВИЧ и на основании заявок, которые формируются исходя из персональной потребности в препаратах каждого больного в соответствии с назначенной схемой антиретровирусной терапии) и с учетом доведенных лимитов бюджетных ассигнований.

Согласно государственной стратегии противодействия распространению ВИЧ-инфекции в Российской Федерации на период до 2030 года, утвержденной распоряжением Правительства Российской Федерации от 21.12.2020 № 3468-р (далее – Стратегия), финансирование реализации Стратегии осуществляется за счет средств федерального бюджета и бюджетов субъектов Российской Федерации, а также за счет иных источников финансирования.

В апреле 2021 года Федеральным центром заключен 3-х летний государственный контракт от 16.04.2021 № 0873400003921000074-0001 на поставку лекарственного препарата Долутегравир, таблетки, покрытые пленочной оболочкой, 50 мг, в количестве 91 066 929 штук (3 035 565 упаковок) за 3 года.

В целях бесперебойного лекарственного обеспечения пациентов в рамках третьего этапа по государственному контракту от 16.04.2021 № 0873400003921000074-0001 были осуществлены опережающие поставки Долутегравира в адрес субъектов Российской Федерации, которые в рамках ежемесячного мониторинга остатков заявили о наличии потребности в досрочной поставке.

Вместе с тем в 2022 году Федеральным центром превентивно заключено 37 государственных контрактов на поставку АРВП за счет средств федерального бюджета на 2023 год.

В рамках распоряжения Правительства Российской Федерации от 24.10.2022 № 3143-р в октябре 2022 года Федеральным центром был закуплен лекарственный препарат Биктегравир + Тенофовир алафенамид + Эмтрицитабин, таблетки, покрытые пленочной оболочкой, 50 мг + 25 мг + 200 мг в количестве 504 009 штук для обеспечения только учреждений ФСИН России.

Также Федеральным центром подготовлено и заключено дополнительное соглашение от 03.02.2023 № ДС-1-0873400003922000398-0001 к государственному контракту от 08.07.2022 № 0873400003922000398-0001 на поставку лекарственного препарата Биктегравир + Тенофовир алафенамид + Эмтрицитабин, таблетки покрытые пленочной оболочкой, 50 мг + 25 мг + 200 мг с увеличением количества товара на 452 040 штук для поставки в Федеральное казенное учреждение здравоохранения «Медико-санитарную часть № 61 Федеральной службы исполнения наказаний» (Ростовская область, г. Ростов-на-Дону, ул. Тоннельная, д. 4 А).

Федеральным центром заключены дополнительные соглашения к государственным контрактам на поставку в 2023 году АРВП для лечения ВИЧ в сочетании с гепатитами В и С:

- Нарлапревир, таблетки, покрытые пленочной оболочкой, 100 мг;
- Дасабувир, таблетки, покрытые пленочной оболочкой, 250 мг; Омбитасвир + Паритапревир + Ритонавир, таблетки, покрытые пленочной оболочкой, 12,5 мг + 75 мг + 50 мг.

Кроме того, 27.02.2023 размещено извещение о проведении электронного аукциона на поставку АРВП для лечения хронического гепатита В и С в сочетании с ВИЧ-инфекцией Софосбувир, таблетки, покрытые пленочной оболочкой 400 мг.

В настоящее время Федеральный центр проводит заключительные процедуры торгов на допоставку потребности 2023 года в АРВП.

По данным ежемесячного мониторинга остатков в субъектах Российской Федерации по состоянию на 28.02.2023 заявки учреждений ФСИН России о дефектуре в системе Парус не размещались.

Также сообщаем, что при появлении дополнительной потребности в лекарственных препаратах в связи с изменением в субъекте Российской Федерации численности больных, включенных в региональный сегмент Федерального регистра, изменениями в назначениях медицинскими работниками лекарственных препаратов больным Федеральный центр согласовывает заявки о перераспределении лекарственных препаратов между субъектами Российской Федерации.

С уважением,

Директор Е.А. Максимкина

Головкина Н.С. 8 (495) 249 03 01 (1024)

APPENDIX 4. INFORMATION ON PATENTS FOR ARV DRUGS*

INN	Patent No.	Expiry date	Patent subject matter
Dolutegravir	EA 14162	16.07.2029	- a polycyclic carbamoylpyridone derivative with inhibitory activity against HIV integrase
	RU 2527451	08.12.2029	- dolutegravir synthesis method
	RU 2638923	29.11.2033	- dolutegravir crystal salt
Raltegravir	EA 12418	02.12.2025	- raltegravir potassium salt
	RU 2602865	21.10.2030	- solid pharmaceutical compositions containing integrase inhibitor
	RU 2382648	01.12.2025	- composition, method of production and treatment
Elvitegravir	EA 17861	06.03.2027	- method of preparation of 4-oxoquinoline compound
	EA 18544	29.12.2026	- treatment of retroviral infection
	RU 2275361	20.11.2028	- 4-oxoquinoline compound and its use as an HIV integrase inhibitor
	RU 2330845	19.05.2025	- stable crystal of 4-oxoquinoline compound
Bictegravir	EA 37633	19.12.2033	- polycyclic carbamoylpyridone compounds, their pharmaceutical compositions and ways of use
	EA 30003	19.12.2033	- polycyclic carbamoylpyridone compound and its pharmaceutical use for the treatment of HIV infection
	EA 34169	16.06.2035	- synthesis of polycyclic carbamoylpyridone compounds
	EA 30967	19.06.2035	- (2r,5s,13ar)-7.9-dioxo-10-((2,4,6-trifluorobenzyl)carbamoyl)-2,3,4,5,7,9,13,13a-octahydro-2,5-methanopyrido[1',2':4,5] pyrazino[2,1-b][1,3] oxazepine-8-sodium oleate
Atazanavir	RU 2385325	03.05.2025	- method of preparation of atazanavir sulfate
Cobicistat	EA 25845	06.07.2027	- modulators of pharmacokinetic properties of drugs
	EA 20489	06.07.2027	- modulators of pharmacokinetic properties of drugs
	EA 22950	01.05.2029	- use of silica carrier particles to improve the technological characteristics of a pharmaceutical agent
	EA 22739	01.04.2030	- method of preparation of cytochrome p450 monooxygenase inhibitor and intermediates used in this method
Cobicistat/emtricitabine/tenofovir/elvitegravir	EA 19893	22.02.2028	- pharmaceutical composition and method of HIV infection treatment
Darunavir	EA 7120	16.05.2023	- pseudopolymorphic forms of HIV protease inhibitor

INN	Patent No.	Expiry date	Patent subject matter
Ritonavir	EA 18544	29.12.2026	- use of ritonavir or its pharmaceutically acceptable salt for the manufacture of a drug product to improve the pharmacokinetics of HIV integrase inhibitor
Saquinavir	EA 15349	05.07.2024	- solid single oral pharmaceutical dosage form of saquinavir mesylate and method of its manufacture
Maraviroc	RU 2573902	29.04.2030	- antibodies against cxcr4 for HIV infection treatment
	RU 2745204	01.02.2037	- pharmaceutical compositions containing an antiretroviral drug and a pharmacokinetic enhancer
	RU 2727723	19.09.2037	- method for synthesizing a novel chiral ligand, metal chelate, various non-natural amino acids, maraviroc and its major intermediates
Phosphazide	RU 2331420	08.12.2025	- antiviral agent (variants) and treatment method based on it
	RU 2753518	24.12.2040	- composition with antiretroviral action, pharmaceutical composition and drug product
Tenofovir/emtricitabine	EA 15145	13.01.2024	- pharmaceutical composition and oral pharmaceutical dosage form (variants) having activity against HIV infections, a therapeutic kit and tablet, and a method of treatment or prevention of symptoms or effects of HIV infection
Rilpivirine/tenofovir/emtricitabine	EA 25852	18.11.2031	- therapeutic compositions containing rilpivirine hcl and tenofovir disoproxil fumarate
Tenofovir/emtricitabine/efavirenz	EA 17764	13.06.2031	- pharmaceutical composition, method of its preparation and method of treatment of viral diseases using it
Tenofovir alafenamide	EA 4926	20.07.2026	- pro-drug compounds of phosphonate analogs of nucleotides (variants), a method of their preparation, a screening method for their identification and a composition containing them, a method of antiviral therapy or prophylaxis
	EA 27086	03.10.2032	- methods of preparation of nucleotide analogs with antiviral effect
	EA 27768	09.07.2034	- tenofovir alafenamide hemi-fumarate
Rilpivirine/tenofovir alafenamide/emtricitabine	EA 14840	09.12.2028	- combinations of pyrimidine-containing NNRTI with reverse transcriptase inhibitors
Tenofovir alafenamide/emtricitabine/bictegravir	EA 30003	22.01.2035	- polycyclic carbamoylpyridone compound and its pharmaceutical use for the treatment of HIV infection
Doravirine	EA 24804	04.06.2034	- Non-nucleoside reverse transcriptase inhibitors, compositions containing them, and their use

INN	Patent No.	Expiry date	Patent subject matter
Doravirine/lamivudine/tenofovir	EA 24804	28.03.2031	- Non-nucleoside reverse transcriptase inhibitors, compositions containing them, and their use
	RU 2736941	29.11.2036	- pharmaceutical compositions containing doravirine, tenofovir disoproxil fumarate and lamivudine
Rilpivirine	EA 13686	02.07.2027	- 4-[[4-[[4-(2-cyanoethylenyl)-2,6-dimethylphenyl]amino]-2-pyrimidinyl]amino]benzonitrile hydrochloride
	EA 21700	22.06.2027	- pharmaceutical composition containing 4-[[4-[[4-(2-cyanoethylenyl)-2,6 dimethylphenyl]amino]-2 pyrimidinyl]amino]benzonitrile (TMS278) in the form of a micro- or nanoparticle suspension, a method its preparation, and its use for the long-term treatment or prevention of HIV infection
	EA 14914	19.01.2027	- long-term treatment of HIV infection
Elsulfavirine	RU 2662160	03.07.2037	- combination drug for therapy of viral infections –anelated 9-hydroxy-1,8-dioxo-1,3,4,8-tetrahydro-2H-pyrido[1,2-a]pyrazine-7-carboxamides
	RU 2717101	03.06.2039	- HIV integrase inhibitors, methods of their preparation and use
	RU 2665383	22.06.2037	- pharmaceutical nanosuspension for HIV therapy
Etravirine	EA 5423	17.06.2023	- antiviral compositions
	EA 4049	17.06.2023	- pyrimidines inhibiting HIV replication
	RU 2406502	06.06.2027	- method of preparation of TMC 125 preparations obtained by spray drying

*The search was carried out in the databases at Medspal.org, fips.ru, eapo.org; INN and trade names were used as keywords. The methodology for searching dolutegravir[32] and raltegravir[33] patents is provided in the linked documents. Patents for doravirine (not published at the time of writing this report) were also searched using Patentoscope, Espacenet, and USPTO resources. Treatment Preparedness Coalition does not guarantee that the above list is exhaustive.

[32] https://itpc-eeca.org/2023/02/28/otchet-o-patentnoj-chistote-dolutegravira/
[33] https://itpc-eeca.org/2023/02/14/patentnoe-issledovanie-na-raltegravir/

APPENDIX 5. COMPARISON OF PRICES FOR ARV DRUGS IN 2018–2022 (IN RUBLES)

Drug name	Weighted average price per item, 2018	Weighted average price per item, 2019	Weighted average price per item, 2020	Weighted average price per item, 2021	Weighted average price per item, 2022	Difference, 2022/2018
abacavir 150 mg	4.97	4.97	4.97	4.97	4.97	0%
abacavir 300 mg	14.56	14.47	14.39	14.31	11	-24%
abacavir 600 mg	17.34	26.29	28.79	28.63	24.39	41%
abacavir solution 240 mL	1245.26	1238.4	1238.4	1759.2	231.08	-81%
abacavir/zidovudine/lamivudine 300/300/150 mg	16.26	-	-	-	-	-
abacavir/lamivudine 600/300 mg	110.86	101.28	106.07	44.16	28.44	-74%
atazanavir 150 mg	81.66	17.24	13.24	13.24	13.24	-84%
atazanavir 200 mg	108.87	22.18	17.3	17.3	16.66	-85%
atazanavir 300 mg	162.5	32.84	25.95	25.95	25.92	-84%
atazanavir/ritonavir 300/100 mg				103.18	72.69	-
bictegravir/tenofovir alafenamide/emtricitabine 50/25/200 mg	-	-	1100.33	1066.54	524.33	-
darunavir 400 mg	118.2	94.56	94.08	94.08	89.21	-25%
darunavir 600 mg	116.11	115.52	115.52	115.52	104.61	-10%
darunavir 800 mg	222.97	221.85	221.85	189.12	180.26	-19%
didanosine 125 mg	56.61	-	-	-	-	-
didanosine 400 mg	64.9	-	-	-	-	-
didanosine oral powder, 2 g	987.56	493.78	-	-	-	-
dolutegravir 50 mg	326.59	326.59	238.04	204.82	204.82	-37%
dolutegravir/lamivudine 50/300 mg					237.19	-
dolutegravir/rilpivirine 50/25 mg					519.24	-
doravirine 100 mg	-	-	877.95	825	387.42	-
doravirine/lamivudine/tenofovir 100/300/245 mg	-	-	892.51	854.04	414.22	-
zidovudine 100 mg	2.48	2.48	2.48	2.48	-	-
zidovudine 300 mg	7.34	7	5.14	5.14	4.44	-40%
zidovudine solution 200 mL	501.28	498	498	520	495.03	-1%
zidovudine solution for infusion, 20 mL	371.69	371.6	371.6	371.6	371.6	0%
cobicistat/tenofovir alafenamide/ elvitegravir/emtricitabine 150/10/150/200 mg	-	-	945.85	524.33	524.33	-
lamivudine 150 mg	1.89	3.26	2.85	1.83	1.83	-3%
lamivudine 300 mg	3.73	7.1	6.65	4.49	3.85	3%
lamivudine solution 240 mL	1197.46	1195.2	1101.6	964.8	118.28	-90%
lamivudine/zidovudine 150/300 mg	4.24	16.28	10.21	10.06	8.64	104%
lamivudine/phosphazide 150/400 mg	-	69.35	-	88.77	88.77	-
lamivudine/tenofovir/efavirenz 300/300/600 mg	-	-	-	-	90	-
lopinavir/ritonavir 100/25 mg	56.67	56.67	56.65	56.45	56.45	0%

Drug name	Weighted average price per item, 2018	Weighted average price per item, 2019	Weighted average price per item, 2020	Weighted average price per item, 2021	Weighted average price per item, 2022	Difference, 2022/2018
lopinavir/ritonavir 200/50 mg	38.15	38.11	37.86	37.86	37.82	-1%
lopinavir/ritonavir 80/20 mg, solution 60 mL	1437.46	1437.6	1201.8	672.6	672.6	-53%
maraviroc 150 mg	184.91	184.91	184.91	184.91	184.91	0%
maraviroc 300 mg	336.05	336.05	336.05	336.05	336.05	0%
nevirapine 100 mg	-	5.8	5.8	5.8	-	-
nevirapine 200 mg	5.57	5.54	5.54	5.51	2.69	-52%
nevirapine suspension 240 mL	720.47	722.39	748.8	748.8	744	3%
raltegravir 400 mg	459.43	459.43	459.43	307.82	307.82	-33%
raltegravir chewable tablets 100 mg	129.11	129.11	129.11	129.11	127.82	-1%
raltegravir chewable tablets 25 mg	32.27	32.27	34.29	34.28	33.94	5%
rilpivirine 25 mg	905.77	872.63	853.22	872.63	902.48	0%
rilpivirine/tenofovir/emtricitabine 25/300/200	879	879	879	835.01	835.01	-5%
ritonavir 100 mg	34.96	22.39	31.13	27.99	27.83	-20%
saquinavir 500 mg	75.17	75.17	65.85	65.85	65.85	-12%
stavudine 30 mg	16.78	-	-	-	-	-
stavudine powder 260 mL	696.81	-	-	-	-	-
tenofovir 150 mg	5.82	5.82	5.82	6.4	6.38	10%
tenofovir 300 mg	9.6	6.71	6.71	6.71	6.71	-30%
tenofovir/emtricitabine 300/200 mg	392.5	469.06	477.63	374.81	395.83	1%
fosamprenavir 700 mg	172.48	172.48	172.48	92.27	81.13	-53%
fosamprenavir suspension 225 mL	2797.38	2796.75	2797.43	-	-	-
phosphazide 200 mg	35.97	35.97	35.97	35.97	34.17	-5%
phosphazide 400 mg	35.65	35.53	35.53	35.53	31.03	-13%
elsulfavirine 20 mg	252.36	218.17	218.16	218.16	218.16	-14%
emtricitabine 200 mg	53.91	46.75	22.92	21.89	14.06	-74%
etravirine 100 mg	-	-	-	160.29	160.29	-
etravirine 200 mg	288.53	288.53	288.53	201.97	201.97	-30%
etravirine 25 mg	-	-	-	68.21	64.38	-
efavirenz 100 mg	3.77	3.64	3.29	3.29	3.24	-14%
efavirenz 200 mg	7.54	-	6.58	10.5	-	-
efavirenz 300 mg	-	11.15	10.9	10.89	-	-
efavirenz 400 mg	15.02	14.53	14.52	14.52	7.08	-53%
efavirenz 600 mg	21.98	18.39	14.66	14.59	12.52	-43%
efavirenz/tenofovir/emtricitabine 600/300/200	555.56	-	-	-	-	-
efavirenz/tenofovir/emtricitabine 600/300/200 (set)	330	-	-	-	-	-

* Item = 1 tablet

APPENDIX 6. ARV DRUGS PRICES IN 2022

Drug name	Tablets per pack	$* per tablet, 2022	$* per pack, 2022
abacavir 150 mg	60	$0.07	$4.35
abacavir 300 mg	60	$0.16	$9.64
abacavir 600 mg	30	$0.36	$10.68
abacavir solution 240 mL	1	$3.37	$3.37
abacavir/lamivudine 600/300 mg	30	$0.42	$12.46
atazanavir 150 mg	60	$0.19	$11.60
atazanavir 200 mg	60	$0.24	$14.60
atazanavir 300 mg	30	$0.38	$11.35
atazanavir/ritonavir 300/100 mg	30	$1.06	$31.84
bictegravir/tenofovir alafenamide/emtricitabine 50/25/200 mg	30	$7.66	$229.68
darunavir 400 mg	60	$1.30	$78.16
darunavir 600 mg	60	$1.53	$91.65
darunavir 800 mg	30	$2.63	$78.96
dolutegravir 50 mg	30	$2.99	$89.72
dolutegravir/lamivudine 50/300 mg	30	$3.46	$103.90
dolutegravir/rilpivirine 50/25 mg	30	$7.58	$227.45
doravirine 100 mg	30	$5.66	$169.71
doravirine/lamivudine/tenofovir 100/300/245 mg	30	$6.05	$181.44
zidovudine 300 mg	60	$0.06	$3.89
zidovudine solution 200 mL	1	$7.23	$7.23
zidovudine solution for infusion, 20 mL	5	$5.43	$27.13
cobicistat/tenofovir alafenamide/ elvitegravir/emtricitabine 150/10/150/200 mg	30	$7.66	$229.68
lamivudine 150 mg	60	$0.03	$1.60
lamivudine 300 mg	30	$0.06	$1.69
lamivudine solution 240 mL	1	$1.73	$1.73
lamivudine/zidovudine 150/300 mg	60	$0.13	$7.57
lamivudine/phosphazide 150/400 mg	60	$1.30	$77.77
lamivudine/tenofovir/efavirenz 300/300/600 mg	30	$1.31	$39.42
lopinavir/ritonavir 100/25 mg	60	$0.82	$49.45
lopinavir/ritonavir 200/50 mg	120	$0.55	$66.27
lopinavir/ritonavir 80/20 mg, solution 60 mL	5	$9.82	$49.10
maraviroc 150 mg	60	$2.70	$162.00
maraviroc 300 mg	60	$4.91	$294.41
nevirapine 200 mg	60	$0.04	$2.36
nevirapine suspension 240 mL	1	$10.86	$10.86
raltegravir 400 mg	60	$4.49	$269.67
raltegravir chewable tablets 100 mg	60	$1.87	$111.98
raltegravir chewable tablets 25 mg	60	$0.50	$29.73
rilpivirine 25 mg	30	$13.18	$395.32
rilpivirine/tenofovir/emtricitabine 25/300/200	30	$12.19	$365.77
ritonavir 100 mg	30	$0.41	$12.19
saquinavir 500 mg	120	$0.96	$115.38
tenofovir 150 mg	60	$0.09	$5.59

Drug name	Tablets per pack	$* per tablet, 2022	$* per pack, 2022
tenofovir 300 mg	30	$0.10	$2.94
tenofovir/emtricitabine 300/200 mg	30	$5.78	$173.39
fosamprenavir 700 mg	60	$1.18	$71.08
phosphazide 200 mg	20	$0.50	$9.98
phosphazide 400 mg	60	$0.45	$27.18
elsulfavirine 20 mg	30	$3.19	$95.56
emtricitabine 200 mg	30	$0.21	$6.16
etravirine 100 mg	120	$2.34	$280.85
etravirine 200 mg	60	$2.95	$176.94
etravirine 25 mg	120	$0.94	$112.80
efavirenz 100 mg	30	$0.05	$1.42
efavirenz 400 mg	30	$0.10	$3.10
efavirenz 600 mg	30	$0.18	$5.48

[34]APPENDIX 7. COST OF ONE YEAR'S COURSE OF TREATMENT IN PROCUREMENTS OF 2022

Drug name	The cost of the one-year course of the drug in 2022, rubles.	The cost of the one-year course of the drug in 2022, $
abacavir 150 mg	7,256.20	$105.95
abacavir 300 mg	8,030.00	$117.25
abacavir 600 mg	8,902.35	$129.99
abacavir solution 240 mL	-	-
abacavir/lamivudine 600/300 mg	10,380.60	$151.57
atazanavir 150 mg	9,665.20	$141.12
atazanavir 200 mg	12,161.80	$177.58
atazanavir 300 mg	9,460.80	$138.14
atazanavir/ritonavir 300/100 mg	26,531.85	$387.40
bictegravir/tenofovir alafenamide/emtricitabine 50/25/200 mg	191,380.45	$2,794.41
darunavir 400 mg	65,123.30	$950.89
darunavir 600 mg	76,365.30	$1,115.04
darunavir 800 mg	65,794.90	$960.69
dolutegravir 50 mg	74,759.30	$1,091.59
dolutegravir/lamivudine 50/300 mg	86,574.35	$1,264.10
dolutegravir/rilpivirine 50/25 mg	189,522.60	$2,767.28
doravirine 100 mg	141,408.30	$2,064.75
doravirine/lamivudine/tenofovir 100/300/245 mg	151,190.30	$2,207.58
zidovudine 300 mg	3,241.20	$47.33
zidovudine solution 200 mL	-	-
zidovudine solution for infusion, 20 mL	-	-
cobicistat/tenofovir alafenamide/ elvitegravir/emtricitabine 150/10/150/200 mg	191,380.45	$2,794.41
lamivudine 150 mg	1,335.90	$19.51
lamivudine 300 mg	1,405.25	$20.52
lamivudine solution 240 mL	-	-
lamivudine/zidovudine 150/300 mg	6,307.20	$92.09
lamivudine/tenofovir/efavirenz 300/300/600 mg	32,850.00	$479.65
lamivudine/phosphazide 150/400 mg	64,802.10	$946.20
lopinavir/ritonavir 100/25 mg	82,417.00	$1,203.40
lopinavir/ritonavir 200/50 mg	55,217.20	$806.24
lopinavir/ritonavir 80/20 mg, solution 60 mL	-	-
maraviroc 150 mg	134,984.30	$1,970.95
maraviroc 300 mg	245,316.50	$3,581.95
nevirapine 200 mg	1,963.70	$28.67
nevirapine suspension 240 mL	-	-
raltegravir 400 mg	224,708.60	$3,281.04
raltegravir chewable tablets 100 mg	93,308.60	$1,362.43
raltegravir chewable tablets 25 mg	49,552.40	$723.53

[34] Except for pediatric forms.

Drug name	The cost of the one-year course of the drug in 2022, rubles.	The cost of the one-year course of the drug in 2022, $
rilpivirine 25 mg	329,405.20	$4,809.75
rilpivirine/tenofovir/emtricitabine 25/300/200	304,778.65	$4,450.17
ritonavir 100 mg	10,157.95	$148.32
saquinavir 500 mg	96,141.00	$1,403.79
tenofovir 150 mg	4,657.40	$68.00
tenofovir 300 mg	2,449.15	$35.76
tenofovir/emtricitabine 300/200 mg	144,477.95	$2,109.57
fosamprenavir 700 mg	59,224.90	$864.76
phosphazide 200 mg	37,416.15	$546.33
phosphazide 400 mg	22,651.90	$330.75
elsulfavirine 20 mg	79,628.40	$1,162.68
emtricitabine 200 mg	5,131.90	$74.93
etravirine 100 mg	234,023.40	$3,417.05
etravirine 200 mg	147,438.10	$2,152.79
etravirine 25 mg	93,994.80	$1,372.45
efavirenz 100 mg	7,095.60	$103.61
efavirenz 400 mg	2,584.20	$37.73
efavirenz 600 mg	4,569.80	$66.73