

# Industry Insights

*The facts for your business*

## Pharmaceutical Industry in Russia, Ukraine, Belarus and Kazakhstan

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This report is an overview of the pharmaceuticals sector in Russia, Ukraine, Belarus and Kazakhstan. The **extended version** of the report provides additional market information. In addition to the rankings of top pharma producers in their respective economies contained in the original version of the report, this extended version includes rankings of top pharma wholesale distributors and pharmacy chains, drug registration statistics in Russia and summarized information on select pharma localization projects in Russia.

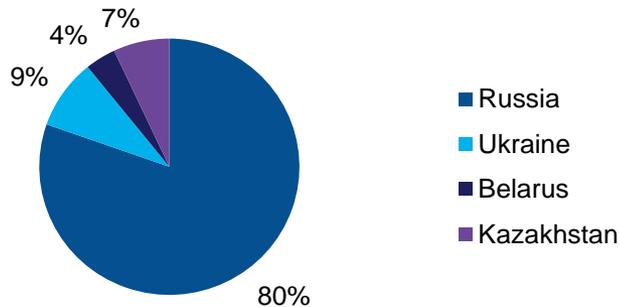
Please note that financial indicators in this report cover mostly drugs. They do not include medical devices or other pharmaceutical goods

We would be happy to provide you with this **extended version** upon your request. Also we are happy to provide you with analysis on any specific subject you are interested in.

To learn more, please [contact us](#)

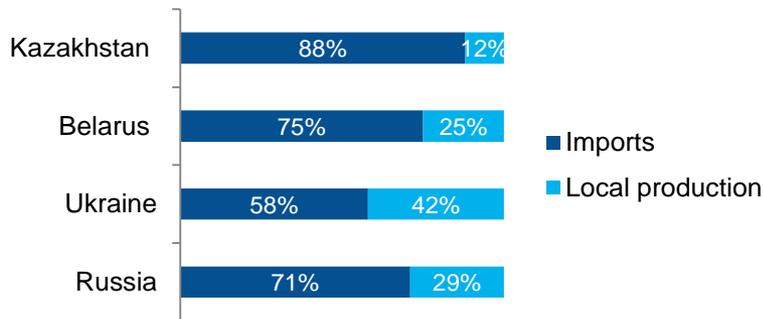
# Executive Summary (1)

Relative market size by country from a total of USD 21.1bn based on sales in 2016, %



Sources: DSM, AIPM Russia, BMI

Pharma imports vs. local production in USD terms in 2016, %



Sources: DSM, AIPM Russia, UPharma, apteka.ua, Proxima Research, Intellix.by, Uniter, Vi-Ortis, SK-Pharmacia, BMI, Kapital.kz, own estimates

## Market size

- **Combined size of the pharma markets** of Russia, Ukraine, Belarus and Kazakhstan totaled **USD 21.1bn** in 2016.
- The **Russian market**, with sales at c. **USD 16.9bn** in 2016 or **80%** of the combined market size, is the largest.
- This proportion is broadly repeated in the allocation of population among these countries.

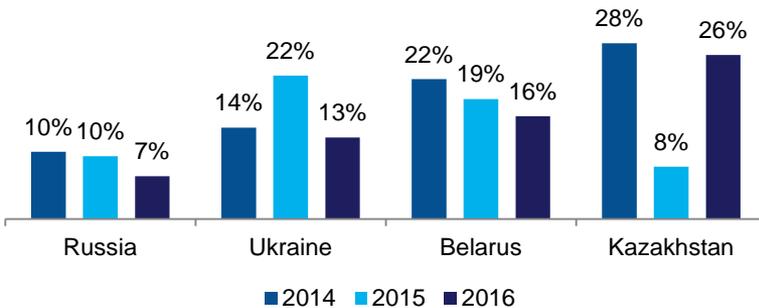
## Imports vs. local production

- Imports dominate all the markets in value terms but not in unit terms.
- **Imports are between 58% and 88%** in value terms, with a striking similarity of import shares in Russia, Kazakhstan and Belarus.
- Measured in **units, the proportion is quite the opposite**: e.g., imports account for 39% in Russia.
- Sectors are similar: imports are represented by expensive patented medicines whereas local pharma companies predominantly produce more inexpensive generics.

# Executive Summary (2)

## Development of pharma sales

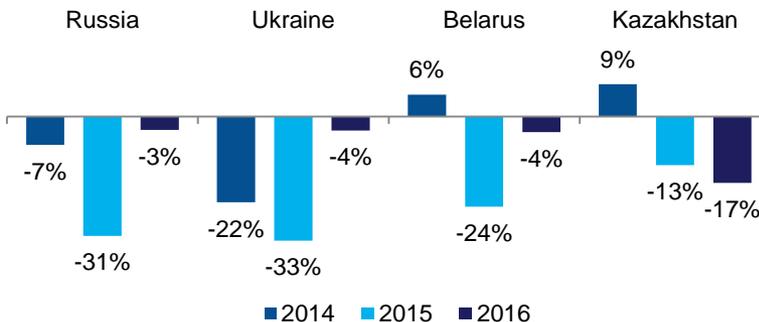
in local currencies, %



Sources: DSM, AIPM Russia, UPharma, apteka.ua, Proxima Research, Intellix.by, Uniter, Vi-Ortis, SK-Pharmacia, BMI, own estimates

## Development of pharma sales

in foreign currency terms, %



Sources: DSM, AIPM Russia, UPharma, apteka.ua, Proxima Research, Intellix.by, Uniter, Vi-Ortis, SK-Pharmacia, BMI, own estimates

## Local market performance

- All pharma markets grew over the last three years despite the difficult economic environment.
- **Russia's** pharma market has grown **9%** on average in RUR terms and is estimated to have grown by approximately another **9%** in 2017.
- **Ukraine's** market has grown by **16%** on average in UAH terms. It is forecast to have grown by approximately another **16%** in 2017.
- The market in **Belarus** was a strong **20%** on average in BYN terms, and its growth slowed down to **16%** in 2016.
- **Kazakhstan's** pharma market has grown at **21%** on average in KZT terms. It is estimated to have grown **13%** in 2017.

## Effect of currency devaluation

- Devaluation of some local currencies has significantly affected sales in foreign currency terms. However, they had started to recover in 2016 in some countries. This recovery has continued in 2017.

# Executive Summary (3)

## Role of pharma in the national economies

- Pharma accounts for a relatively **small share in each economy**: between **1%** of GDP in Kazakhstan to **2%** in Ukraine and Belarus. Russia is pretty close, at **1.3%**.
- This can be partially explained by the structure of some of the economies.
- **Spending on drugs per capita (USD 50 to USD 165 a year)** is low compared to the EU. For example, Poland (with its USD 330) spends twice as much on drugs per capita as the biggest of the four spenders does.
- This shows that the combined **market of more than 215m consumers has yet to realize its potential**.

## Regulation and state involvement

- Governments pay a lot of attention to their markets.
- Certification lead times are usually lengthy but regulations are changed to improve this.

- **Ukraine introduced a fast track registration** process for drugs registered in countries with strong regulatory regimes.
- Drugs holding international patents should be registered by national authorities before they can be sold in local markets.
- In view of the economic difficulties, governments establish **'essential drug lists'** and regulate prices.
- Russia, Belarus and Kazakhstan have **national import substitution policies** which set different targets for the share of locally produced drugs, provide incentives for localization and impose market access restrictions.
- **Public tenders** are performed in relation to drugs covered by government-funded programs.
- **Local regulations have replicated GMP** and compliance has become mandatory.
- In November 2016, the Eurasian Economic Union's members (Ukraine is not party to the EEU) agreed all key regulations in order to establish **the EEU Single Drug Market**.

# Executive Summary (4)

## Key consumers and markets

- **Consumers are getting older:** the share of those who are 35 y.o. and above will increase by about 4 percentage points by 2025.
- **Cardiovascular diseases and cancer** are the leading causes of death in all the four countries.
- Markets demonstrate **different consumption behaviors**, e.g., Russia displays disproportionate spending on drugs compared to its share of population.
- **Governments finance drug purchases** for hospitals. They account for between **10% to 40%** of total market volumes, while the rest is covered by the consumer.
- **Distribution is highly concentrated:** usually there are **5-7 leaders** controlling **40%-90%** of the market.
- **Retail is less consolidated:** this is more pronounced in the larger markets (Russia and Ukraine).

## Market overview and segmentation

- **Prescription drugs** account for **up to 68%** of sales in value terms depending on the market.
- **Patented drugs** claim a usually low share of sales (**10%-29%**) as they are most expensive.
- **Rx generics** provide a less expensive alternative and are the core of state healthcare programs (**39%-58% of sales**).
- **OTC drugs** are traditionally strong because of more affordable prices, better customer awareness and tendency for self-treatment (**32%-40% of sales**).

## Leading manufacturers

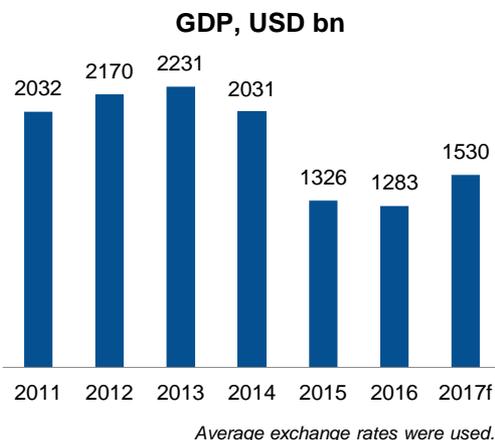
- **Governments create attractive conditions** for investors and invest themselves.
- **Many successful examples** of investment projects to produce innovative drugs and improve overall prospects of the industry.

# Chances and Opportunities (1)

## Russia

*Significant opportunities offered by the large market*

Indicators	2017
General govt gross debt, USD bn	266,2
General govt gross debt to GDP, %	17,4%
Consumer credit, USD bn	194
Consumer credit to GDP, %	12,7%
Human Development Index (HDI)	0,804
Unemployment, %	5,2%



Sources: Russian Ministry of Finance, National Statistical Agencies, Central Bank, UNDP, The World Bank, IMF, Tradingeconomics.com, own estimates

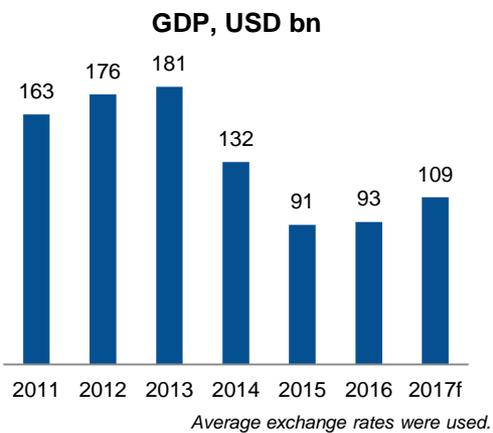
- Russia is a major market with **146.8m** inhabitants, of which **74% live in urban areas**.
- **77m** people are working age (aged 15-72).
- Average life expectancy at birth: **70.1** years.
- Number of state-owned hospitals: **5,600**.
- **Good education system** with a strong technical/science heritage.
- **100%** of population is **literate** with **95%** with at least **upper secondary education**.
- **950** state and private **universities** produce **1.2m graduates** a year (almost double from 2000).
- According to OECD, **54%** of those aged 25-64 have attained a **university degree**.
- **12<sup>th</sup> largest economy in the world** in 2017 measured by GDP in real terms: **USD 1 530bn**.
- **6<sup>th</sup> largest economy in the world** in 2017 measured by GDP based on PPP valuation: **USD 4 010bn**.
- **GDP per capita** in 2017 at current prices: **USD 10 610** (and **USD 27 830** based on PPP).
- **Annual progress** in World Bank's 'Ease of Doing Business' 2018 ranking: **35<sup>th</sup> place in 2017 (2016: 40<sup>th</sup>)**.
- **Corruption Perceptions Index** score (Transparency International): **29 in 2017 (2016: 29)**.

# Chances and Opportunities (2)

## Ukraine

*A large market with great potential*

Indicators	2017
General govt gross debt, USD bn	82,4
General govt gross debt to GDP, %	75,6%
Consumer credit, USD bn	4,3
Consumer credit to GDP, %	3,9%
Human Development Index (HDI)	0,743
Unemployment, %	9,4%



Sources: IMF, UNDP, The World Bank, Tradingeconomics.com, own estimates

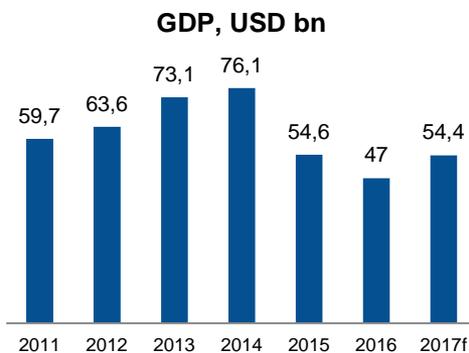
- Ukraine is a big market with **42.5m** inhabitants, of which **70% live in urban areas**.
- **24m** people are working age (aged 15-70).
- Average life expectancy at birth: **72** years.
- Number of state-owned hospitals: **1,700**.
- **Good education system** with a strong technical/science heritage.
- **99,8%** of population is **literate** with **94%** with at least **upper secondary education**.
- **439** state and private **universities** produce ca. **900,000 graduates** a year.
- According to the Ukrainian Institute of Demographics and Sociological Research, **76%** of those aged 25-64 have attained a **university degree**.
- **62<sup>nd</sup> largest economy in the world** in 2017 measured by GDP in real terms: **USD 109,3bn**.
- **50<sup>th</sup> largest economy in the world** in 2017 measured by GDP based on PPP valuation: **USD 368,8bn**.
- **GDP per capita** in 2017 at current prices: **USD 2 580** (and **USD 8 710** based on PPP).
- **Annual progress** in World Bank's 'Ease of Doing Business' 2018 ranking: **76<sup>th</sup> place in 2017 (2016: 80<sup>th</sup>)**.
- **Corruption Perceptions Index** score (Transparency International): **30 in 2017 (2016: 29)**.

# Chances and Opportunities (3)

## Belarus

*A bridge between the EU and the EEU*

Indicators	2017
General govt gross debt, USD bn	27,7
General govt gross debt to GDP, %	51%
Consumer credit, USD bn	1,3
Consumer credit to GDP, %	2,4%
Human Development Index (HDI)	0,796
Unemployment, %	1%



*Average exchange rates were used.*

*Sources: IMF, UNDP, The World Bank, Tradingeconomics.com, own estimates*

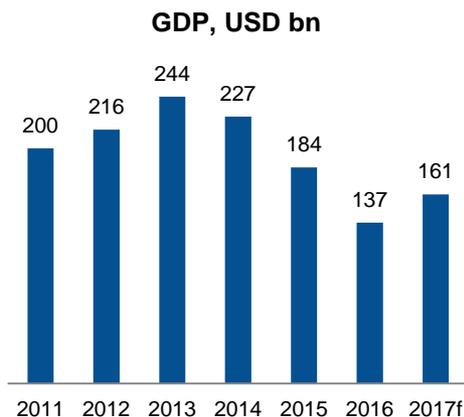
- Belarus is a major market with **9.5m** inhabitants, of which **77% live in urban areas**.
- **7.2m** people are working age (aged 15-72).
- Average life expectancy at birth: **74.1** years.
- Number of state-owned hospitals: **639**.
- **99.6%** of population is **literate** with **82%** with at least **upper secondary education**.
- **51** state and private **universities** produce ca. **78,000 graduates** a year.
- According to OECD, **19%** of those aged 25-64 have attained a **university degree**.
- **82<sup>nd</sup> largest economy in the world** in 2017 measured by GDP in real terms: **USD 54,4bn**.
- **74<sup>th</sup> largest economy in the world** in 2017 measured by GDP based on PPP valuation: **USD 178,9bn**.
- **GDP per capita** in 2017 at current prices: **USD 5 760** (and **USD 18 930** based on PPP).
- **Annual progress** in World Bank's 'Ease of Doing Business' 2018 ranking: **38<sup>th</sup> place in 2017 (2016: 37<sup>th</sup>)**.
- **Corruption Perceptions Index** score (Transparency International): **44 in 2017 (2016: 40)**.

# Chances and Opportunities (4)

## Kazakhstan

### *The Central Asian tiger*

Indicators	2017
General govt gross debt, USD bn	34,1
General govt gross debt to GDP, %	21,2%
Consumer credit, USD bn	13,2
Consumer credit to GDP, %	8,2%
Human Development Index (HDI)	0,794
Unemployment, %	5%

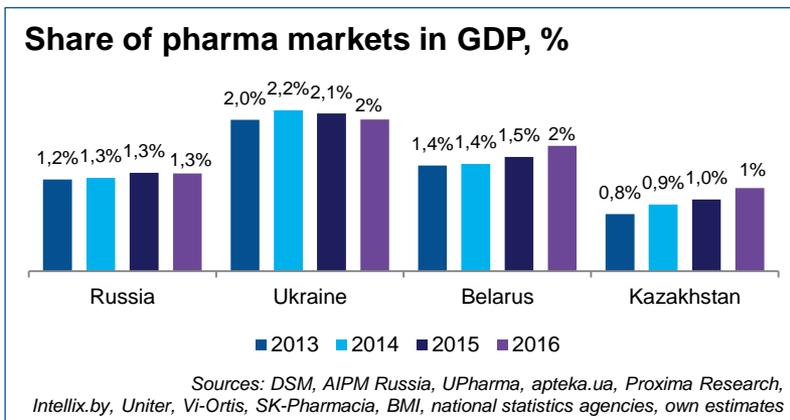
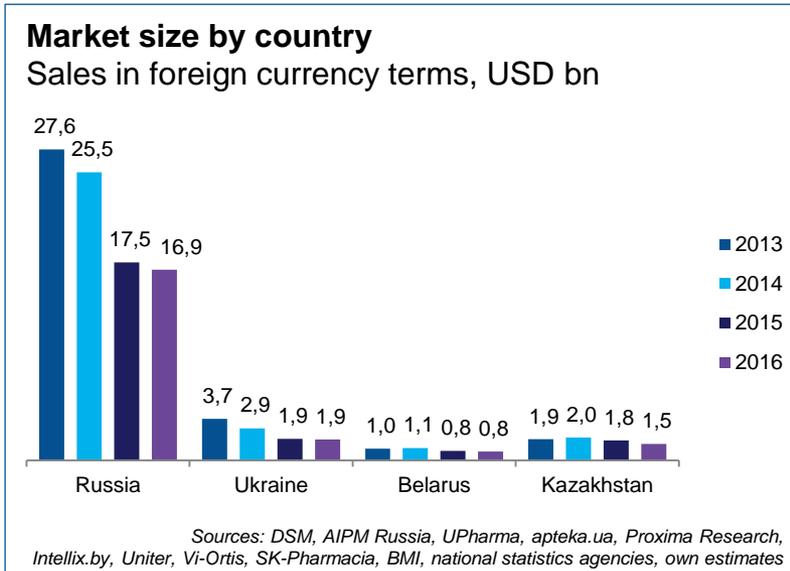


Average exchange rates were used.

Sources: Tradingeconomics.com, IMF, UNDP, The World Bank, own estimates

- Kazakhstan is a major market with **18m** inhabitants, of which **53% live in urban areas**.
- **12.8m** people are of working age (aged 15-64).
- Average life expectancy at birth: **72** years.
- Number of state-owned hospitals: **877**.
- **100%** of population is **literate** with **87% (91% M, 83% F)** with at least **upper secondary education**.
- **125** state and private **universities** produce **100,000** graduates a year.
- According to the CIS Interstate Statistics Committee, **34%** of those aged 25-64 have attained a **university degree**.
- **59<sup>th</sup> largest economy in the world** in 2017 measured by GDP in real terms: **USD 160,8bn**.
- **45<sup>th</sup> largest economy in the world** in 2017 measured by GDP based on PPP valuation: **USD 477,6bn**.
- **GDP per capita** in 2017 at current prices: **USD 8 840** (and **USD 26 250** based on PPP).
- **Annual progress** in World Bank's 'Ease of Doing Business' 2018 ranking: **36<sup>th</sup> place in 2017 (2016: 35<sup>th</sup>)**.
- **Corruption Perceptions Index** score (Transparency International): **31 in 2017 (2016: 29)**.

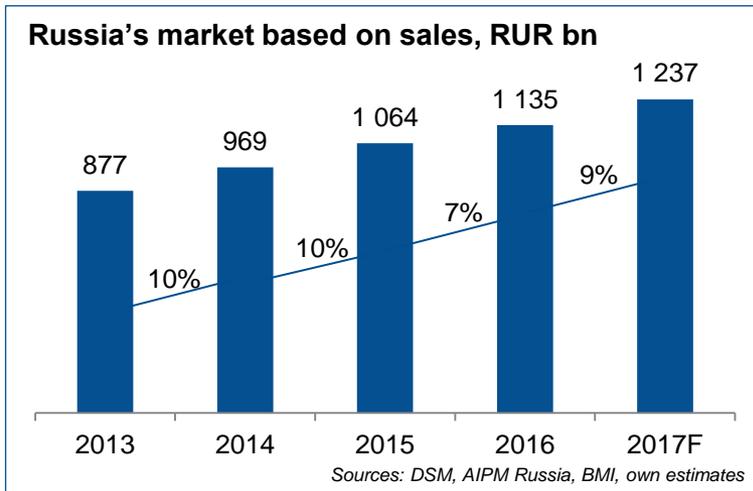
# Role in the National Economies (1)



- This chart shows the relative size of each market in 2013-16. The overall reduction is a result of the local currencies' devaluation seen across the board. In local currency terms, the markets have been growing.
- These countries have inherited their pharma sectors from the Soviet Union. Each former republic had a different economy structure, with pharma being well-represented in Ukraine, Russia and Belarus, and probably less so in Kazakhstan.
- While natural resources are key in Russia and Kazakhstan, pharma's share in their GDP numbers is lower than in Ukraine and Belarus. This is a result of a stronger role played by pharma in the economies with less dependence on natural resources.
- In light of the special nature of the industry (need for highly skilled employees and a greater degree of automation), the industry's headcount is not significant: 70,000 in Russia, 40,000 in Ukraine, 10,000 in Belarus and approximately 15,000 in Kazakhstan.

# Role in the National Economies (2)

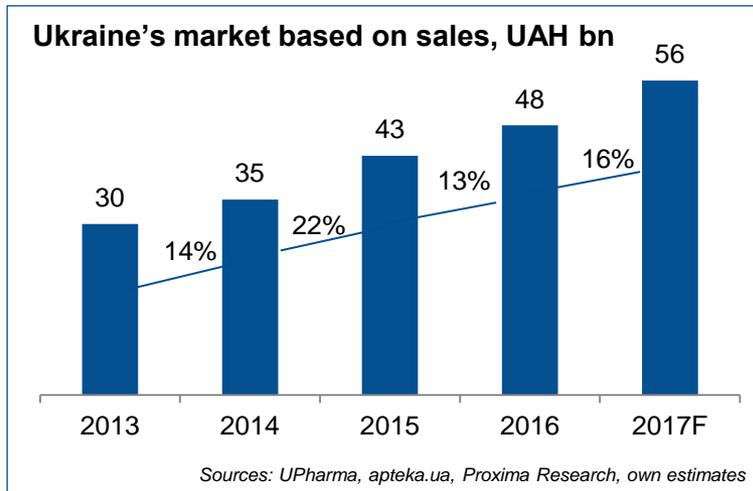
## Russia



- Russia's pharma market has grown **9%** on average in RUR terms and is estimated to have grown by approximately another **9%** in 2017.
  - Russians spend c. USD 165 a year on medicines, which is a long way to Poland's USD 330 or Germany's USD 680 a year.
  - This market is very significant in value terms and is the largest market in Central Europe in terms of its consumer base of some 147m people.
- Russians' preference for western quality and brands, together with its demographic trends (ageing population) and untapped growth potential, make it one of the most attractive emerging markets for international pharma manufacturers.
  - Local laws require that clinical trials should be carried out in Russia before drugs are registered and authorized for sale.

# Role in the National Economies (3)

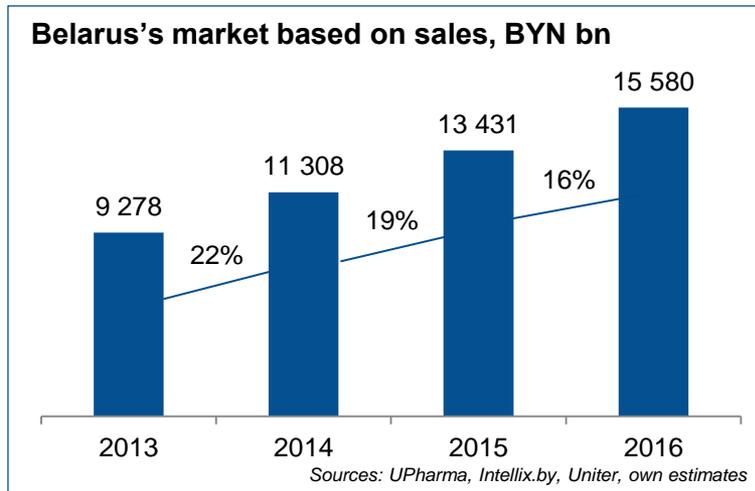
## Ukraine



- Ukraine's market has grown by 16% on average in UAH terms. It is forecast to have grown by approximately another 16% in 2017.
  - Ukrainians spend c. USD 50 a year on medicines (USD 330 in Poland or USD 680 in Germany).
  - This market is the 14<sup>th</sup> largest market in value terms in Central and Eastern Europe and is the second largest market in the region with some 42m people.
  - Government's funding of healthcare is reduced, most of drugs and other health related expenses are paid for by individuals.
- The market is under pressure resulting from the economic and political difficulties, devaluation of the local currency, falling incomes and growing tariffs.
  - However, the government is pushing for serious reforms of the sector. Recent positive changes have seen the introduction of reference pricing and simplified registration of drugs which have already been registered in certain countries.

# Role in the National Economies (4)

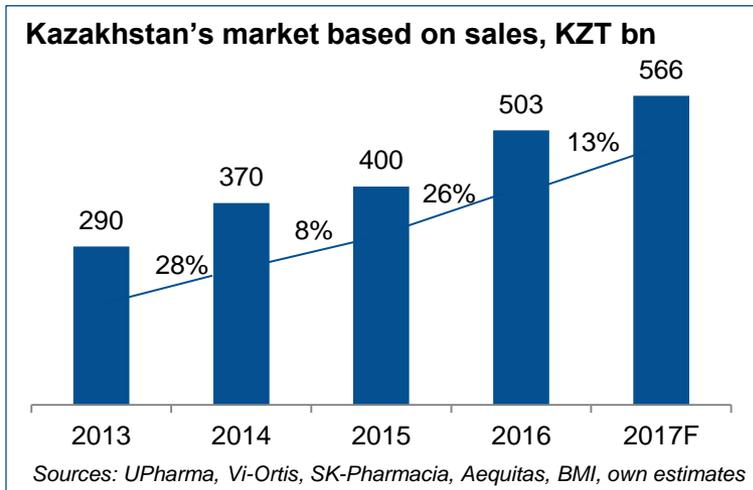
## Belarus



- The market in Belarus was a strong 20% on average in BYN terms, and has slowed down to 16% in 2016.
- Belarussians spend c. USD 80-95 a year on medicines (USD 330 in Poland or USD 680 in Germany).
- The government has increased its expenditures on the country's healthcare system, which resulted in significant improvements in such key indicators as child immunization rate and incidence of infectious diseases.
- The healthcare sector is dominated by the government. It contributes about 70% of total health costs. The government controls top five drug producers.
- Prices for the essential drugs acquired for the state hospital system are regulated by the state.
- There is no strong voluntary health insurance yet, but the government is considering whether this system should be introduced on a large scale.
- Drugs produced locally are given preference in state tenders: 80% of drugs purchased via tenders are of local origin.
- About 27% of drugs produced locally are exported.
- Approximately 60% of drugs are prescribed.

# Role in the National Economies (5)

## Kazakhstan



- Kazakhstan's pharma market has grown at 21% on average in KZT terms. It is expected to have grown by 13% in 2017.
  - Kazakhstan's citizens spend c. USD 90 a year on medicines (USD 330 in Poland or USD 680 in Germany).
  - The government increased funding of the healthcare sector several years ago, which led to positive results in the incidence of infectious diseases.
  - Favorable taxation: no VAT on drugs and APIs.
  - The government is pushing for reforms of the sector to make it attractive to investors.
- One of such reforms is the implementation of a public health insurance system.
  - Import substitution policies are aimed at reducing the dependence on imported drugs and making the country a drug exporter.
  - State procurement of drugs is run via one powerful procurer (SK Pharmacia) while the private distribution is fragmented.
  - Out-of-pocket expenses on drugs are significant.

# Regulation and State Involvement (1)

## GMP Certification

### Russia

- Russia requires that foreign manufacturers obtain a ‘Russian GMP’ certificate (based on ‘global’ GMP) for their sites in Russia in addition to international GMP certifications they may have already obtained.
- Russian manufacturers can obtain a ‘Russian GMP’ during the process of product registering.
- To be able to participate in government tenders, foreign companies exporting to Russia should have their overseas sites audited by the Ministry of Industry and Trade.
- Realizing that a GMP certification is a must-have for contract manufacturing partnerships with international producers, Russian companies are stepping up efforts to obtain it.

### Ukraine

- In Ukraine, all manufacturers are required to have either a local or international GMP certificate.

- Drugs imported into Ukraine should be compliant with GMP.
- Manufacturers should also ensure that active ingredients they use in producing their drugs are in compliance with GMP.

### Belarus

- Most pharmaceutical manufacturers have already obtained national GMP certificates.
- The Ministry of Health requires mandatory audits for compliance with GMP.
- A plan of audits is approved annually.

### Kazakhstan

- Imported drugs cannot be registered if they are not in compliance with GMP.
- There are plans to deny registration to drugs produced locally at sites which are not compliant with GMP.
- Only companies whose sites are compliant with GMP can have access to the government’s long-term drug supply contracts for the government’s free healthcare program.

# Regulation and State Involvement (2)

## EEU Single Drug Market

- Creating a single drug market within the Eurasian Economic Union (EEU) was mandated by Heads of State of the EEU Members as a key focus of integrating the Union.
- The Union brings together Armenia, Belarus, Kazakhstan, Kyrgyzstan and Russia.
- All key regulations governing the EEU Single Drug Market were adopted in 2016 and came into effect (decisions of the Council of the Eurasian Economic Commission); they are in line with all best practices and can be found in the Appendix of this paper.
- They cover manufacturing, registration, all types of clinical trials, sales and control of drugs.
- In 2017-2018, so-called ‘third tier’ regulations will be developed: they will deal with implementation of the above regulations.
- Transition periods are adopted – both for manufacturers and regulators.
- Manufacturers can choose the rules – national or single-market – which they will follow in registering drugs and medical devices. They can do it until 31 December 2020.
- Trials will be held in a reference country. Trial results should be acknowledged by and applicable to the Union’s five members.
- Given all procedures are followed, it can be expected that the first product which will be registered in accordance with the new rules will be available on the market in the middle of 2018.

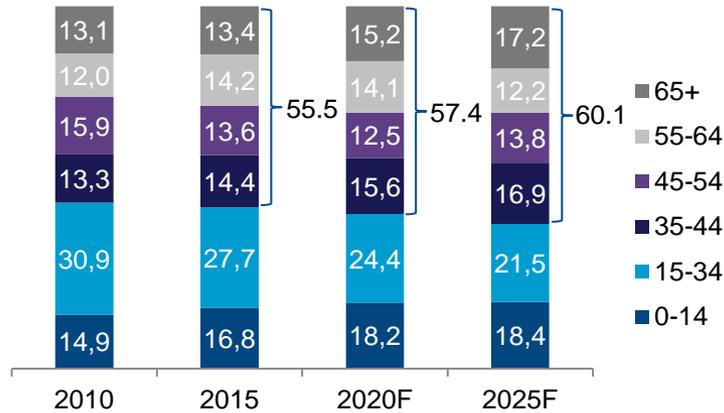


***Starting from 2018 pharmaceutical drugs and medical equipment registered in one country of the EEU can be sold in any other country of the EEU without the need for re-registration in this country.***

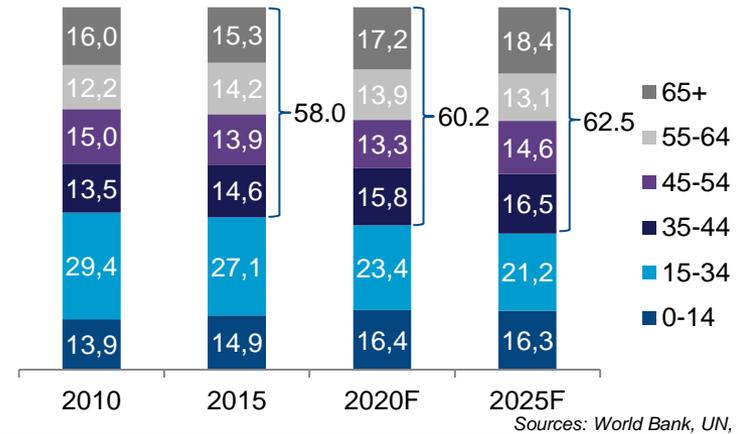
# Key Consumers and Markets (1)

## Population Age Structure (1)

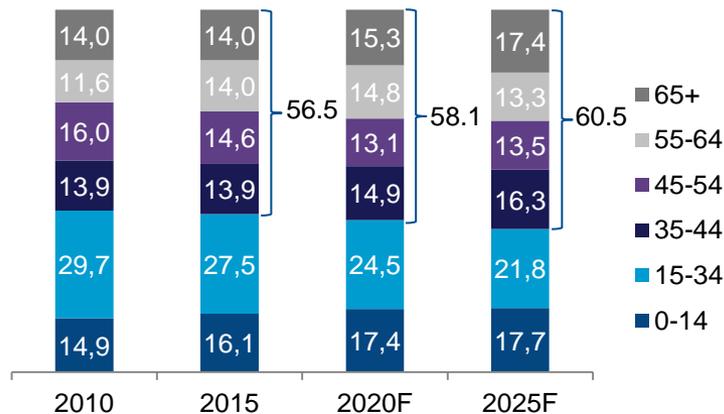
Russia's population age groups, % of population



Ukraine's population age groups, % of population



Belarus's population age groups, % of population

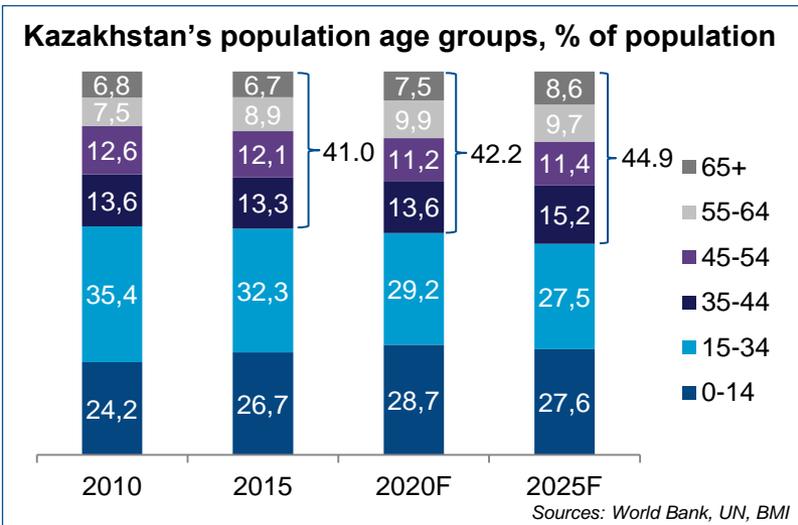


— By 2025, the share of those who are in the 35+ year-old bracket will increase by approximately 4-4.6 percentage points from 2015 to 2025:

- From 55.5% to 60.1% (4.6 pp) in Russia
- From 58% to 62.5% (4.5 pp) in Ukraine
- From 56.5% to 60.5% (4 pp) in Belarus

# Key Consumers and Markets (2)

## Population Age Structure (2)

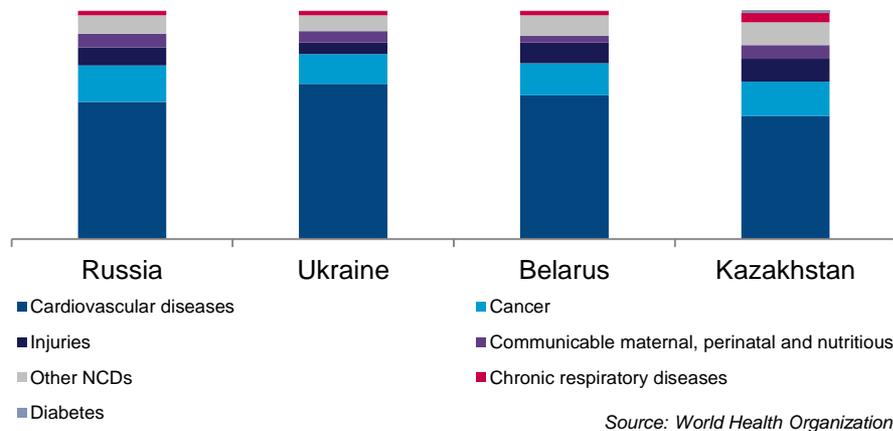


- A similar trend is observed in Kazakhstan (3.9 pp) but there the percentage of people in this group is lower (from 41% in 2015 to c. 45% in 2025).

# Key Consumers and Markets (3)

## Causes of Death and Lifestyle Choices

**Leading causes of death**  
due to non-communicable diseases, %



- As can be seen from the graph, cardiovascular diseases and cancer are the leading causes of death in all the four countries. HIV is also a significant concern.
- Poor environmental conditions, massive smoking and stress are the main reasons for these diseases.
- All the countries provide access to costly treatments through various financial aid programs but the current funding hardly covers the demand.

Lifestyle choices	Russia	Ukraine	Belarus	Kazakhstan
<b>Consumption of alcohol</b>	<b>M 23.9</b>	<b>M 22.0</b>	<b>M 27.5</b>	<b>M 15.7</b>
Liters	<b>F 7.8</b>	<b>F 7.2</b>	<b>F 9.1</b>	<b>F 5.5</b>
<b>Obesity</b>	<b>M 18.6</b>	<b>M 15.9</b>	<b>M 20.0</b>	<b>M 19.1</b>
% of population	<b>F 32.9</b>	<b>F 25.7</b>	<b>F 27.8</b>	<b>F 27.6</b>
<b>Consumption of tobacco</b>	<b>M 59.0</b>	<b>M 49.0</b>	<b>M 50.0</b>	<b>M 40.0</b>
% of population	<b>F 25.0</b>	<b>F 14.0</b>	<b>F 11.0</b>	<b>F 9.0</b>

Source: World Health Organization

# Key Consumers and Markets (4)

## Overview of Consumption

	Distribution of sales	Distribution of population	Prescription drugs	Patented drugs	Generics drugs	OTC drugs
Russia	80%	67%	81%	84%	78%	82%
Ukraine	9%	20%	10%	7%	12%	10%
Belarus	4%	4%	3%	2%	5%	3%
Kazakhstan	7%	8%	6%	7%	5%	5%

Sources: DSM, AIPM Russia, UPharma, apteka.ua, Proxima Research, Intellix.by, Uniter, Vi-Ortis, SK-Pharmacia, BMI, own estimates

- Russia displays disproportionate overspending on drugs compared to its share of population.
- Ukraine, on the other hand, underspends on medicines compared to its share of population.
- While patented drugs in Russia claim a higher share of the market than expected, usage of generics has not yet reached its potential.
- In Ukraine, patented drugs are not widely used, which is compensated for by a higher usage of generics. That is why the share of local production in the domestic market is higher than in the rest of the region.
- Russia consumes more patented, prescribed, as well as OTC drugs than its share of sales would suggest.
- The increase in revenue in Russia can be attributed to a general price increase in 2016/17 fed by high inflation in the country.

# Key Consumers and Markets (5)

## Distribution Channels – Russia

### Public healthcare system

- Patented drugs are prohibitively expensive for private consumers and hence the major buyer is the public health care system through state tenders.
- Drugs acquired by the government, which are included in the Essential Drugs List (hospitals and low-income groups) and Seven Nosologies Program (rare and severe diseases requiring expensive treatment), account for c. 25% of the market in value terms.

### Wholesalers

- Everything else is done through wholesalers that either a) act on behalf of the manufacturer or b) are independent.
- Generally 1-3 wholesalers are involved from manufacturer to user.
- The wholesalers' concentration is medium with the top 10 national wholesalers making up to 82% of the market and the top 5 about 70% of the market.
- The leader (Protek) had a market share of about 25% in 2017.

### Pharmacies

- More than 60,000 pharmacies of different kinds serve customers in Russia.
- Top 20 chains account for approximately 32% of the market.
- Most businesses owning pharmacies purchase from <5 wholesalers, only 1/3 of businesses purchase from more than 9 wholesalers.
- The share of private pharmacies was at 75%, about 15% are state owned and the remaining 10% are municipality owned.
- Online pharmacies exist though their legal status is dubious.

# Key Consumers and Markets (6)

## Distribution Channels – Ukraine

### **Public healthcare system**

- 80%-90% of drug expenses are borne by the customer while the hospital segment accounts for only 10%-20% of the market in value terms. This is a result of underfinancing of the public healthcare system.
- Healthcare services are provided to the public via state medical centers, private medical centers and private doctors. Public centers dominate. Services provided by the state-owned centers are officially free, however, unofficial payments are wide-spread.
- In November 2017 the government implemented ambitious reforms in the healthcare that has started taking effect in stages, with the first stage already starting in January 2018.
- The reform includes privatizing a portion of state hospitals and introducing voluntary medical insurance.

### **Wholesalers**

- The most consolidated segment of the market.
- Top 5 players control about 90% of the market in value terms. BaDM is the market leader enjoying a 35% market share.

### **Pharmacies**

- There are about 20,000 pharmacies of different formats in Ukraine, which translates into 1 point of sale (POS) per 2,150 people whereas 1 POS in Russia serves about 3,900 people.
- A very low degree of consolidation in pharma retail: there are more than 100 retail chains with the top 100 of them controlling slightly more than 60% of sales in value terms.

# Key Consumers and Markets (7)

## Distribution Channels – Belarus

### Public healthcare system

- Approximately one fifth of the market is represented by the hospital sector. Retail sales are responsible for 80% of the market.
- Hospital purchases include expensive foreign drugs and domestic drugs. Sometimes the price differential can be 10 times.
- The government reimburses treatments provided in hospitals, whereas drugs are reimbursed depending on the patient's income level.

### Wholesalers

- Belpharmacia, the largest drug wholesaler, is owned by the state.
- Top 7 distributors account for c. 40% of the market.
- Dominantpharm (about 10% of the market) is owned by Russia's second leading distributor Katren.

### Pharmacies

- There are more than 3,000 pharmacies in Belarus, of which 58% are owned by the state.
- 37% of state-owned pharmacies are attributed to Belpharmacia.
- Apteka-Group Holding, the largest private chain, owns approximately 7% of pharmacies.
- Private pharmacies tend to be located in the capital and regional centers.
- Pharmacies are divided into five categories, with private ones either in the second or fifth categories.
- Private pharmacies sell about 75% of imported drugs.

# Key Consumers and Markets (8)

## Distribution Channels – Kazakhstan

### Public healthcare system

- Approximately 40% of the market is represented by the hospital sector and public procurement.
- Two thirds of drugs for the public healthcare system are purchased through Single Distributor SK-Pharmacia which is 100% owned by the state. It is responsible for buying drugs at public tenders, storing and delivering them to hospitals.
- Another third of drugs in the public sector is funded by regions and is primarily targeted at outpatient care hospitals.

### Wholesalers

- Top 7 distributors are responsible for about 60% of the market.
- The largest of them, Amanat, controls approximately 15% of the segment.
- Average margins level set for drugs is 7%-15%.

### Pharmacies

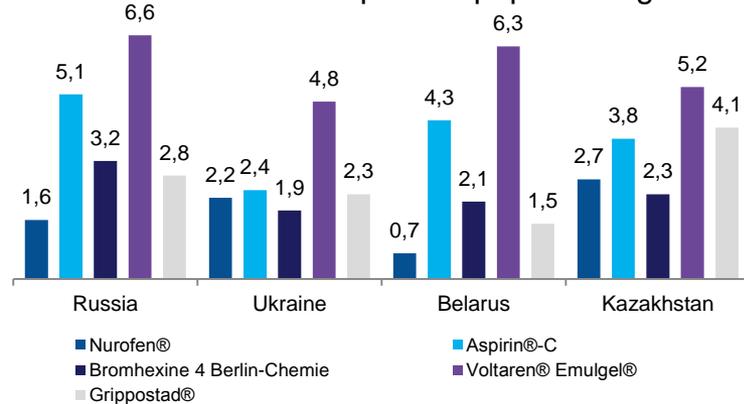
- There are more than 8,000 pharmacies in Kazakhstan, most of which are still not certified in accordance with GPP standards.
- Pharma retail accounts for 60% of the total market.
- Top 6 pharmacy chains control approximately 35% of the market.
- Amanat, which is also the leading distributor, holds a 10% share.
- Average margins earned by pharmacies range between 12% and 25%.

# Key Consumers and Markets (9)

## Prices for 5 Drugs Compared

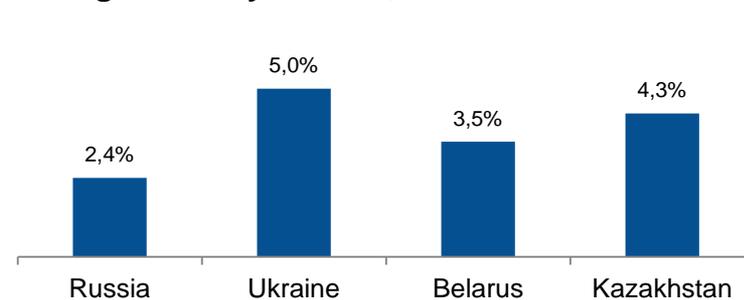
### Comparison of drug prices by country, USD

Based on a random sample of 5 popular drugs



Sources: DSM Group, local pharma retailers

### Cost of combined basket as a percentage of average monthly income, %



Source: DSM, local pharma retailers, national statistics agencies

- To get a feeling of the market from the consumer's perspective, we compared prices for five popular drugs and medicines.
- They are OTC and designed to treat very common conditions:
  - High fever
  - Cold/flu
  - Cough
  - Back pains.
- We have converted prices in local currencies into USD at average annual exchange rates to obtain USD prices.
- The cost of these drugs combined into one 'basket' is the highest in Kazakhstan and Russia.
- Ukraine and Belarus are very similar in terms of combined cost.
- For this sample, costs in these countries are on average 20% higher in Russia and Kazakhstan than in Ukraine and Belarus.

# Key Consumers and Markets (10)

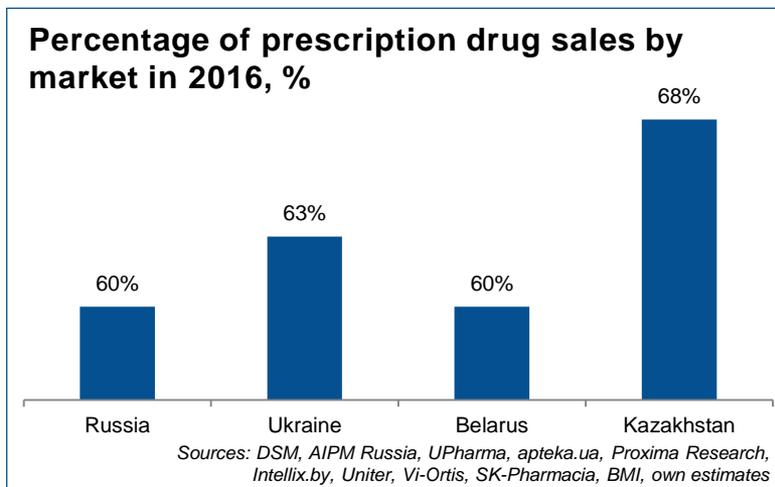
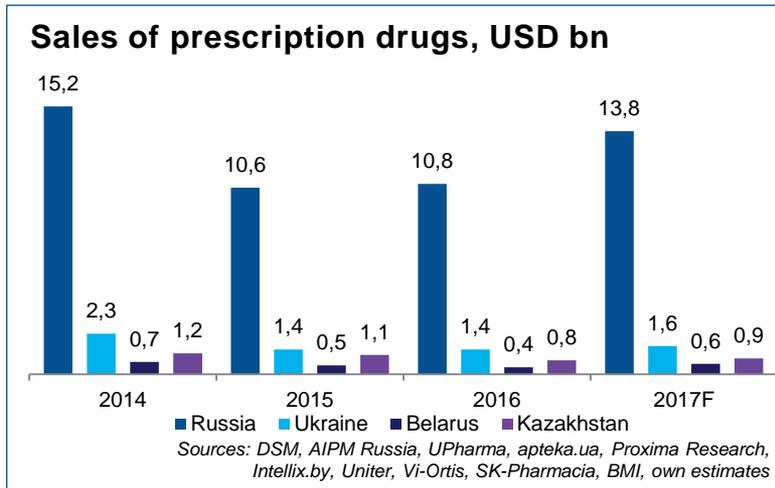
## Average prices for 5 popular drugs

Brand	Active substances	Dosage forms	Manufacturer	Reference link	Russia, USD	Ukraine, USD	Belarus, USD	Kazakhstan, USD
Nurofen®	Ibuprophenum	10 coated tablets of 200 mg / 12 coated tablets of 200 mg	Reckitt Benckiser		1.6	2.2	0.7	2.7
Aspirin®-C	Acetylsalicylic acid + Ascorbic acid	10 effervescent tablets, carton pack	Bayer AG		5.1	2.4	4.3	3.8
Bromhexine 4	Bromhexinum	Oral solution, 60 ml / drops, 20 ml	Berlin-Chemie AG / Krewel Meuselbach GmbH		3.2	1.9	2.1	2.3
Voltaren® Emulgel®	Diclophenacum	Emulgel for external application 1 % tube of 50 g	Novartis		6.6	4.8	6.3	5.2
Grippostad®	Paracetamolum + Acidum ascorbinicum	The blisters of 10 capsules per pack	Stada		2.8	2.3	1.5	4.1

Sources: DSM, local pharma retailers

# Market Overview and Segmentation (1)

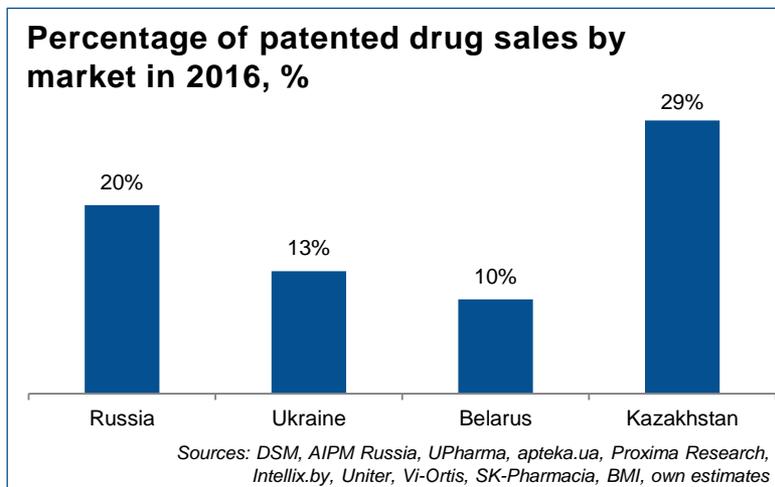
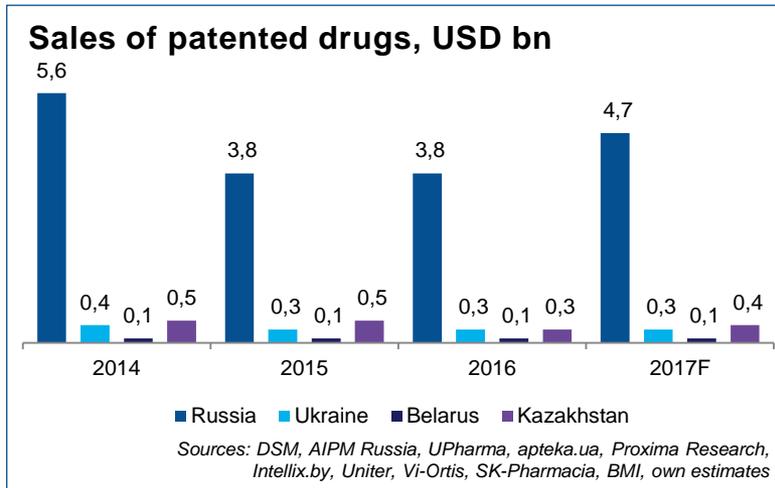
## Prescription Drugs



- Prescription drugs are represented by patented drugs and generics.
- Prescription drugs account for 60% to 68% of sales depending on the market.
- Many drugs are imported, hence prices are subject to local currency fluctuations.
- The growth of the market for prescription drugs will be stimulated by the rising accessibility of healthcare services. However, it will continue to feel pressure from reduced government spending on patented drugs.
- Generics will show greater growth potential than patented drugs in the short term in view of strained government spending.
- Although governments have established a list of drugs which can be sold only for a prescription in their respective country, drugs are fairly easily available in pharmacies without a prescription.

# Market Overview and Segmentation (2)

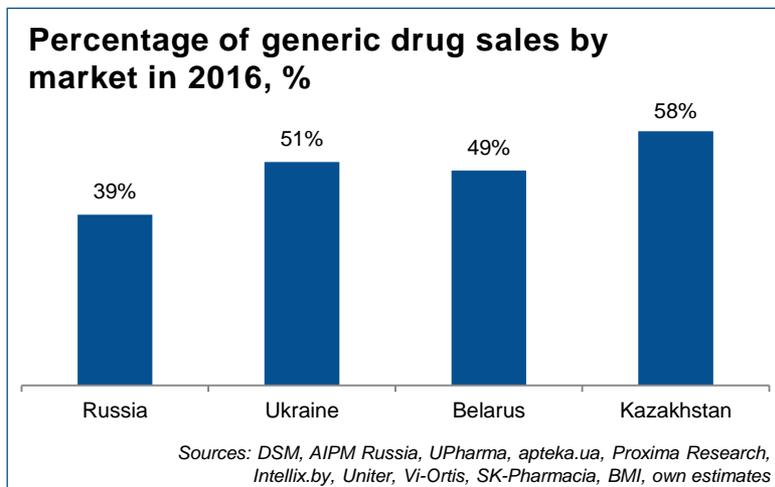
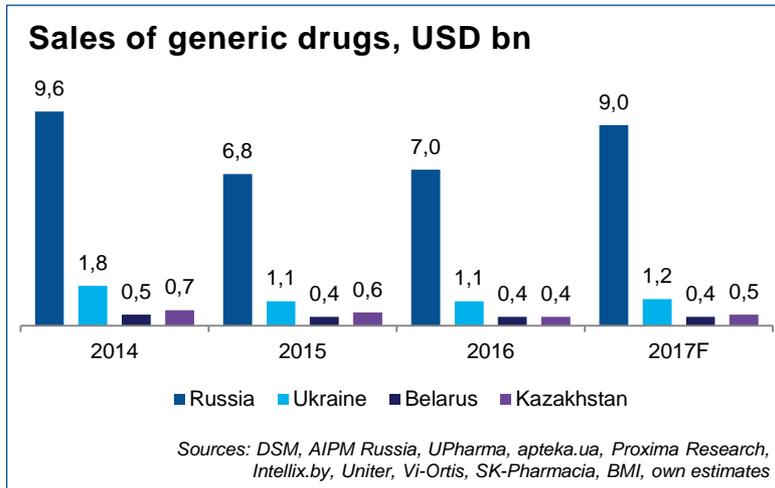
## Patented Drugs



- Patented drugs are mostly imported from abroad, which makes prices for them very vulnerable to local currency fluctuations.
- The four countries represent challenging markets for patented drugs in the short- to medium-term. This, however, can improve as the economies perform better.
- These drugs account for a very low 10% of total sales in Belarus to a relatively high 29% in Kazakhstan.
- Prices for these drugs are too high for the majority of consumers and funding provided by local governments is not sufficient.
- For example, the Russian government restricts its spending on patented drugs to orphan diseases and cancers.
- Generic and OTC drugs erode the share of patented drugs as national governments are focused on developing historically strong generics segments.

# Market Overview and Segmentation (3)

## Generics

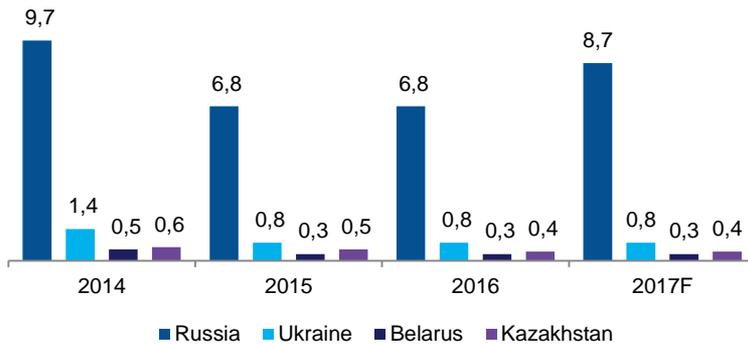


- Generic drugs have been the strongest segment of national pharma sectors historically, accounting for between 39% to 58% of total pharma sales.
- Indeed, they appear to be the main beneficiary of reduced purchasing power of consumers and government spending, as well as government import substitution and pharma industrial policies.
- Generics are and will continue to be the key growth segment of local pharma markets.
- Building new facilities to produce generic drugs and biosimilars attracts most of investment.

# Market Overview and Segmentation (4)

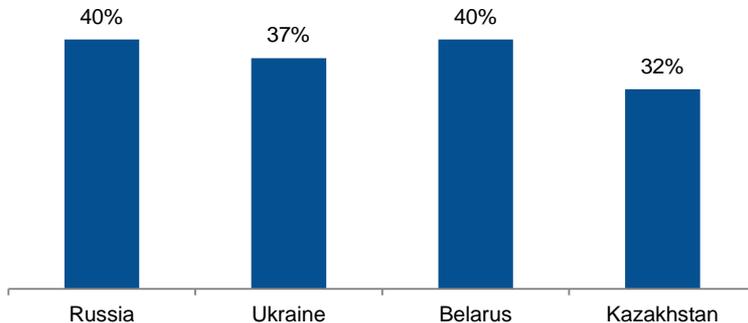
## OTC Drugs

**Sales of OTC drugs, USD bn**



Sources: DSM, AIPM Russia, UPharma, apteka.ua, Proxima Research, Intellix.by, Uniter, Vi-Ortis, SK-Pharmacia, BMI, own estimates

**Percentage of OTC drug sales by market in 2016, %**



Sources: DSM, AIPM Russia, UPharma, apteka.ua, Proxima Research, Intellix.by, Uniter, Vi-Ortis, SK-Pharmacia, BMI, own estimates

- OTC drugs traditionally play a very important role because consumers have better access to medical information, prices are lower compared to prescription (patented) drugs, national reimbursement programs are limited and people have a tendency for self-treatment.
- They account for between 32% and 40% of total pharma sales.
- Most common OTC drugs are vitamins, dietary supplements, cough/cold treatments, analgesics and digestives.
- According to MarketLine, Russia is the third largest market in Europe for OTC drugs in value terms, preceded only by Germany and Great Britain.

# Investments

## Russia

- Approximately USD 2.6 bn (at 2016 rates) was invested by Russian and foreign pharma manufacturers in 2012-2016.
- 21.7% of this amount was invested by the state.
- In 2016, eight new key sites were launched.
- 25 sites were launched between 2013 and 2015.
- The Pharma 2020 program (2009) and the Federal program for the pharma and medical industry by 2020 (2011) have been the key drivers for investments by local and international investors.
- Local companies, in partnership with their international peers or alone, started to build high-tech production facilities for complex drugs to treat serious conditions.
- International players, such as Novartis, AstraZeneca, Takeda, Novo Nordisk and Sanofi, have built their plants.

- Approximately 80 international players have been localizing their production in Russia. A number of examples are provided in the Appendix.
- CMO Partnerships play an increasingly important role in the localization effort.

## Ukraine

- Investments in the pharma industry are estimated to reach approximately USD 200 million in the period 2011-2016.

## Belarus

- Investment project is planned for 2016 to 2020. In 2017 alone, seven expansion projects have been completed for USD 30 million.

## Kazakhstan

- There are plans to invest for approximately USD 220m in 15 new production facilities till 2020, with approximately 15% of the funds coming from the government.

# Leading Manufacturers (1)

## Russia

#	Company name	Revenue in 2016, USD m	Specialization	HQ location
1.	OTCPharm	425	Wide range, incl. antiviral, CNS, digestive and intestinal, etc.	Moscow
2.	Pharmstandard	385	Wide range, incl. cardiovascular, diabetes, cancer, etc.	Moscow
3.	Valenta	198	CNS, urology, gastroenterology, immunology, antiviral and antibacterial therapy, etc.	Moscow Region
4.	Biocad	170	Cancer, HIV, hepatitis, MS, etc.	St. Petersburg
5.	Sotex (part of Protek Group)	157	Anemia, cardiovascular, CNS, rheumatology, gastroenterology, etc.	Moscow Region
6.	F-synteZ	153	MS, cancer, pancreas, etc.	Moscow Region
7.	Ozon Pharmaceuticals	136	Wide range, incl. allergies, antibacterial, vitamins, gastroenterology, cardiology, neurology, cancer, etc.	Samara Region
8.	PharmasynteZ	127	TB, HIV, cancer, antibiotics, antibacterial, etc.	Irkutsk Region
9.	KRKA (SI)	116	Wide range, incl. cough and cold, pain killers, vitamins, CNS, cardiovascular, gastroenterology, etc.	Moscow Region
10.	Servier (FR)	19	Cardiovascular, cancer, CNS, diabetes, rheumatology, psychiatry, etc.	Moscow

Sources: Expert.ru, company information

- Pharma clusters: Moscow and Moscow Region, St. Petersburg, Kaluga, Yaroslavl, and others. New clusters will be built in Grozny and Tatarstan.

# Leading Manufacturers (2) Ukraine

#	Company name	Revenue in 2016, USD m	Specialization	HQ location
1.	Farmak	120	Alimentary, respiratory, sensory, cardiology, dermatology, etc.	Kiev
3.	Arterium Corporation	88	Neurology, antibacterial, alimentary, cardiology, dermatology, veterinary, etc.	Kiev
2.	Darnitsa	85	Pain, dermatology, respiratory, neurology, alimentary, cardiology, etc.	Kiev
4.	Zdorovie	59	Respiratory, cardiology, ophthalmology, neurology, antibacterial, antifungal, etc.	Kharkiv
5.	Kiev Vitamin Factory	50	Vitamins, alimentary tract, cardiology, neurology, etc.	Kiev

Sources: UPharma, apteka.ua, company information

- Pharma clusters: Kiev, Kharkiv, Lviv, Sumy and Vinnitsa.

# Leading Manufacturers (3)

## Belarus

#	Company name	Ownership	Revenue in 2016, USD m	Specialization	HQ location
1.	Belmedpreparaty	State	90	Cardiology, dermatology, neurology, metabolism, etc.	Minsk
2.	Borisovskiy ZMP/ Borimed	State	57	Bacteriology, cardiology, etc.	Minsk Region
3.	Lekpharm	Rompharm (BG)	39	Cardiology, gastroenterology, respiratory system, etc.	Minsk Region
4.	Minskintercaps	State	26	Cardiology, alimentary tract, allergies	Minsk
5.	Pharmland	Holden- Medicalbv (NL)	24	Blood system, infections, testing systems	Minsk
6.	Nesvizh Plant of Medical Preparations	State	13	Blood system	Minsk Region
7.	Ekzon	Mixed	9	Dietary supplements, syrups, etc.	Brest
8.	Nativita	Private (IN, LT, RU)	N/A	Monoclonal antibodies, lungs/breathing	Minsk/Vitebsk
9.	Pharmtechnology	Private	N/A	Dermatology, musculoskeletal system	Minsk
10.	Triplepharm	Mixed	N/A	Antibiotics	Minsk Region

Sources: UPharma, Uniter, Ministry of Health, company information

- Important players on the market without local production: Sanofi-Aventis, Novartis, Bayer Healthcare, Takeda, Roche, Gedeon Richter, GSK.
- Pharma clusters: Minsk and Minsk Region (Belpharm and BelBiograd).

# Leading Manufacturers (4)

## Kazakhstan

#	Company name	Ownership	Revenue in 2015, USD m	Specialization	HQ location
1.	Santo/Chimpharm	Polpharma Group (PL)	58	Infusions, antibacterial preparations, cardiology, analgesics and anesthetics, etc.	Shymkent
2.	NOBEL AFF	Private	23	Antibiotics, antihypertensive, pain killers, lipid-lowering agents, etc.	Almaty
3.	Dosfarm	Private	7	Respiratory, sensory organs, etc.	Almaty
4.	Kyzyl-May	N/A	6	Herbal, food supplements, cardiology	Almaty
5.	Abdi Ibrahim Global Pharm	Abdi Ibrahim (TR)	5	Neurology, antibacterial preparations, respiratory, etc.	Almaty
6.	Lecos LLC	N/A	4	Sensory organs	Almaty
7.	Eikos Pharm LLC	N/A	3	Respiratory, infections, etc.	Almaty
8.	Karaganda Pharmaceutical Complex	N/A	N/A	Injection preparations	Karaganda
9.	Romat LLC	Private	N/A	Nervous system, cardiology, respiratory, etc.	Pavlodar

Sources: UPharma, AEQUITAS, company information

- Sanofi-Aventis is the only international manufacturer with local production: it has fully localized one of its drugs working together with Santo/Chimpharm. GlaxoSmithKline has a cooperation agreement on local production of a number of pharmaceuticals with Kazakh government.
- Important players on the market without local production: Akrikhin, Nycomed/Takeda, Bayer Healthcare, Roche, Teva, Pfizer, Johnson & Johnson and Menarini.

# Market Strategies (1)

## Possible ways of servicing a market:

- Distribution contract with a local entity.
- Licensing agreement with local manufacturers and/or distributors.
- Greenfield investments.
- Brownfield investments.
- Contract manufacturing (CMO).

## CMO Overview

- First CMO partnerships were established in the late 1990s and early 2000s.
- Based on publicly available information, **31** Russian companies have established CMO partnerships with **67** international manufacturers.
- A major international manufacturer can work with several Russian CMO partners, e.g., Bayer, Actavis, AstraZeneca and Pfizer use more than one provider. Consequently, one CMO usually works with multiple international manufacturers.
- In addition, **about 50** Russian pharma producers claim they are capable of contract manufacturing but do not provide details of any partnerships – so the list can be potentially longer.
- CMO partnerships, along with building a plant and acquiring a local business, are pursued by foreign manufacturers that want to obtain access to Russian public tenders.

# Market Strategies (2)

## Things to consider in CMO agreements

- Rights and obligations of the local CMO Partner.
- Quality requirements of the manufactured product with indication of technical conditions or state standards (GMP).
- Price and payment conditions.
- Acceptance of works results or services.
- Delivery of APIs, its list, and quality requirements.
- Reports on use of raw materials (forms, terms of providing).
- Terms for product manufacturing.
- Production schedule.
- Requirements on packaging and labeling.
- Guaranties.
- Complaint procedure, settlement of disputes, etc.

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