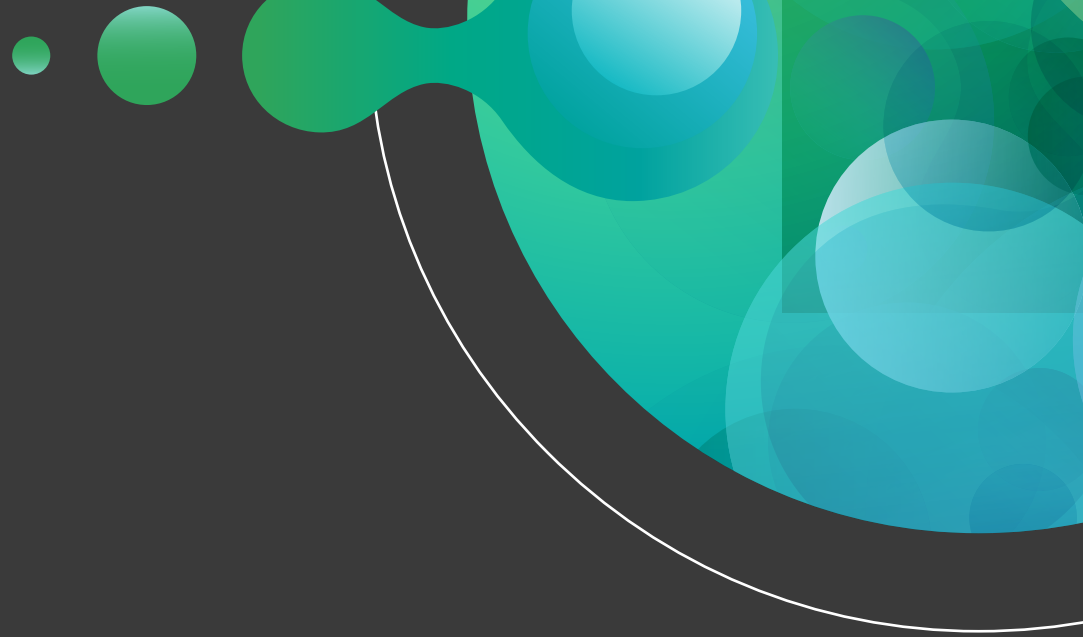


PHARMACEUTICAL INDUSTRY IN UKRAINE

2022



INTRO

■ This is why we did this study

Covid-19 pandemic and full-scale Russia's invasion of Ukraine have clearly shown the importance of a strong pharmaceutical industry as a part of the healthcare system and a factor that strengthens national security.

Pharma in Ukraine is the industry which combines a long history of development with innovation and orientation to the future. This is the industry that is among the leaders in terms of investment and productivity. This is the industry which, in addition to economic growth, has a significant social component and directly affects living standards.

In this study, we showed the main changes in the market, the position of domestic and foreign players, we considered development trends, opportunities, problems and achievements of the Ukrainian pharmaceutical production, and demonstrated the impact of Covid-19 and full-scale Russia's invasion of Ukraine have on the industry

■ We are going to tell about

MEDICINE MARKET

PHARMACEUTICAL COMPANIES

**PHARMACEUTICAL PRODUCTION
IN THE ECONOMY**

REGULATIONS FOR PHARMA

DEVELOPMENT TRENDS

COVID-19 IN UKRAINE

UKRAINE'S PHARMACEUTICS IN 2022



3 Ukrainian pharmaceutical companies

have made it to the TOP 1000 most expensive pharmaceutical companies in the world*



-6.1%

decrease in sales of medicines in pharmacies, UAH terms



+43 thousand

patients joining monthly the programme "Affordable medicines"

Medical reform implementation is underway in Ukraine. The next step is a mandatory electronic prescription for all prescription drugs. eHealth results are:



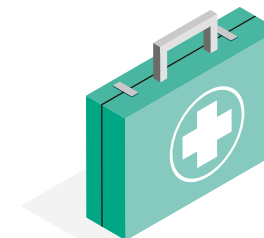
more than **32** million

patients have registered in the system



395 thousand

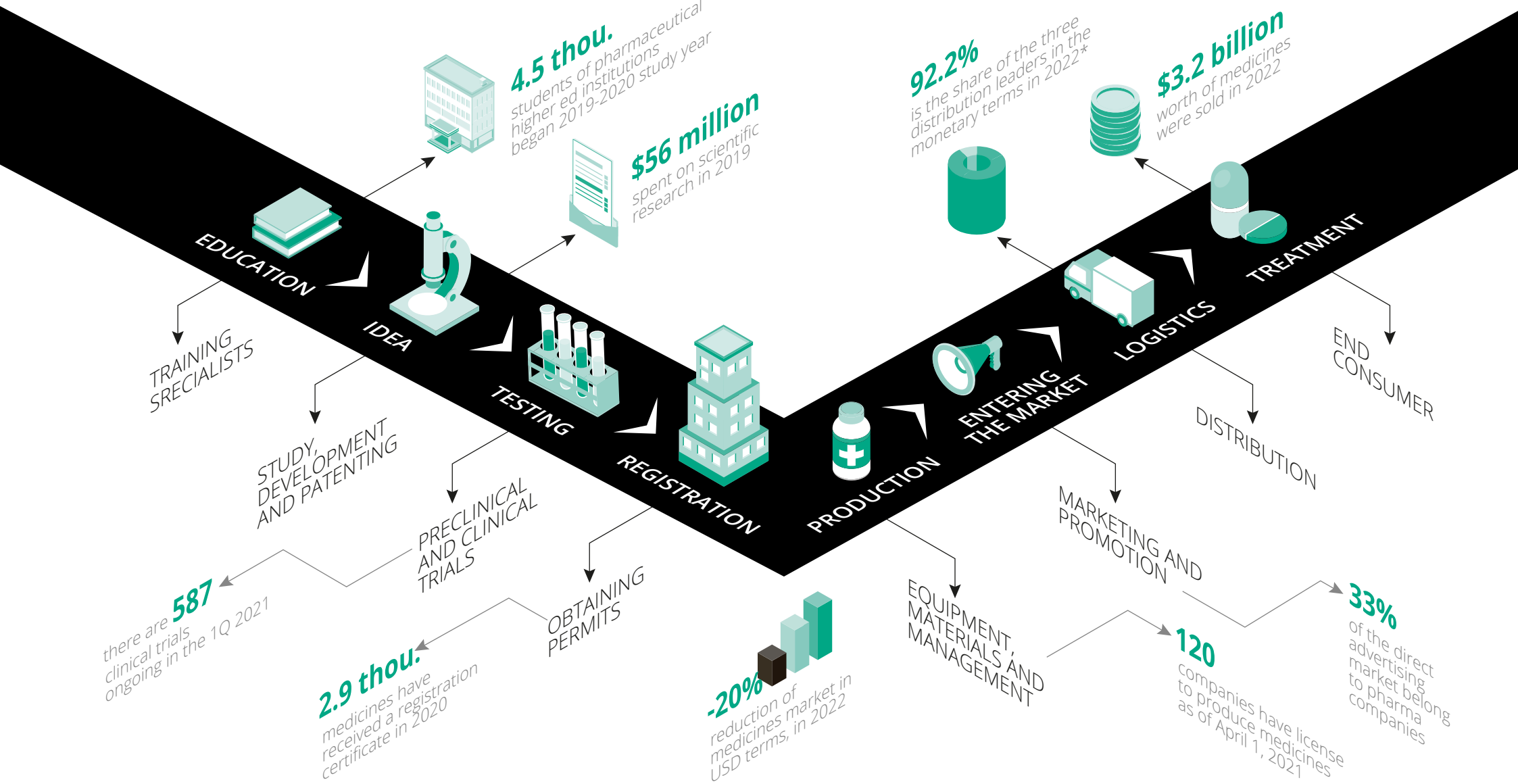
doctors have registered in the system



12.9 thousand

pharmacies have been included to the system

MEDICINES: FROM EDUCATION TO TREATMENT



Sources: Apteka, a weekly online media, State statistics, State Service of medicine and drug control, ClinicalTrials.gov *distribution of medicines

PHARMACEUTICAL PRODUCTION OF UKRAINE: HISTORY OF FORMATION

Founding

1907

The first pharma factory producing galenic, chemical and pharmaceutical products "Galenica" (now "**Zdorov'ia**")

1910s

Herbal products were manufactured in pharmacies' labs, the synthetic medicines were imported

1925

The first manufacturing of synthetic drugs - M.V.Lomonosov Kyiv chemical pharmaceutical plant (now "**Farmak**")

1932

Start of production at the Kyiv branch of Kyiv Experimental Endocrinology Institute (now "**Darnitsa**")

1937

Start of drug manufacturing at the predecessor of Kyiv vitamin plant

Recovery and development

1990s

Crisis and gradual reopening of manufacturing beginning 1995

1970s

Active construction of new facilities

1968

Launch of medicines manufacturing at Cherkasy dairy factory (now "**Yuriia-Pharm**")

1954

Creation of **Darnitsa** chemical pharmaceutical plant. Construction of new production facilities

1947

Launch of Kirov cooperative workshop, a predecessor of **Borshchahivskiy** chemical pharmaceutical plant

Growth

MID
2000s

Leaders of GMP certification **Borshchahivskiy** chemical pharmaceutical plant, "**Darnitsa**", "**Farmak**"

2007

The first in Ukraine fully automated logistics complex ("**Darnitsa**")

2009

Introduction of mandatory compliance with the good manufacturing practices (GMP) in accordance with EU standards

2013

Ukrainian medicine export made a quarter of a billion of dollars

2022

Two out of Top 5 companies in Ukraine's market are domestic pharma companies

MARKET OF **MEDICINES**

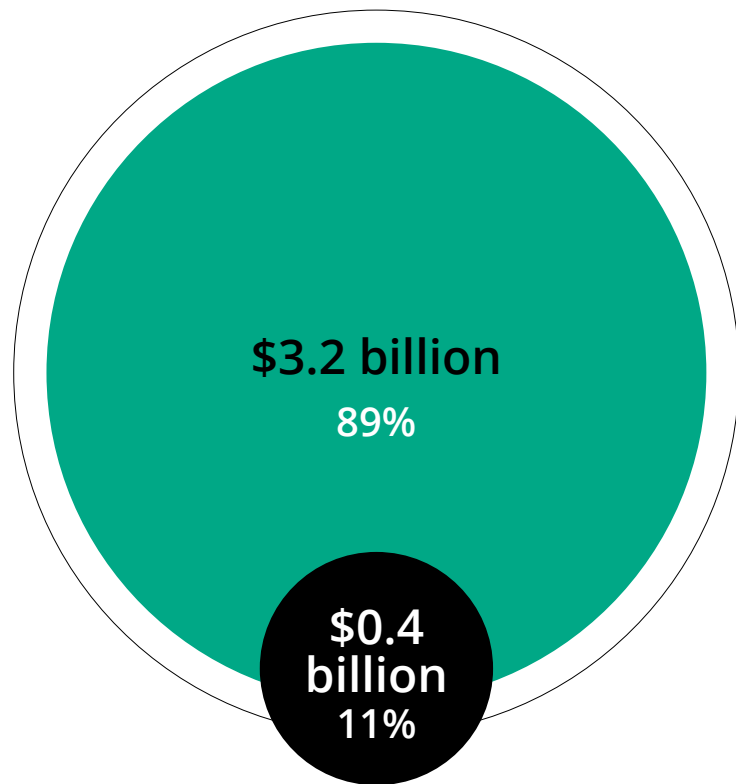


MARKET OF MEDICINES IN UKRAINE

Structure of the medicine market,
2022, USD billion and millions of packages

Key differences between the segments are in a consumers' financial capability to purchase drugs and mechanisms used in making a decision about the purchase

In monetary terms

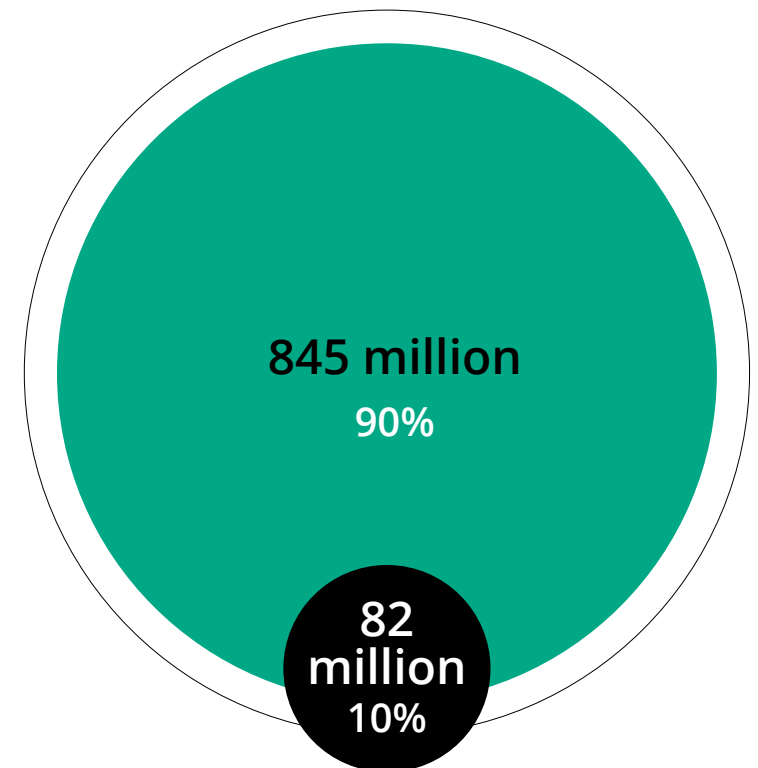


- Hospital
- Pharmacy

Pharmacy (retail) segment consists of mainly pharmacy chains. 89% of the retail market is financed directly by the consumers of the medicines. Consumers are numerous but have comparatively low purchasing power

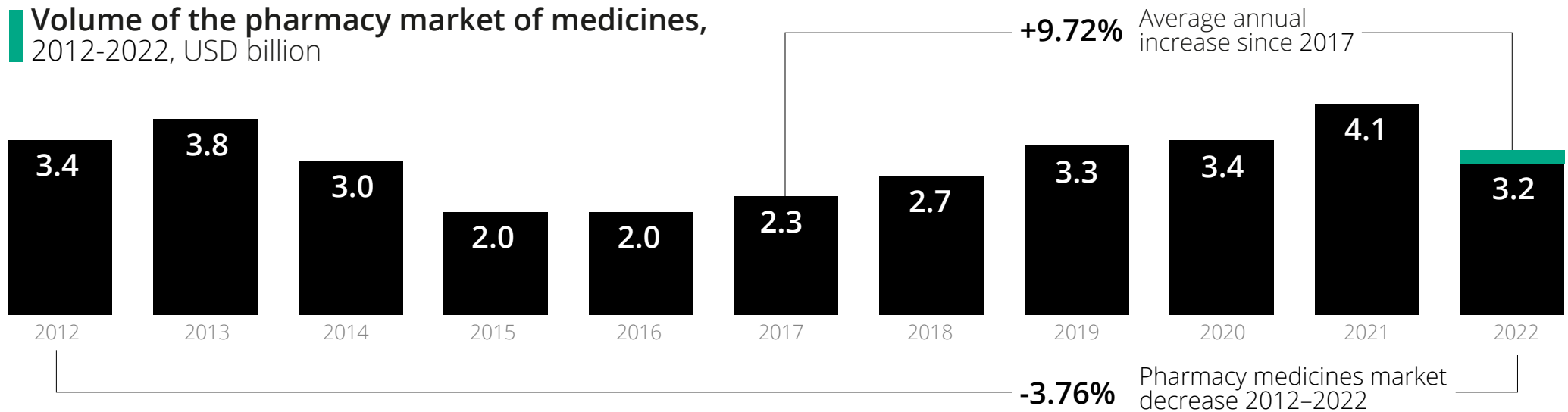
In the hospital segment medicine sales occur at medical and preventive healthcare institutions of Ukraine, which depend on state funding

In physical terms

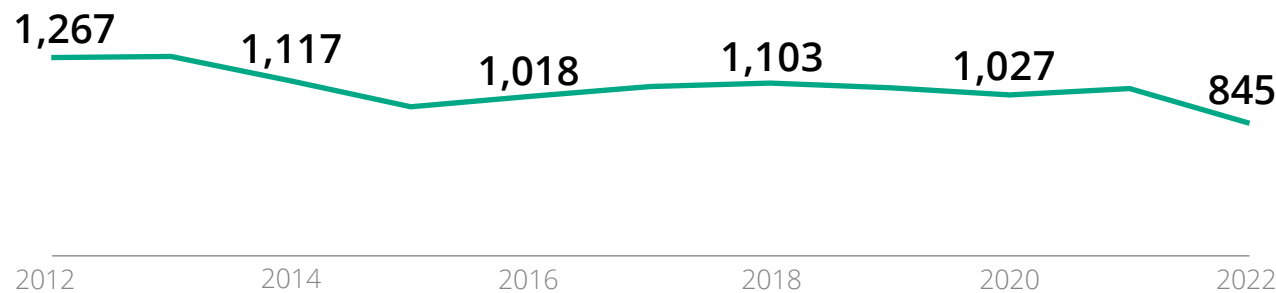


DYNAMICS OF THE PHARMACY MARKET

Volume of the pharmacy market of medicines, 2012-2022, USD billion

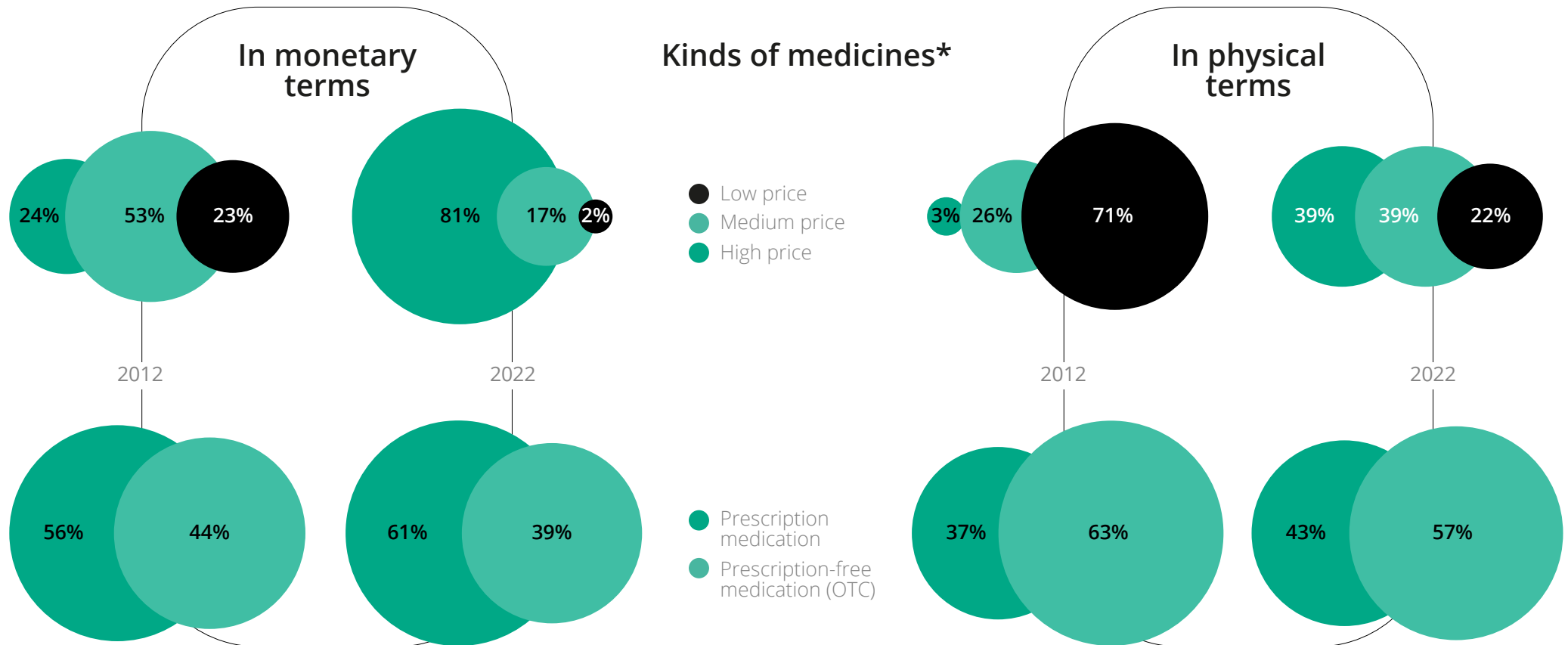


Volume of pharmacy sales of medicines, 2012-2022, millions of packages



One can see a decrease in volume of sales in physical terms and, at the same time, an increase in monetary terms, which is caused by the price increases and increase in the share of more expensive medicines as a result of the growing number of foreign manufacturers in the market

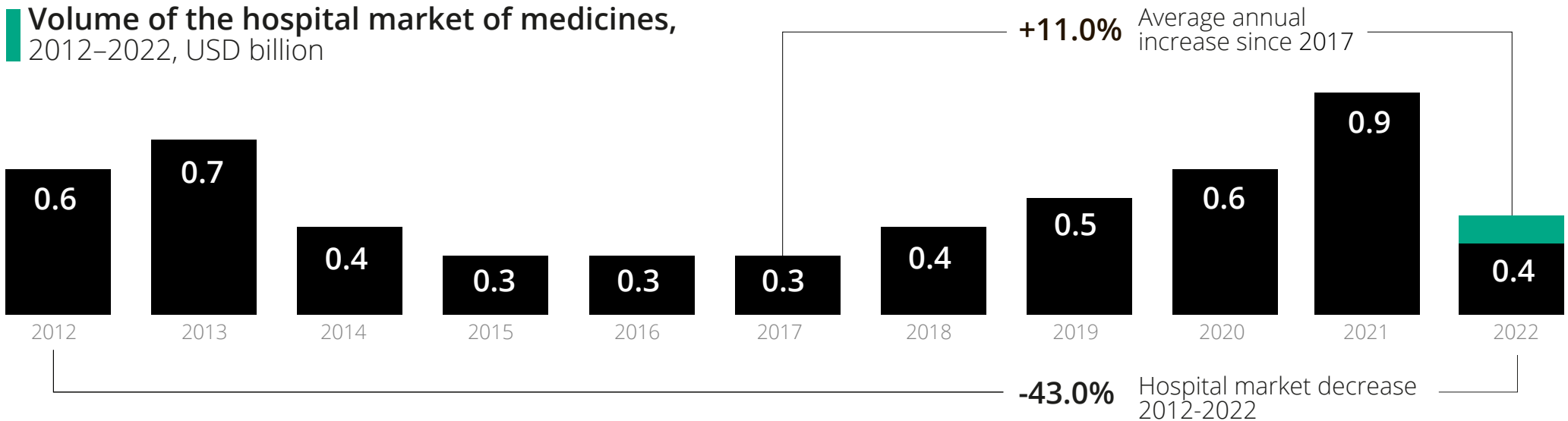
SEGMENTATION OF THE PHARMACY SALES



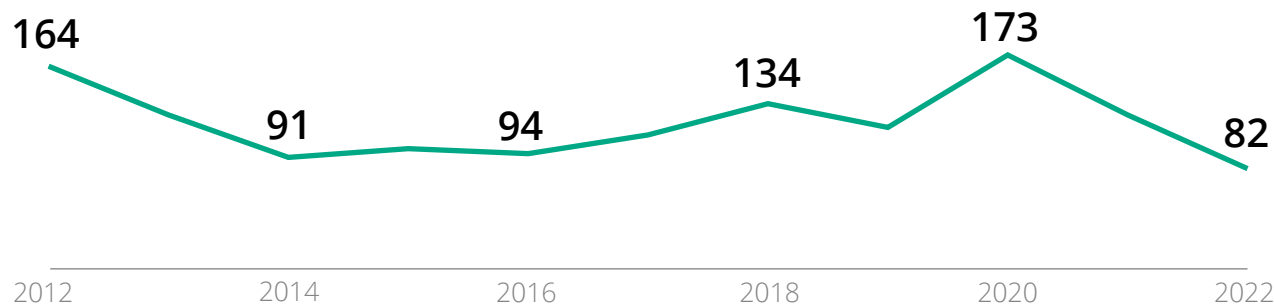
In spite of the stringent quarantine limitations, in 2022, the key market trends of the recent years have kept their place. Thus, the growth of the share of prescription and high-price medicines compensated for considerable market decrease in physical terms

DYNAMICS OF THE HOSPITAL MARKET

Volume of the hospital market of medicines, 2012–2022, USD billion



Volume of hospital sales of medicines, 2012–2022, millions of packages

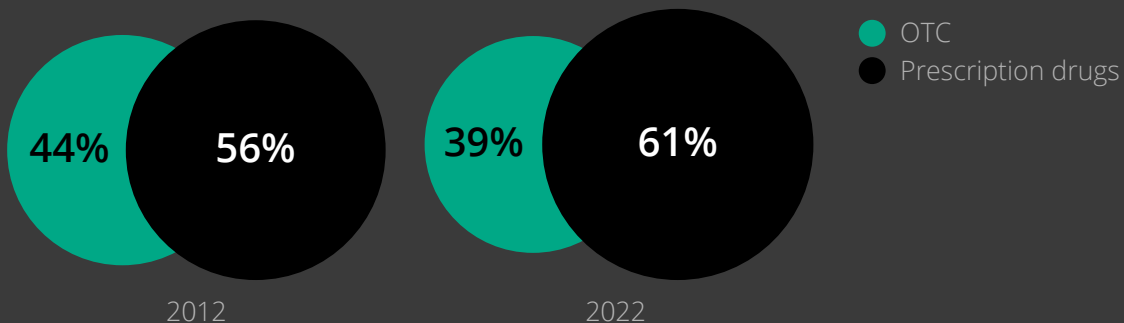


Public procurement of medicines decreased in physical terms in 2021-2022 due to a reduction in state funding, a decrease of operative interventions and hospitalizations in general (due to COVID-19 in 2021, and a full-scale Russia's invasion in Ukraine in 2022), and large volumes of humanitarian aid that arrived to Ukraine in 2022.

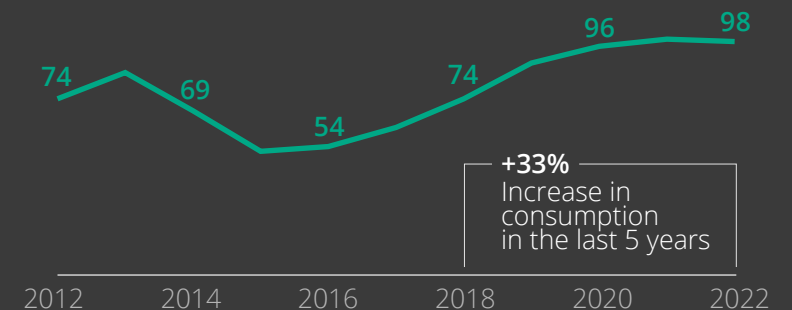
The increase in monetary terms for public procurement of medicines in 2021 is caused by the purchase of expensive medicines, primarily specific ones, vaccines against COVID-19, and antibiotics

MEDICINE CONSUMPTION

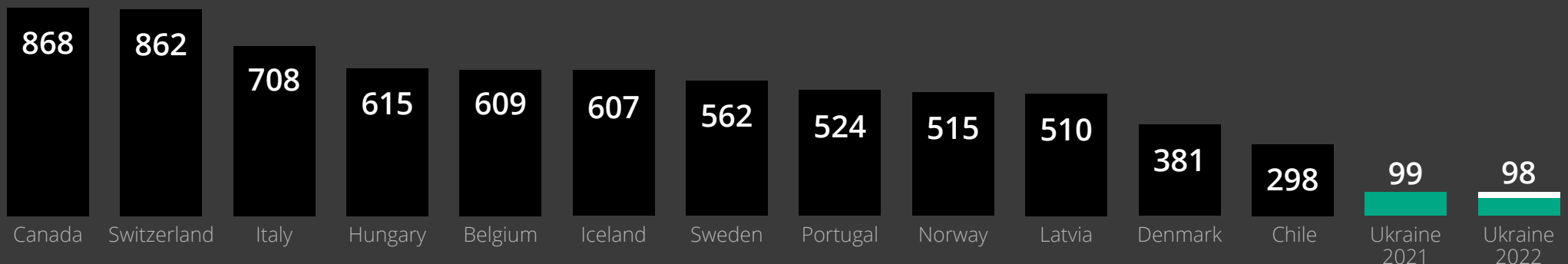
Structure of medicine consumption, 2012 and 2022, in monetary terms



Volumes of medicine consumption in Ukraine, 2012–2022, USD per person



Medicine consumption in the world, 2021, USD per person



Though medicine consumption level in Ukraine is lower than in other countries, it's been steadily rising

THE MOST POPULAR MEDICINES IN UKRAINE

Leaders of pharmacy sales of medicines, by volume, in monetary terms in 2022 and their position in 2018

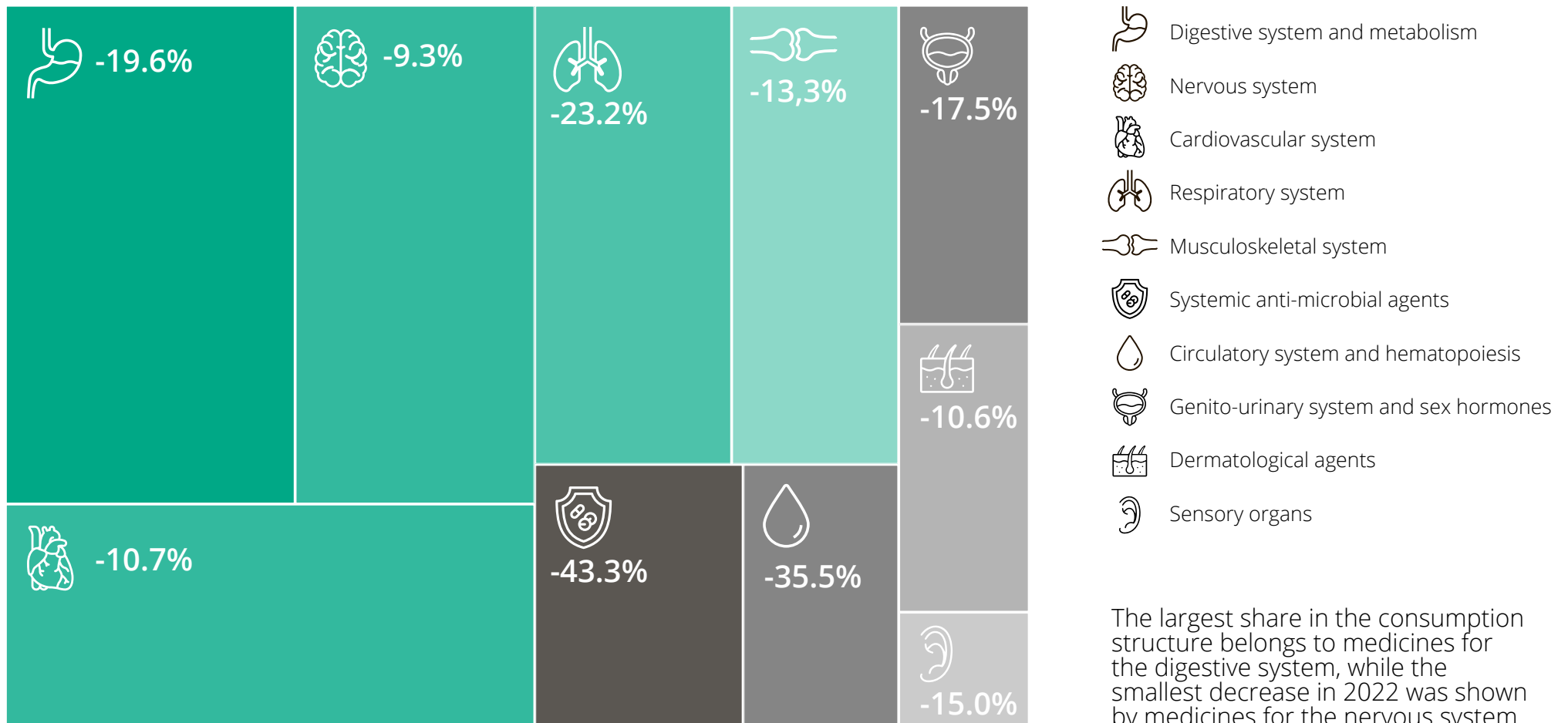
Prescription drugs

Rank in 2022	Medicine	Icon	Prescription Status	Target System
1 ¹¹	Xarelto		+	Circulatory system and hematopoiesis
2 ²	Nimesil		+	Musculoskeletal system
3 ¹	Nurofen			Musculoskeletal system
4 ⁵	Spasmalgon			Digestive system and metabolism
5 ¹⁰	Citramon			Nervous system
6 ⁵²	Triplixam		+	Cardiovascular system
7 ¹⁶	Detralex			Cardiovascular system
8 ²⁰	Gidazepam		+	Nervous system
9 ²⁸	Bifren			Nervous system
10 ¹⁴	Evkasolin			Respiratory system

Sources: Proxima Research, Medicines Kontrol

STRUCTURE OF MEDICINE CONSUMPTION

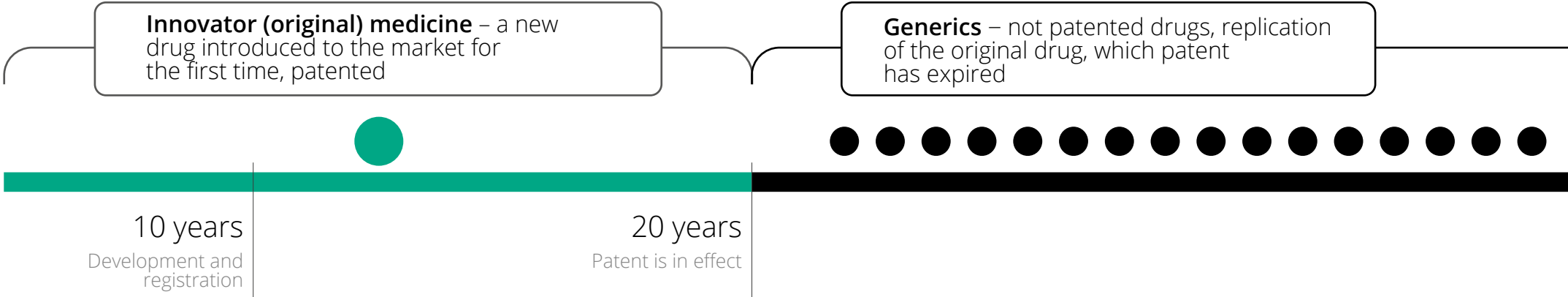
Top 10 groups of medicines on the pharmacy market and dynamics of their sales by ATC classification*, structure in monetary terms in 2022 and increase in sales comparing with 2021, %



The largest share in the consumption structure belongs to medicines for the digestive system, while the smallest decrease in 2022 was shown by medicines for the nervous system

INNOVATOR MEDICINES AND GENERICS

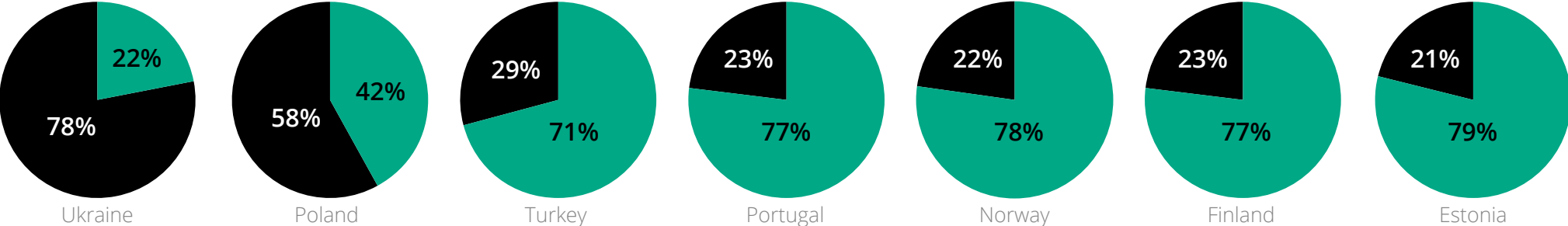
Life cycle of medicines



Structure of medicine market by country, based on sales in monetary terms, 2021, %

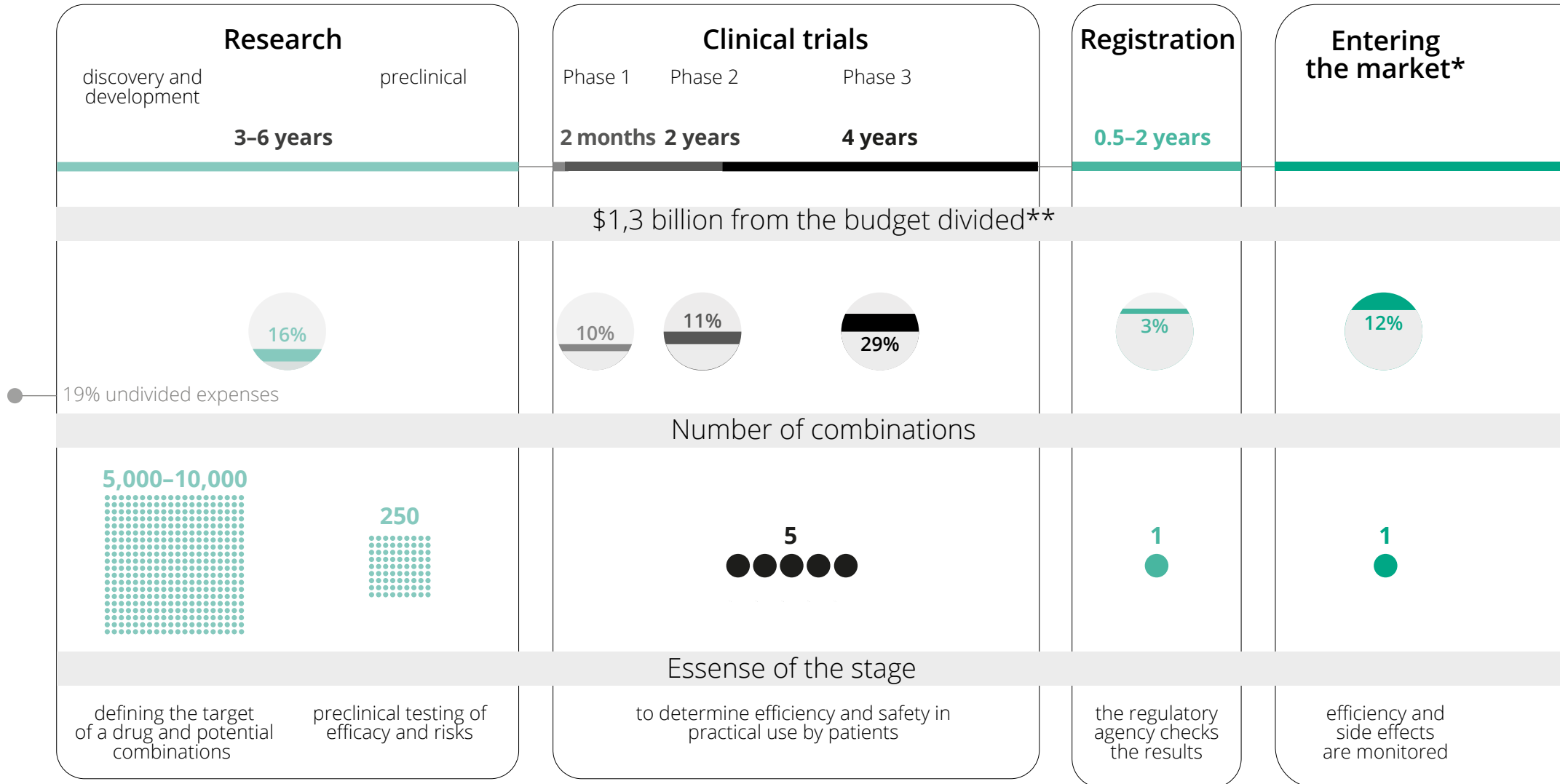
The majority of medicines in Ukraine are generics. It's been justified by consumers' low income level and purchasing power. Generics cost less and are identical to original drugs, thus make treatment affordable

● Innovator medicine ● Generics



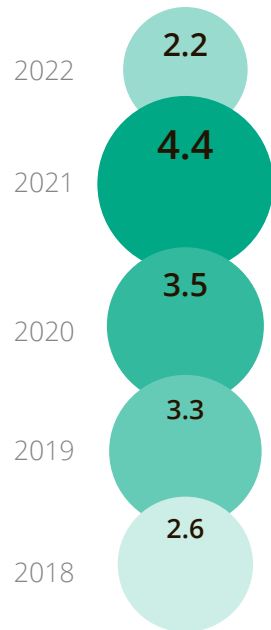
Sources: Proxima Research, OECD, EFPIA, MO3

INNOVATOR MEDICINE DEVELOPMENT PROCESS



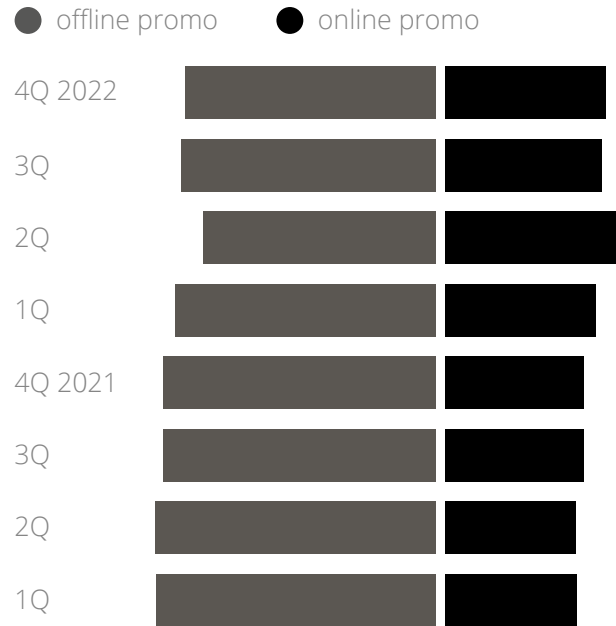
ADVERTISING MEDICINE IN THE PHARMA MARKET

Pharmaceutical companies invest in TV advertising, 2018–2022, UAH billion



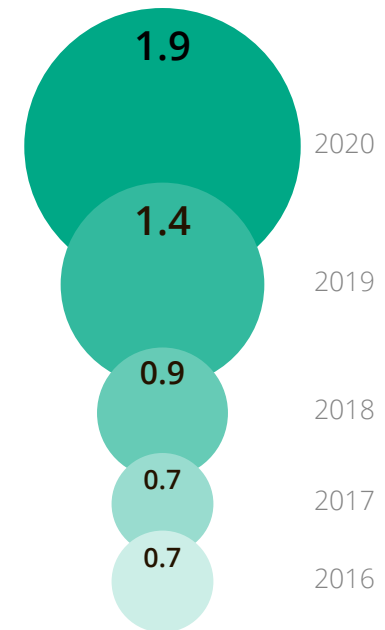
Investments of pharmaceutical companies in TV advertising grew annually until 2022. The decrease in 2022 was 50% vs. 2021. This was due to a significant decrease in sales of most pharmaceutical companies, considerable emigration and unemployment

Structure of doctors' references to kinds of medicine promotion, 2021–2022, %



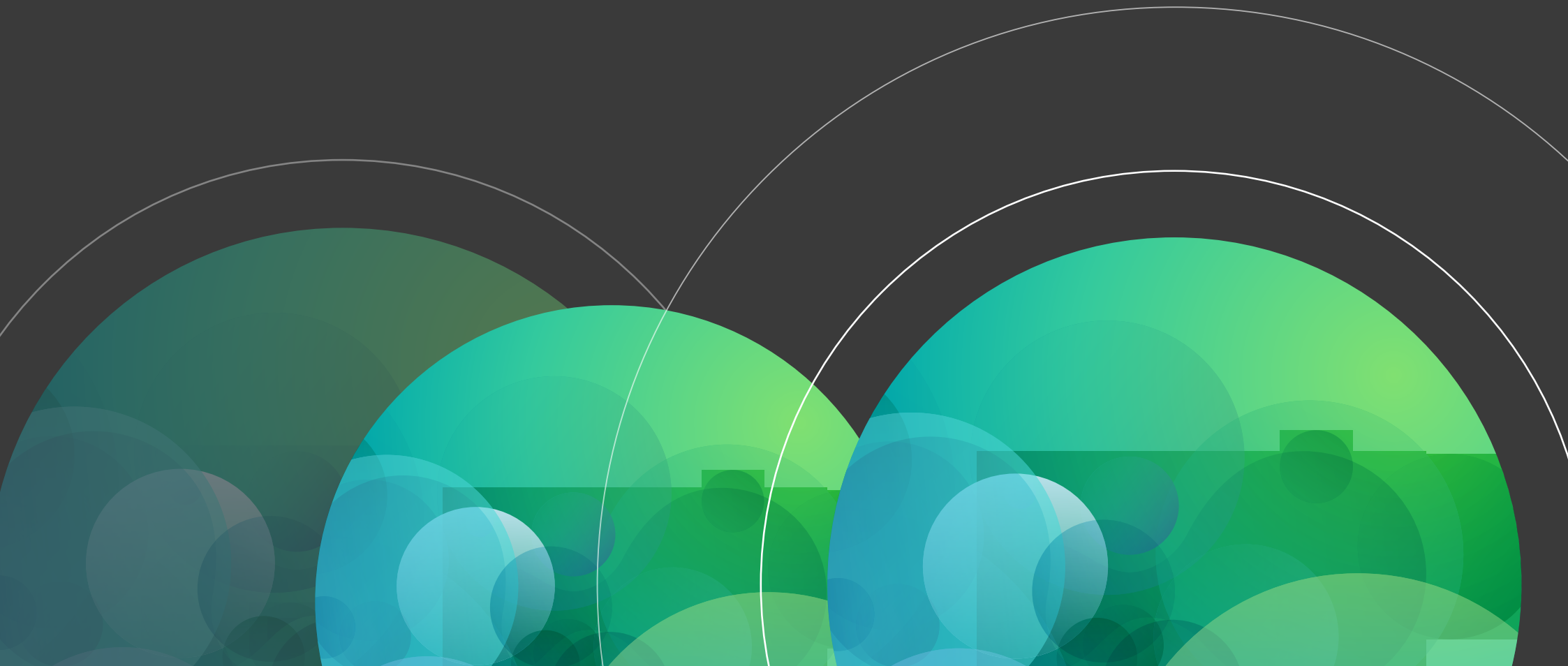
Covid-19 and full-scale Russia's invasion of Ukraine became the impetus for the growth of promotion in digital channels. In the nearest future the main task for the market will be to find an effective balance between offline and online communication

Number of demonstrations of "pharmacy basket" product ads on the Internet, 2016–2020, demos billions *



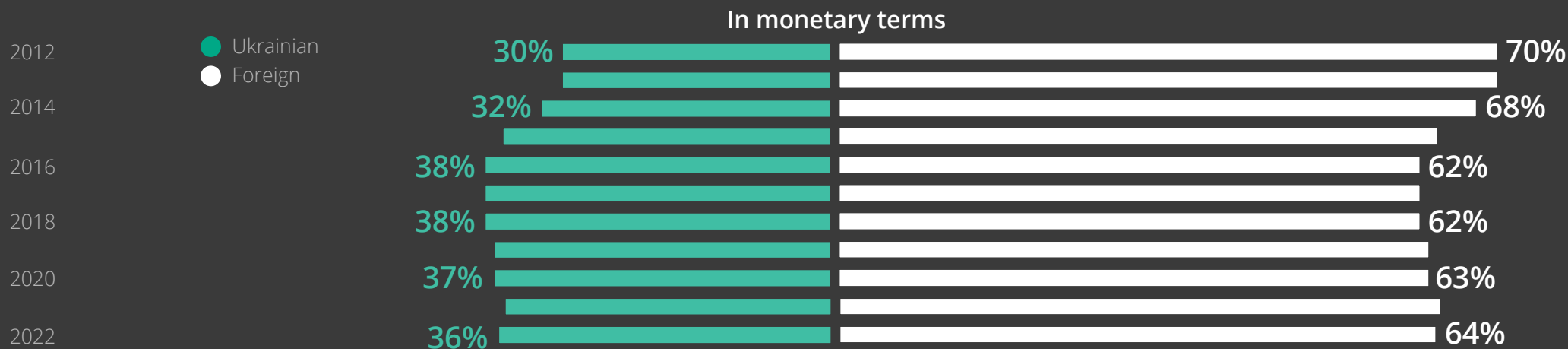
With every year pharmaceutical brands are getting bigger and more active in online promotion. Especially in the last 2 years

PHARMACEUTICAL **COMPANIES**



STRUCTURE OF THE PHARMACY MARKET

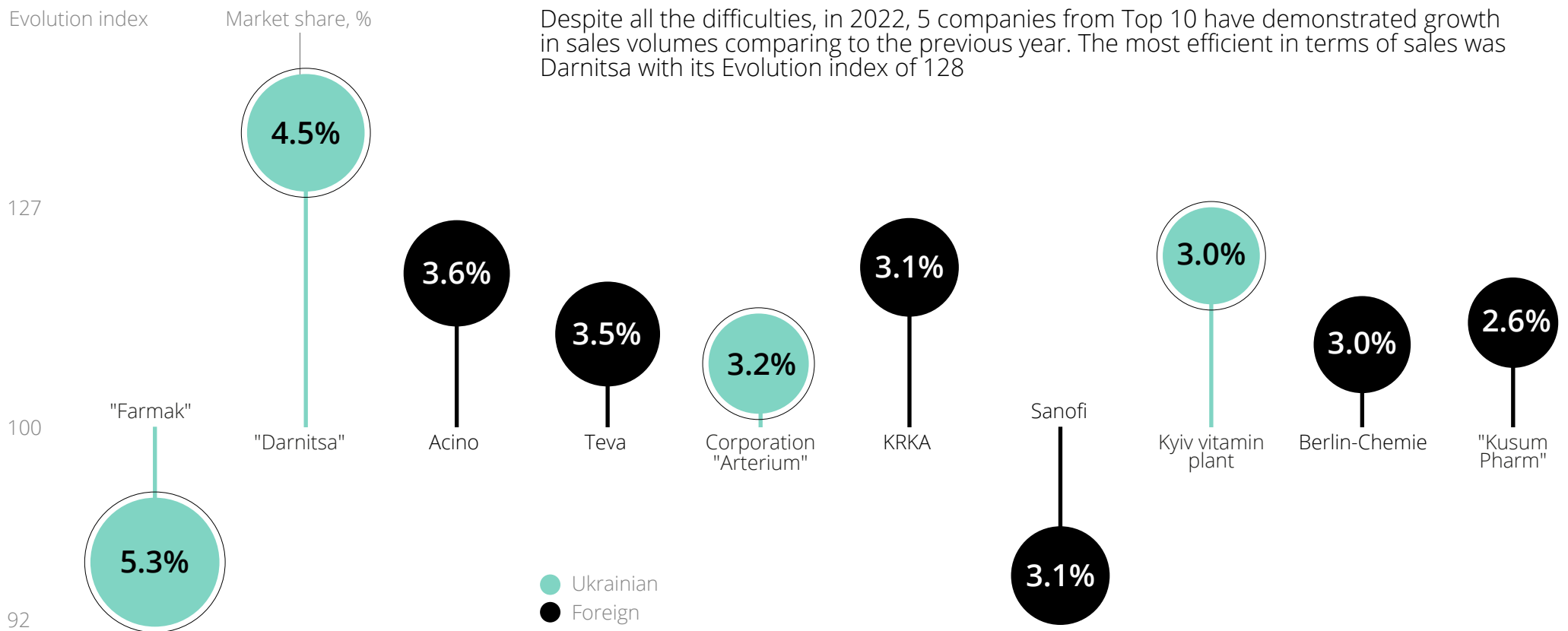
Structure of pharmacy sales by the place of manufacturing, 2012–2020, %



In 2022, a trend for the domestically-manufactured medicines share increase was observed both in physical and monetary terms

LEADERS OF THE PHARMACY MARKET

Top 10 companies by volumes of pharmacy sales of medicines and dietary supplements, 2022, % of the whole pharma market and Evolution index* (based on sales in monetary terms)

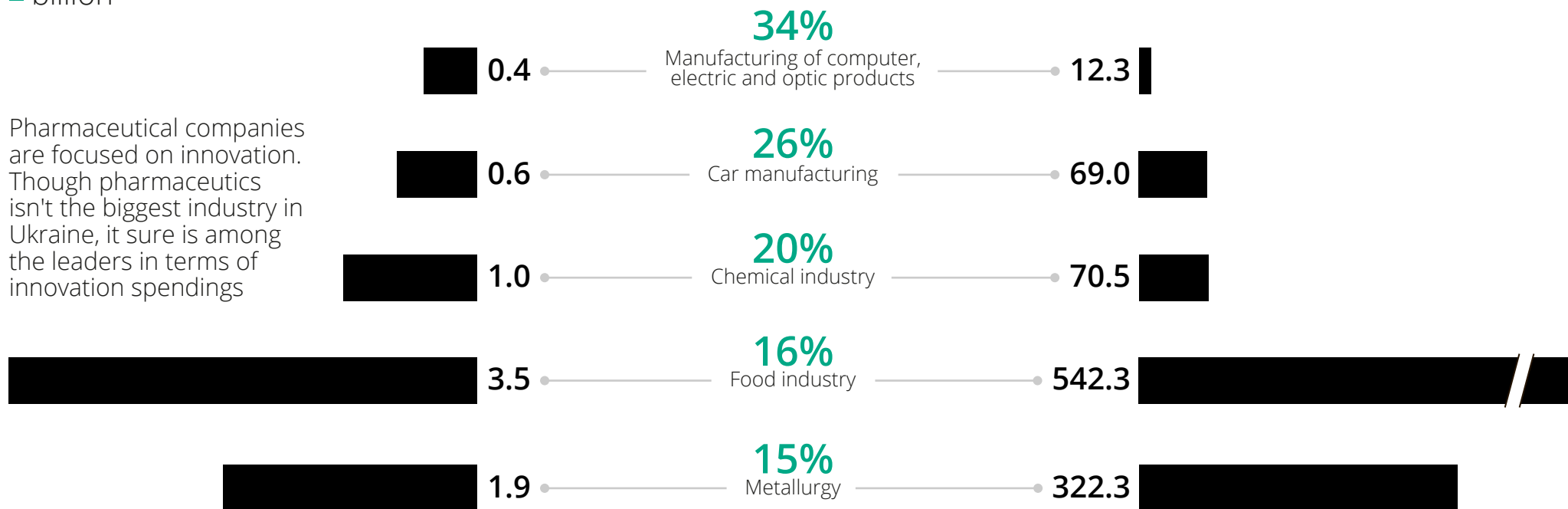


INNOVATIONS IN THE PHARMACEUTICAL MANUFACTURING

Share of actively innovating enterprises
in the spheres of processing industry*,
2020, % of the total number of enterprises in the sphere

Expenses for
innovation,
2020, UAH
billion

GDP
2020, UAH
billion



Pharmaceutical companies are focused on innovation. Though pharmaceuticals isn't the biggest industry in Ukraine, it sure is among the leaders in terms of innovation spendings

INNOVATIVE GROWTH ON THE EXAMPLE OF THE NATIONAL MANUFACTURER

\$33.6 MILLION

"Darnitsa" - the leader of the market, invested in development in 2019-2021

51%
upgrading the production



33%
new products

18 new brands in 2022

55 new brands - a plan for 2023-2027



68%
digital transformation



- Drug Dossier Development (eCTD)
- eCTD Submission
- Trial Master File (eTMF)
- Agile Regulatory Affair Management
- Digital pharmacovigilance
- Electronic archive
- Quality Management & Warehouse implementation

CERTIFICATION OF PHARMACEUTICAL MANUFACTURERS

Valid GMP certification of Ukrainian manufacturers by the regulatory institutions of the EU, as of May 24, 2021 and date of certification*

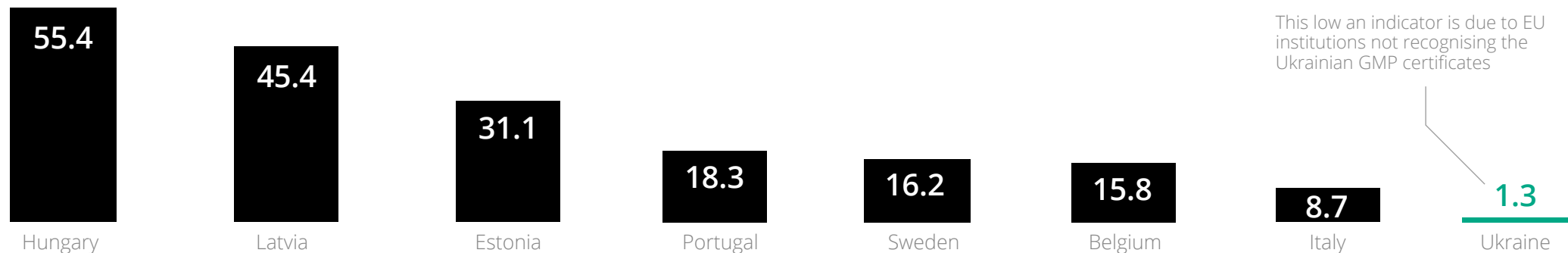


GMP – a set of rules and requirements to a production process and quality control of medicines

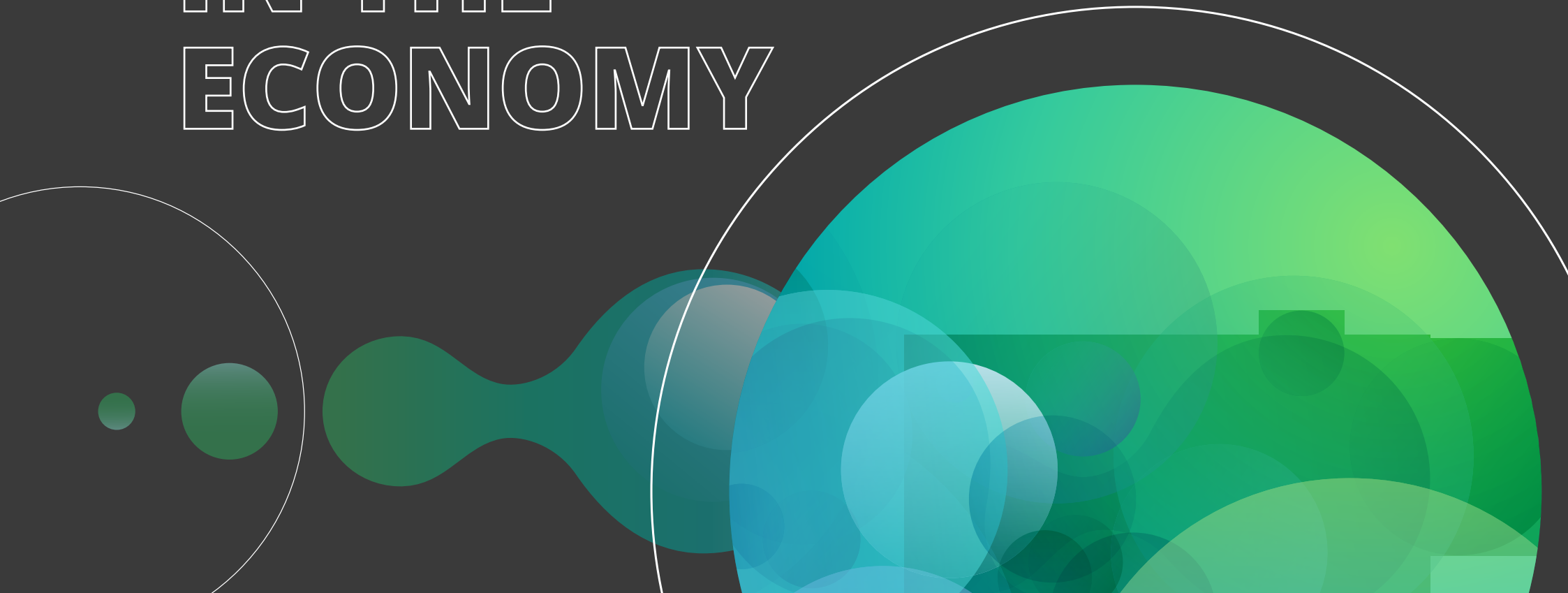
GMP-certification by EU institutions – a mandatory procedure for a company entering the medicine market

Currently, the EU regulatory institutions don't recognise the GMP certificate issued by the Ukrainian regulatory institution. That is why domestic pharma companies undergo double inspection which complicates entering the EU market and increases costs

Relative number of pharmaceutical productions GMP certified by EU regulatory institutions, by country, company per USD 1 billion worth of drug sales*

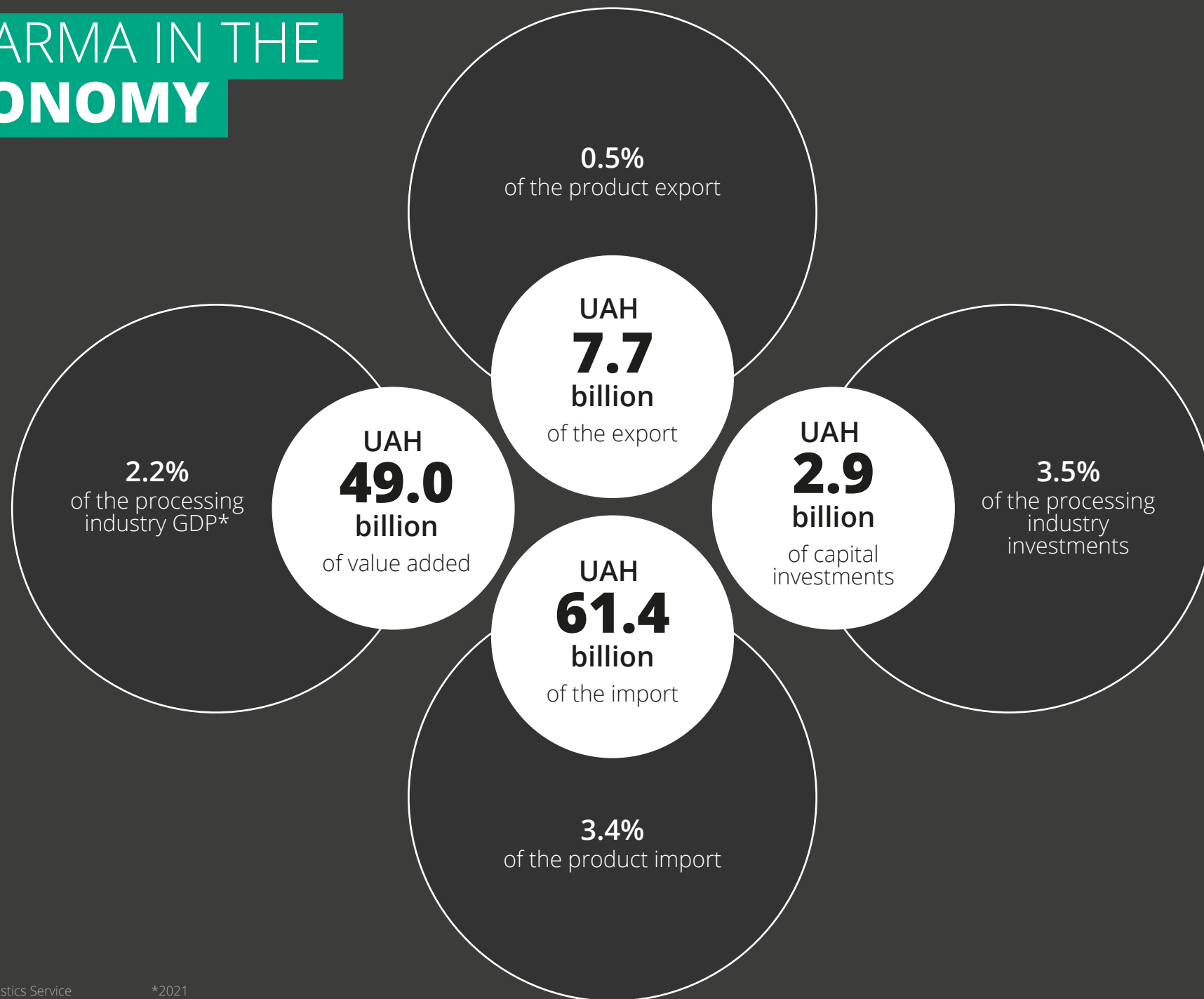


PHARMACEUTICAL PRODUCTION IN THE ECONOMY



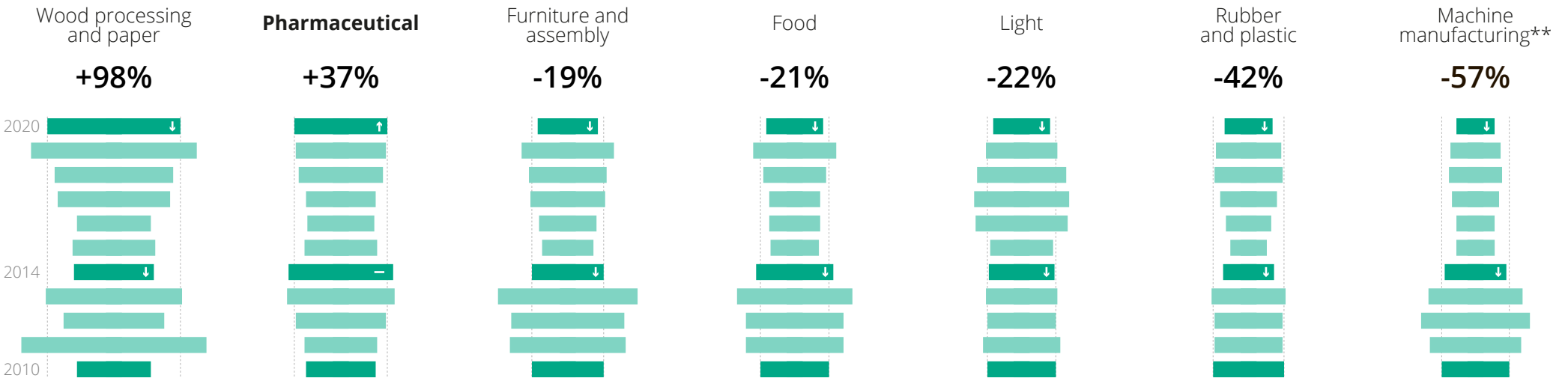
PHARMA IN THE ECONOMY

2022



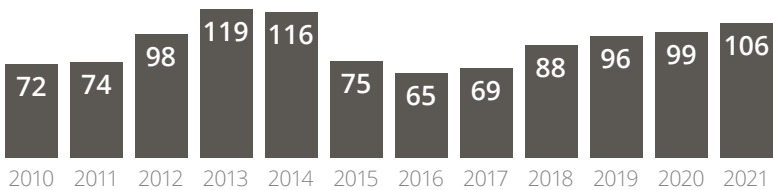
ADDED VALUE AND INVESTMENT IN PHARMA

Change of capital investment of processing industry spheres in regards to 2010, 2010–2020, %*



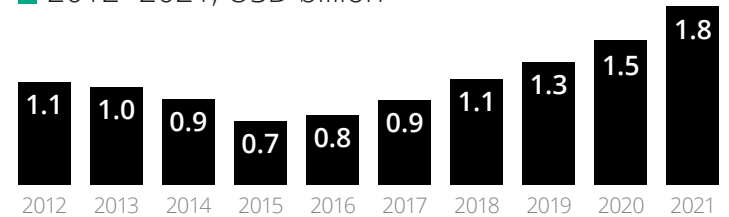
The arrows show the direction during crisis years

Capital investment in pharmaceuticals, 2010–2021, USD million



Consistency of the capital investment, which is easy to see in crisis years of 2014 and 2020, shows the long-term focus of the industry on growth

GDP of the pharmaceutical sector, 2012–2021, USD billion



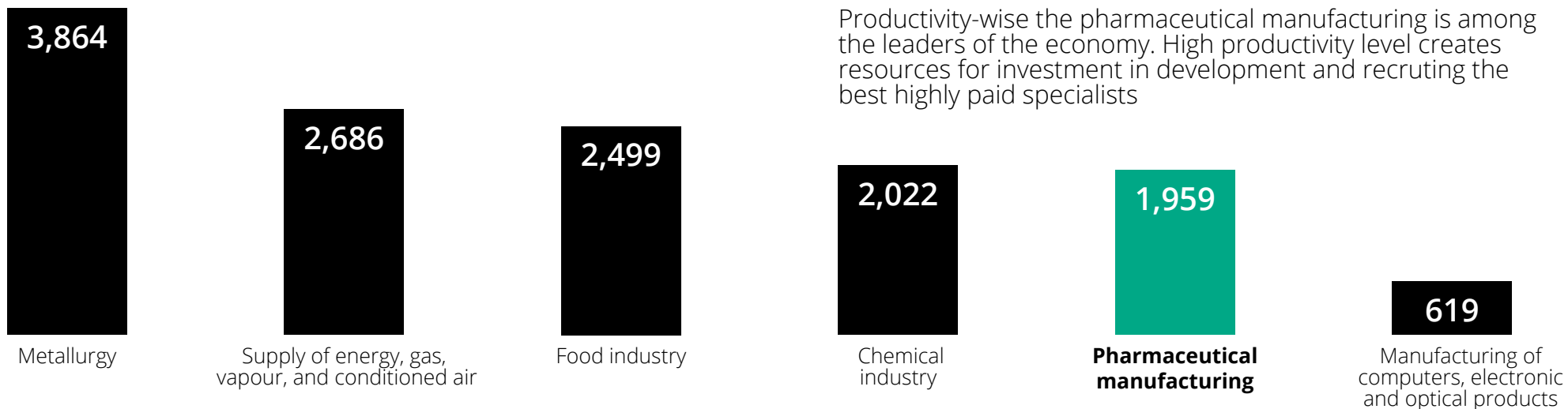
Sources: State Statistics Service, NBU

*based on data in USD million

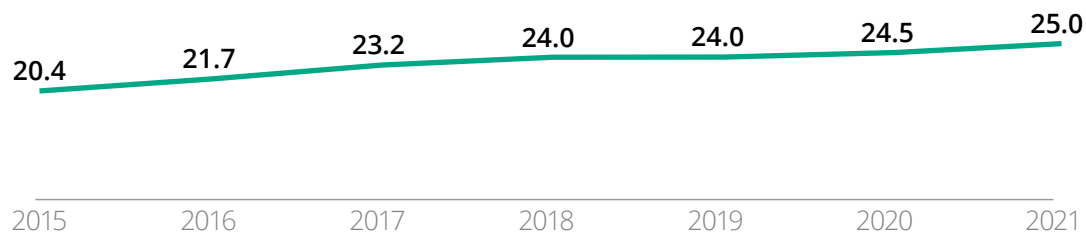
**not taking into account electronics and electrical equipment

PRODUCTIVITY AND EMPLOYMENT IN PHARMACEUTICS

Pharmaceutical manufacturing – is one of the most productive industries of the economy,
GDP per employee, 2021, UAH thousand



Number of workers in the pharmaceutical manufacturing, 2015–2021, thousand people

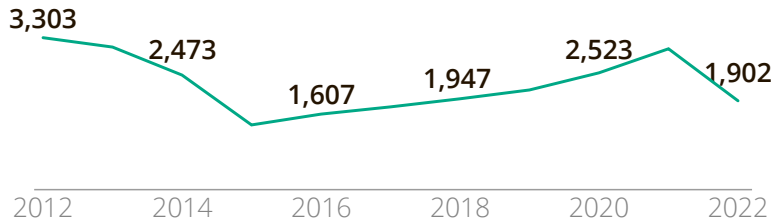


The salary is almost twice as high as in the processing industry, 2021, UAH thousand

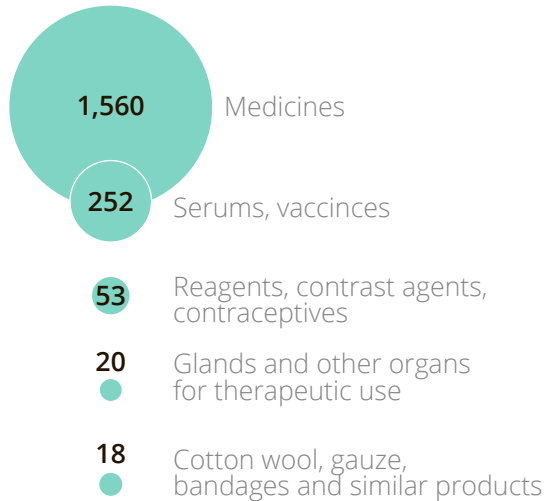


IMPORT OF MEDICINES IN UKRAINE

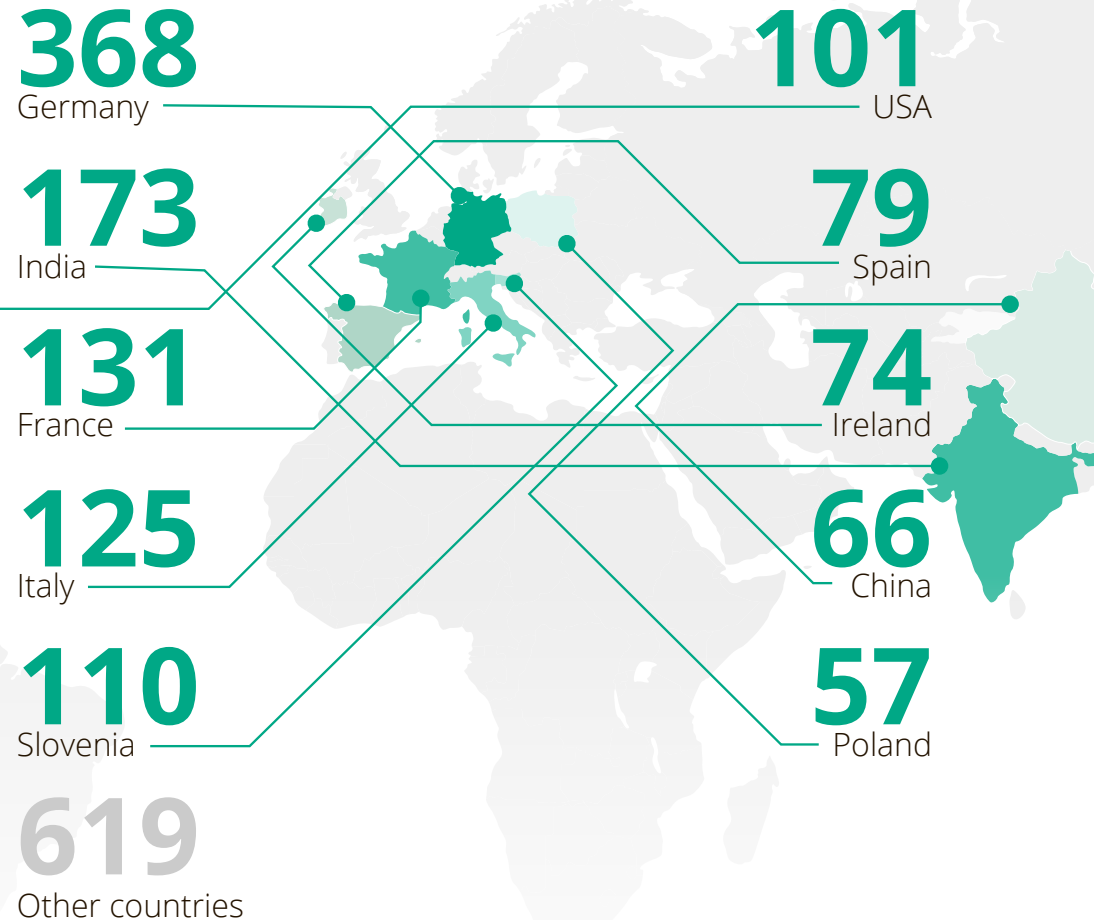
Import dynamics,
2012–2022, USD million



Structure of medicine import,
2022, USD million



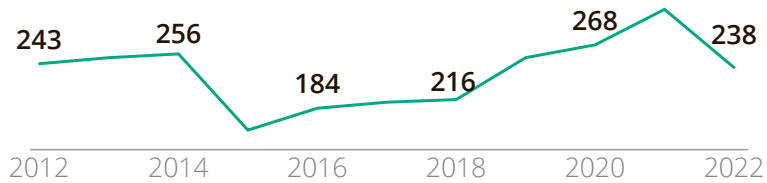
Top 10 countries where Ukraine imports medicines from, 2022, USD million



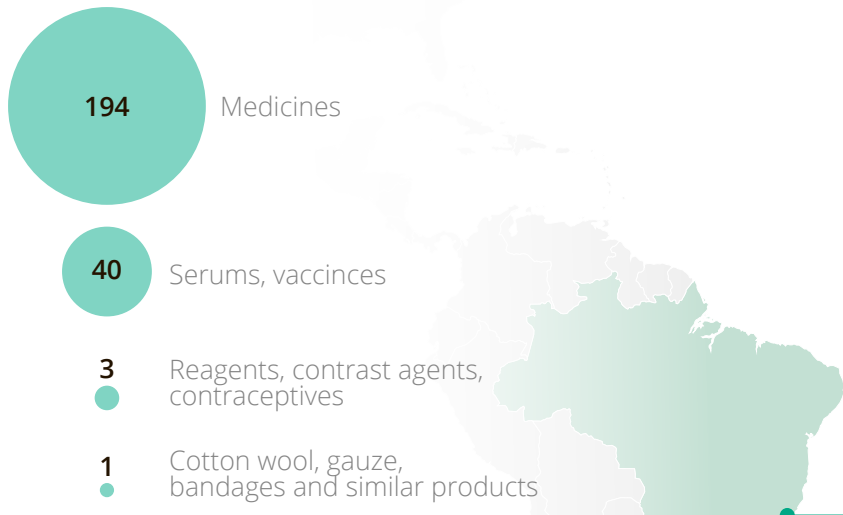
Sources: State Statistics Service, State Customs Service

UKRAINIAN MEDICINE EXPORT

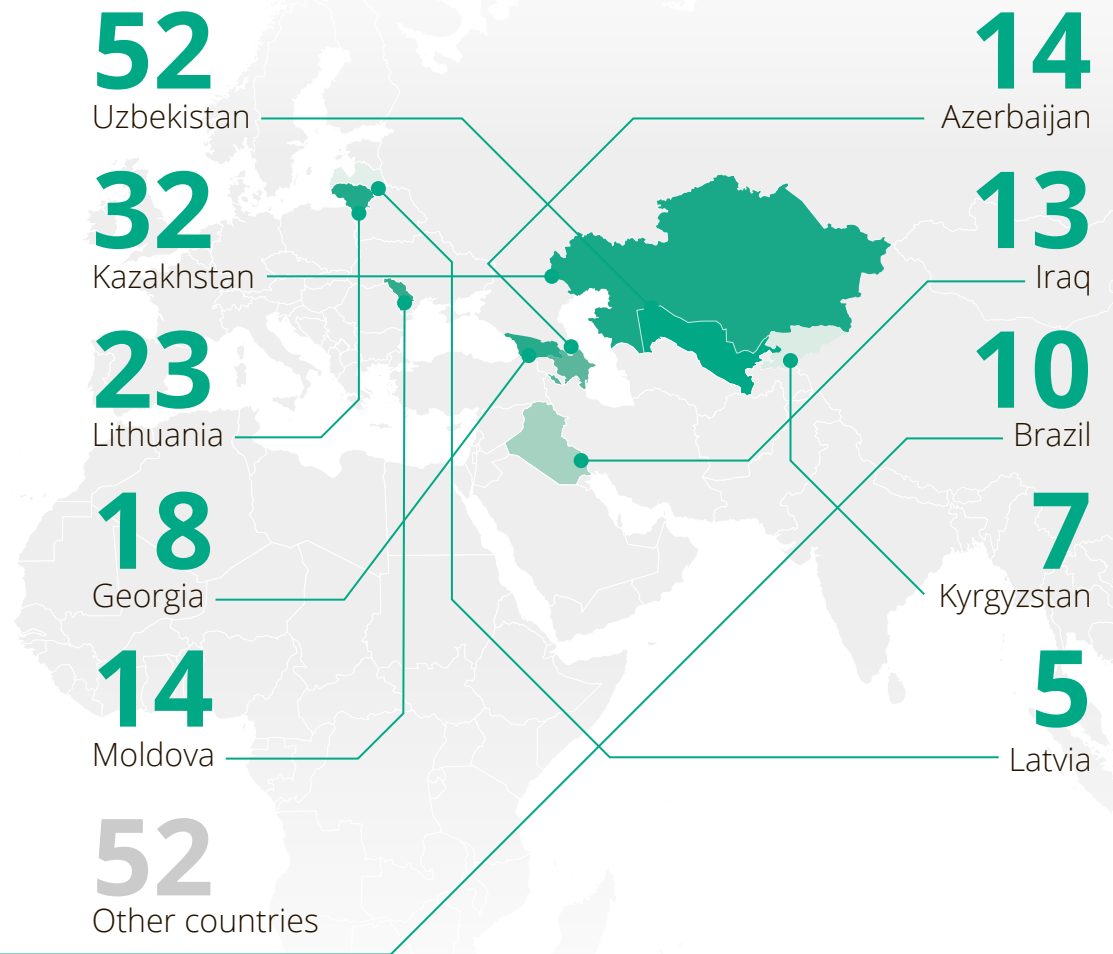
Export dynamics, 2012–2022, USD million



Structure of medicine export, 2022, USD million



Top 10 destinations Ukraine exports medicines to, 2022, USD million



Sources: State Statistics Service, State Customs Service

OBSTACLES TO INCREASING THE EXPORTS



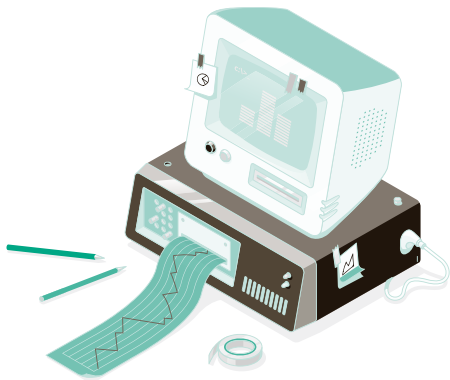
Scant domestic market

Being plentiful, the domestic market stimulates primary growth and provides means for entering foreign markets



Not being integrated into the EU regulatory sphere

Ukrainian manufacturers face additional obstacles on the way to the European market because Ukrainian manufacturing quality certificates are not recognised in the EU



Technological lagging

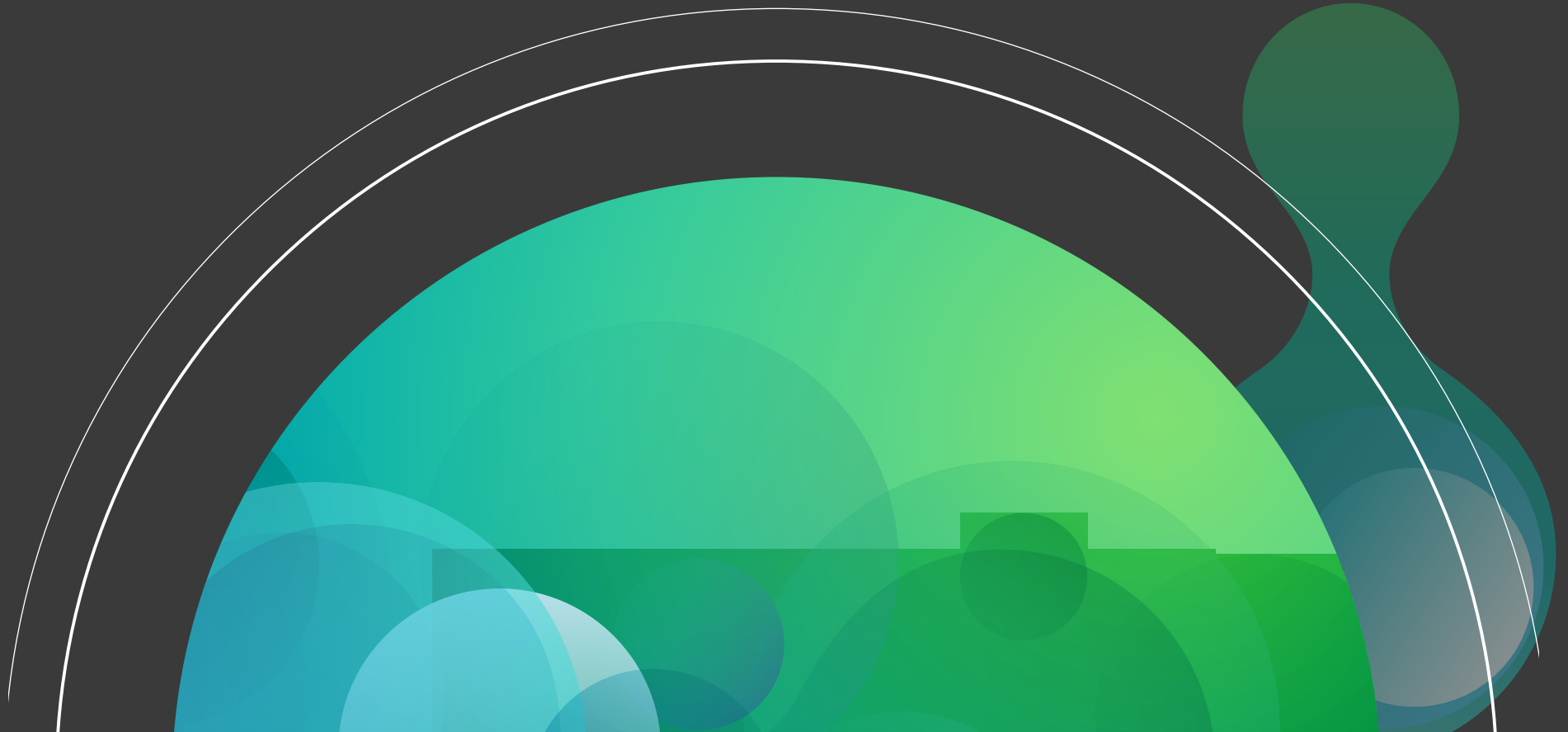
The consequences of the country's economical weakness are a smaller number of domestic innovations and slower implementation of foreign technologies



Imperfect regulatory standards

Current regulatory standards significantly slow down the work of medicine manufacturing companies

REGULATIONS FOR PHARMACEUTICS



CRUCIAL CHANGES OF REGULATIONS

■ The changes that are being implemented

The majority of them harmonize regulatory standards of Ukraine and EU countries

- adoption of the new version of the Law "On Medicines"

- launch of the Applicant's e-office in 2020, which facilitates the exchange of info between the applicant and the regulatory agency

- digitalizing certain elements in regulating of the clinical trial sphere in Ukraine

- introduction of audits in the system of pharmacovigilance. The concentration of regulatory and controlling functions in one agency remains an important issue

- the first in Ukraine guidelines for state assessment of medical technologies for medicines

- the first in Ukraine guidelines for rules for conducting bioanalytical part of pharmacokinetic and toxicokinetic studies

■ The changes that are yet to implement

Develop and adopt the regulations provided for by the new version of the Law "On Medicines"

This will harmonize Ukrainian legislation with the European one, and open the way to mutual recognition of GMP certificates

Regulate distributors' and pharmacy chains' activities

This will create a transparent, competitive market for other players in the pharmaceutical industry

Provide for mutual recognition of GMP certificates between Ukraine and EU

This will push back the limits for Ukrainian companies entering the EU market and will let them develop medicine sales

Digitalizing and accelerating the medicine registration process

This will allow to lower the costs of entering the medicine market and make products accessible sooner

Make changes to the patent legislation

This will allow to speed up the entry to the market of high-quality generic medicines at an affordable cost

Accelerate the process of harmonization of clinical research protocols

This will improve competitiveness of the national pharmaceutical manufacturers. Currently this process may last ten times more than abroad

WAYS TO IMPROVE REGULATIONS TO DEVELOP PHARMACEUTICAL MANUFACTURING



Digitalizing
all the stages of medicine registration process*

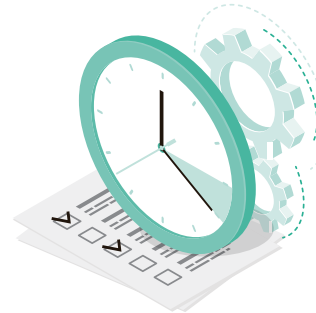
To create a paper dossier
299,500 sheets
25 trees

To visit the registration agency
800 hours of work
800 liters of gas

The paper format means higher costs of medicine and ecological challenges

This brings higher risks of mistakes, doubling or losing the info

Drawbacks of the current situation



Set shorter
terms for
registration process

The longer the registration is, the later the medicine arrives to the market

It takes 10 months or more
to register a medicine

E-format is the principal aspect in the medicine registration

Experience of EU countries

2013

Latvia is the last of EU countries which introduces electronic filing of documents

Preserving
the resources and lowering the registration costs

Integration
into the EU regulatory sphere

Possible benefits for Ukraine

Customers have access to medicines **sooner**

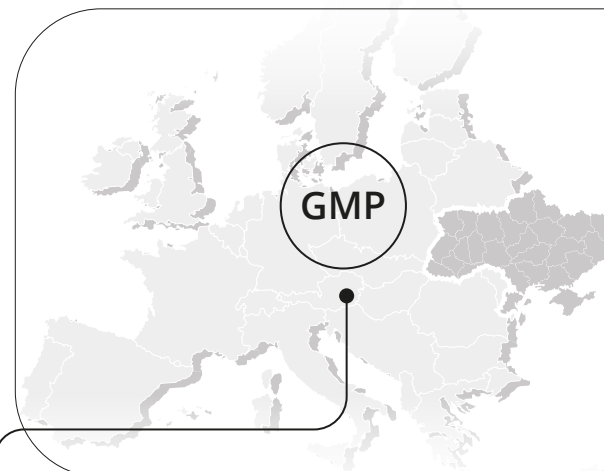
Growth
of competition on the market

Have a 3 months shorter registration process is a possible effect in case all processes are digitalized

GMP CERTIFICATION: ELIMINATING BARRIERS BETWEEN UKRAINE AND THE EU

Each pharmaceutical manufacturer that wishes to work in the market of any country has to be certified according to the GMP standards

Currently the GMP certificate of the Ukrainian regulatory agency is not recognized in the EU



Ukrainian pharmaceutical companies have to undergo double inspections to prove compliance with the GMP standards – in Ukraine and on the level of the EU member countries

Ukrainian manufacturers have to conduct an additional quality control testing (a batch release testing) during a certain procedure, which puts one more burden upon the exporters

Goal: achieve recognition of Ukrainian GMP certificates in the EU

In 2020, a reconsideration of the Ukraine-EU Association Agreement was announced with an aim to ameliorate the trade conditions for Ukrainian manufacturers. The Ukrainian side strives to include medicines and products of medicinal purpose into the Agreement on assessment of compliance and acceptance of manufactured goods (ACAA).

In 2022, a new version of the Law "On Medicines" was adopted, which harmonizes Ukrainian legislation with the European one. This is an important step towards the mutual recognition of GMP certificates but Ukraine still needs to develop and adopt the by-laws provided for by the new version of the law

PHARMACEUTICAL MANUFACTURING IN UKRAINE: OBSTACLES TO DEVELOPMENT



Low purchasing power of the population

Small market influences the volumes of investment and growth of manufacturing capacities. As a result, the technologies are implemented much later and costs are higher in the conditions of small volumes of manufactured goods



Complicated regulatory requirements

The developed countries intensify the regulatory requirements, which fuel the costs. Ukraine simultaneously implements the international standards into the national legislature and this creates even more pressure for the manufacturers



Legislative barriers on the way to affordable medicines

1. The possibility for patents to have longer term of action comparing to foreign countries hinders the introduction of Ukrainian generics, while they are the basis of pharmaceutical manufacturing
2. Currently the regulation of bioequivalent studies slows them significantly and encourages to have them done abroad



Absence of state guidance on the development strategy

Absence of an effective system of state-private partnership and unstable government economic policy hamper the speed of business investment activities

DEVELOPMENT **TRENDS**



POSITIVE TRANSFORMATIONS OF LAST YEARS

Digitalization of healthcare



Introduction of the e-system of healthcare, which acts as a digital medical record and makes the whole patient's history of treatment accessible

Electronic prescriptions in "Affordable medicines" programme. In future all the patients may receive e-prescriptions

Internet shopping for medicines that makes remote delivery possible

Digitalization of manufacturing



Digitalizing the manufacturing: beginning storage spaces to manufacturing lines and distribution and promotion

Electronic document flow and digitalizing coordination with partners and suppliers

Development of regulation



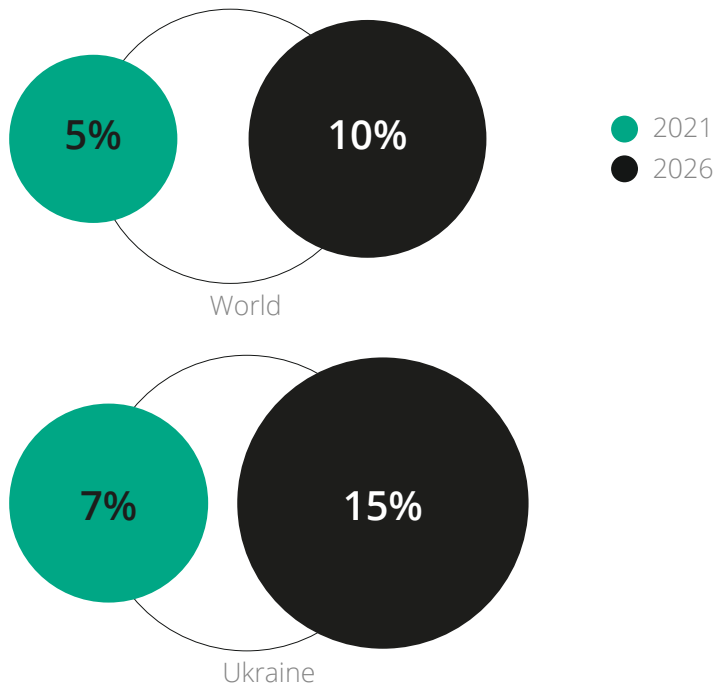
Reimbursement programme "Affordable medicines" that returns citizens cost of some categories of medicines

Start of digitalizing the cooperation manufacturer – government, aimed at making it smoother, easier and more efficient

Update of legislative standards to boost the market development and enable harmonization with the EU standards

E-COMMERCE IN THE PHARMACEUTICAL MARKET

Share of e-commerce in the pharma market will grow rapidly, 2021-2026, %



The pandemic has significantly accelerated the development of e-commerce in the pharmaceutical sphere. The adoption of law in September 2020 legalising the remote trade and delivery of medicines in Ukraine is the best confirmation of this fact

Structure of the pharmaceutical e-commerce market includes 3 main parts:



Pharmacy chain sites

The main place of cooperation where patients can buy medicines directly from the pharmacy and pick them up in any trade point, or order their delivery



Landing pages

Sites filled with info about medicines and aimed at promoting them. Normally they allow finding a product in the pharmacy, book it and pick it up or have it delivered. The pandemic has sped up the growth of this channel.

For example, "**Liki24.com**" in 2020

x6	increase in number of orders	x8	increase in volume of traffic
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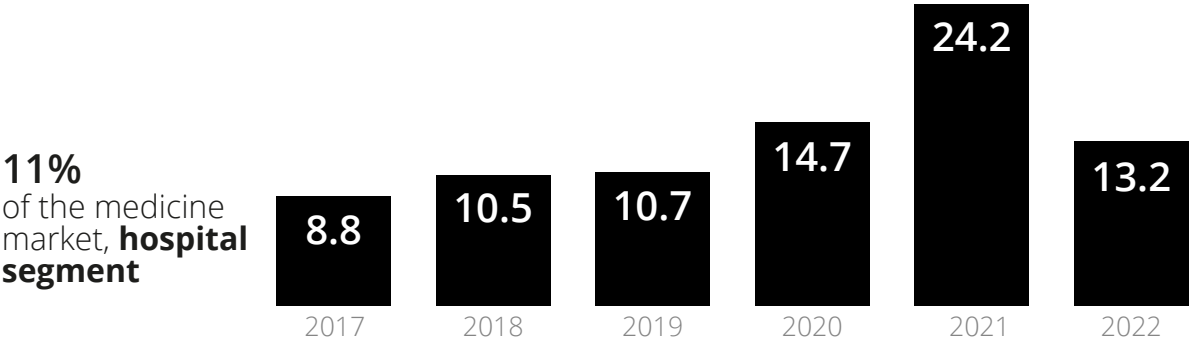


Pharmaceutical companies

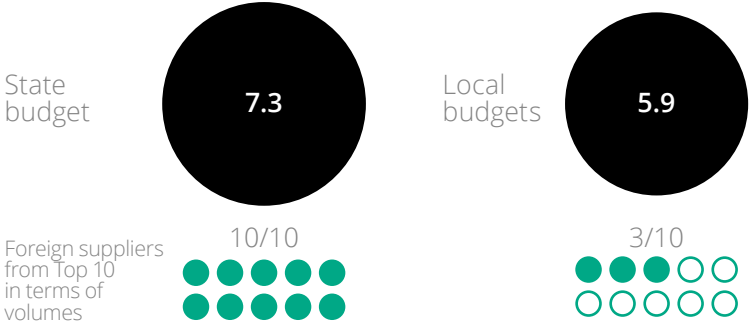
This channel is just starting to grow as majority of companies sell medicines via mediators. Now there is a task to develop a direct connection with the customer

AFFORDABILITY OF MEDICINES

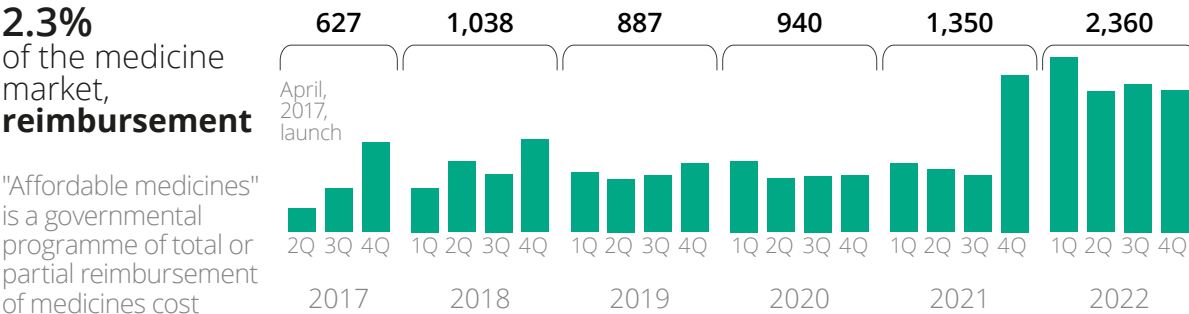
Volumes of hospital supplies, 2017–2022, UAH billion



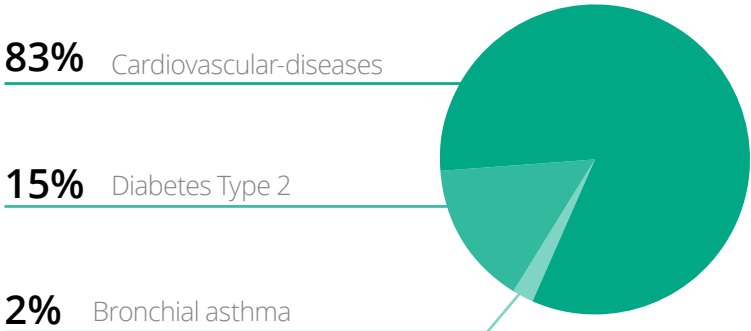
Structure of hospital supplies, 2022, UAH billion



Reimbursement according to the "Affordable medicines" programme, 2017–2022, UAH billion



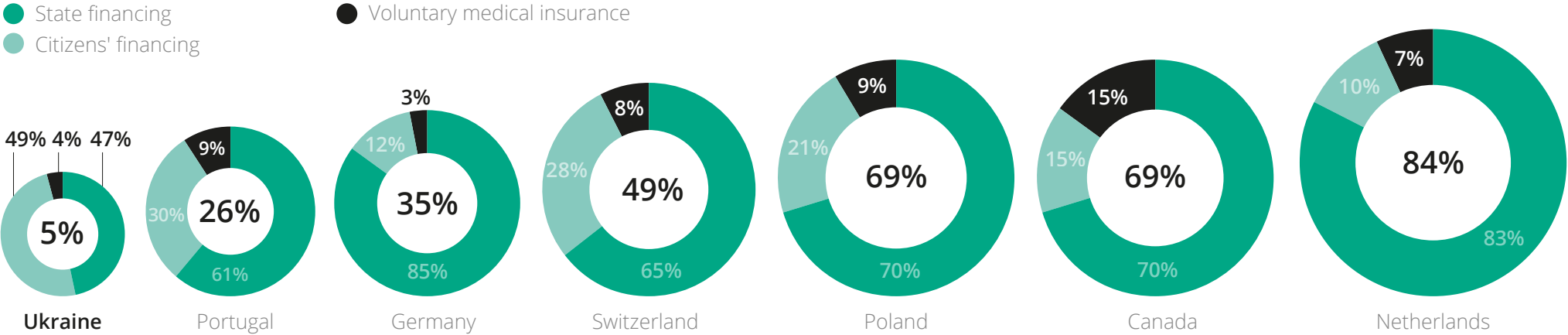
Structure of the medicine register in the programme "Affordable medicines", February 2023



Sources: Proxima Research, Ministry of Health of Ukraine, National Health Service

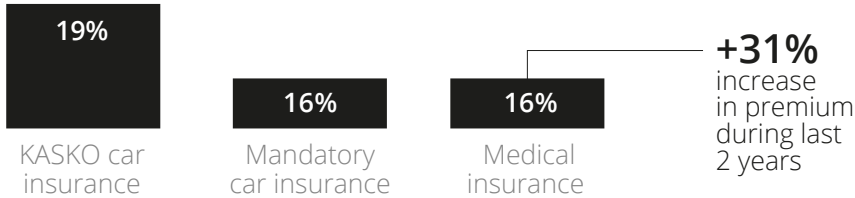
HEALTHCARE SYSTEM

Share of population that has a voluntary medical insurance, by country, with a healthcare financing structure mentioned, 2019



Insurance – is the foundation of the healthcare system in developed countries. It allows to collect sufficient finance and provide high quality and efficacy services. In Ukraine medical insurance only starts being popular and its role is not significant yet

Top 3 sectors by insurance, % of the total volume of premiums, 2020*



Nowadays it's important to rebuild the healthcare system. Firstly, the general scheme of financing has to be changed and voluntary medical insurance of the population has to be stimulated

Sources: State Statistics Service, OECD, WHO, Forinsurer

*KASKO - voluntary insurance

CONTRACT MANUFACTURING

Contract manufacturing – a type of activity when the manufacturing line of one company is used to produce a product of another company

■ Benefits

For the lessee

Savings on capital investment in production capacities

Opportunity to launch a drug that has a small market

Access to unique technologies

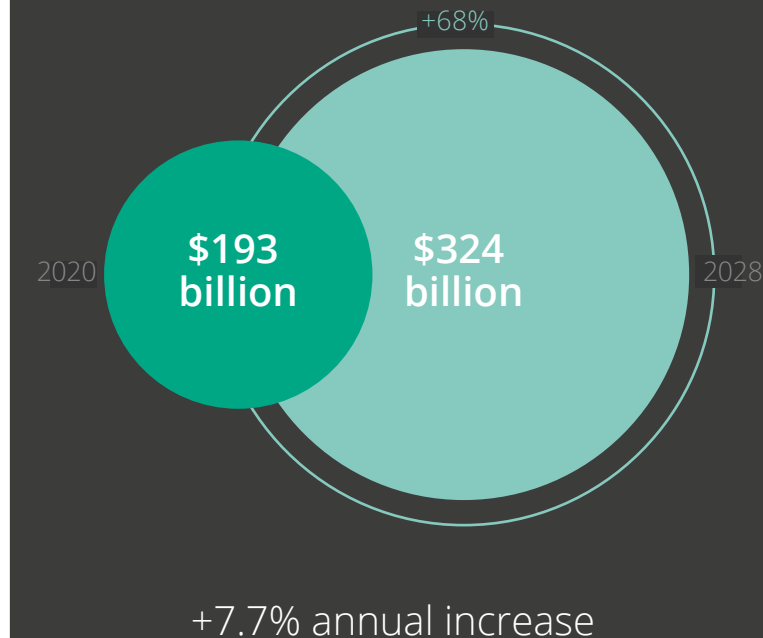
Enter the market sooner

For the manufacturer

Stable source of income

Absence of business risks from medicine entering the market

■ Volume of the world market, 2021 and a prognosis for 2028



■ Obstacles to growth

State

Absence of growth strategy and effective regulatory standards in the economic policy. Unfavourable conditions for foreign investment

Reputation

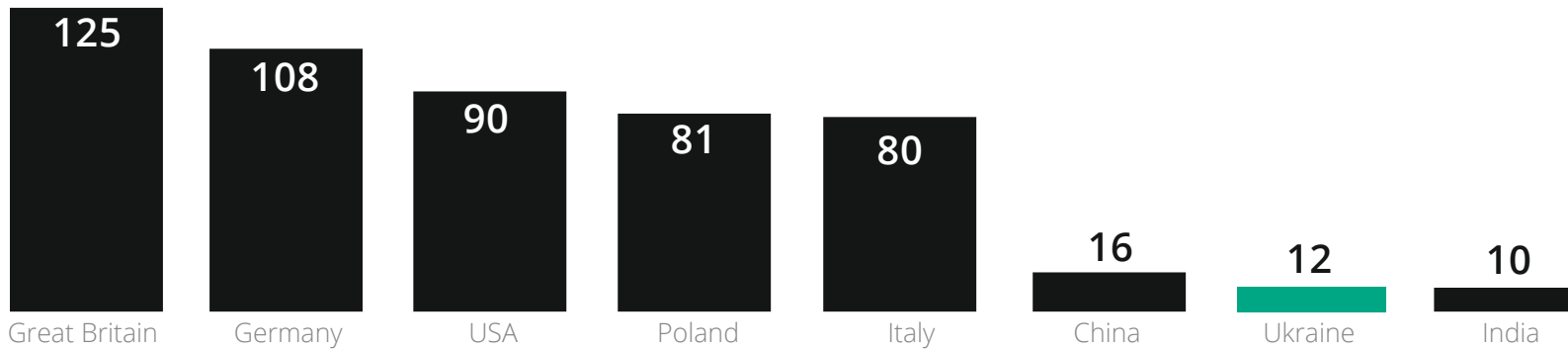
Ukrainian manufacturers are not well-known enough in the world, this creates mistrust to their operations

Pharmaceutical manufacturers

Insufficient volume of investment in technological innovations comparing to the foreign companies that work in more voluminous markets

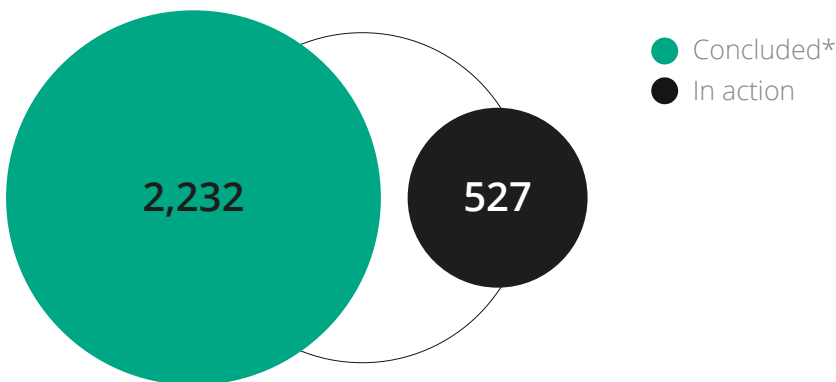
CLINICAL TRIALS

Amount of clinical trials by country, 2020, unit per 1 mln population



10-15%
of its potential in clinical trial sphere are used in Ukraine

Clinical trials in Ukraine, as of June 1, 2021



What holds back the development of clinical trials?

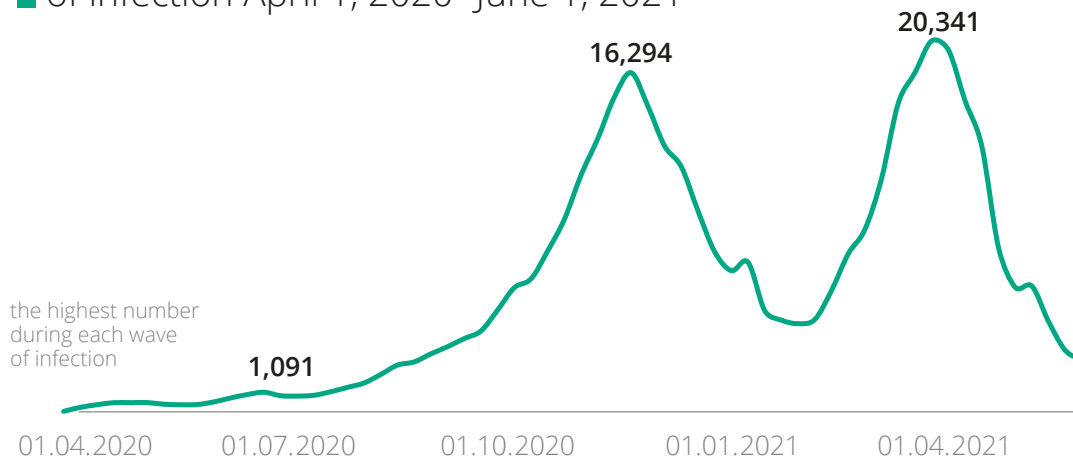
- **Longer terms of research confirmation**
In Ukraine it is **5-6 months**, while in Europe – up to **2 months**
- Huge delay in customs **clearance of pharmaceutical products**
- Absence of the **appropriate legislature** regulating the relations of a researcher and a state medical institution
- **Specialists deficit**

COVID-19 IN UKRAINE



COVID-19 DYNAMICS IN UKRAINE

Prevalence rate of SARS-CoV-2 in Ukraine,
average weekly number of detected cases
of infection April 1, 2020–June 1, 2021



Imposing an all-Ukrainian lockdown. Increase of medicine sales in the first week, then a rapid fall (**-18% in April**)

Introduction of adaptive quarantine. Pharmaceutical market is **still in decline**, however the fall slows down

Pharma market has reached the last year numbers and **enters the growth phase**

Pharma market has **quickly adapted** to the new reality and showed an increase in 2020

12.03.2020

22.05.2020

July 2020

+9.7% in monetary terms

+2.2% in packages

Ukraine's position in the world,
place and indicator per 1000
people as of June 1, 2021

Intensity of testing

71 place
234 tests

Prevalence of the virus

63 place
51.8 ill

Mortality from the virus

43 place
1.2 deceased

PANDEMIC INFLUENCE ON THE MARKET

Key indicators of economy development in 2020
comparing with indicator for 2019

-4% ^{+3.3%}
change of real **GDP**

5% ^{4.1%}
level of **inflation**

9.9% ^{8.6%}
level of **unemployment**

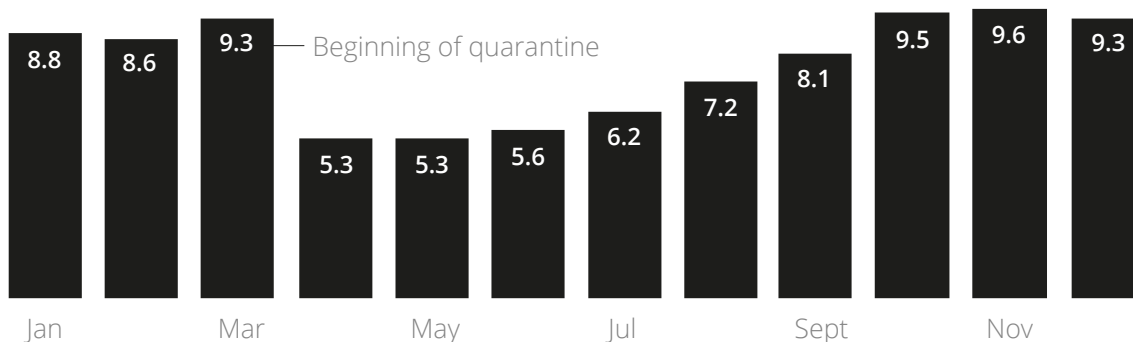
What was happening to pharma at the beginning of the crisis?*

71.4%
of **pharmacies** have noted a decline in sales volumes

40%
of **manufacturers** have noted a decline in sales

69.2%
of **pharma companies** were anxious

Pharmacy medicine sales dynamics, 2020, UAH billion



+68%
of antivirus drug sales

+32%
antibacterial drug sales

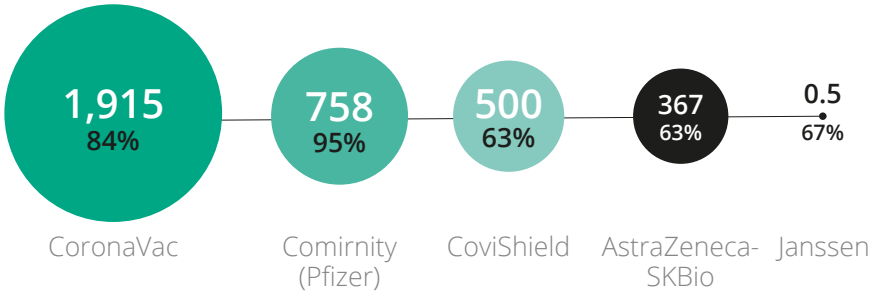
Despite 2020 being a crisis year, pharma was one of the industries that experienced growth. Volumes of sales grew both in monetary and physical terms

VACCINES AND VACCINATION

Prior to independence, there were a lot more immune-biotechnological institutions operating in Ukraine, which were manufacturing medical and bioactive products. One of the leaders in the sphere was the Mechnikov Institute of microbiology and immunology of **National Academy of Medical Sciences of Ukraine**, which has been operating for more than 130 years now

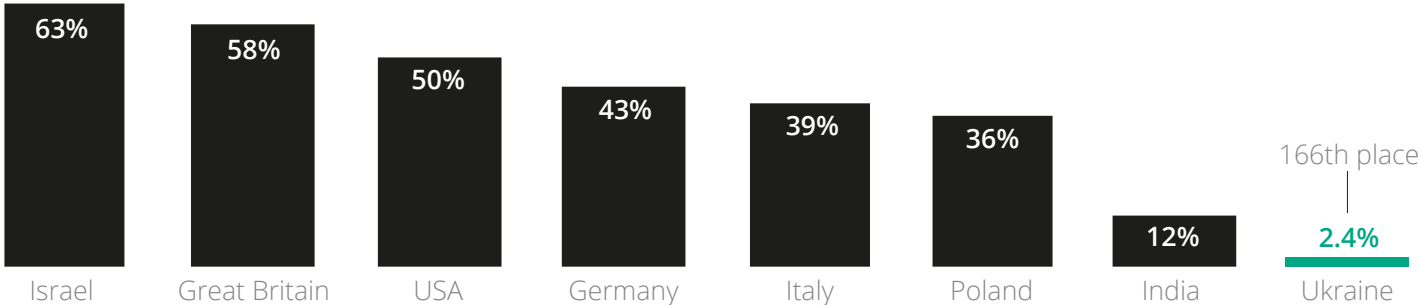
60 vaccines, serums and other products were developed overall

The volumes of vaccines brought in Ukraine and their efficacy, thousand doses as of June 1, 2021



Currently there is no vaccine production in Ukraine. However, domestic pharmaceutical companies-leaders have necessary capacities. The starting point for organising the vaccine manufacturing is the state preorder and favourable government's policy

Share of population that got at least one dose of vaccine from SARS-CoV-2 as of June 1, 2021



The first vaccination took place only on February 24, 2021, while in the USA and Europe vaccination roll-out was in full force. Slow pace of vaccination is connected with its belated start as a result of untimely deliveries of vaccines

Sources: Our World in Data, Ministry of Health

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