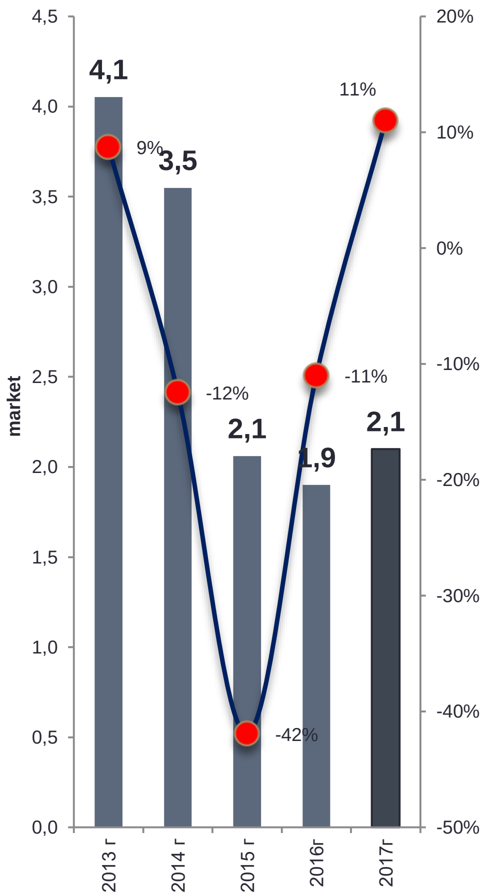
Ukrainian Pharma market
Trends – 2017

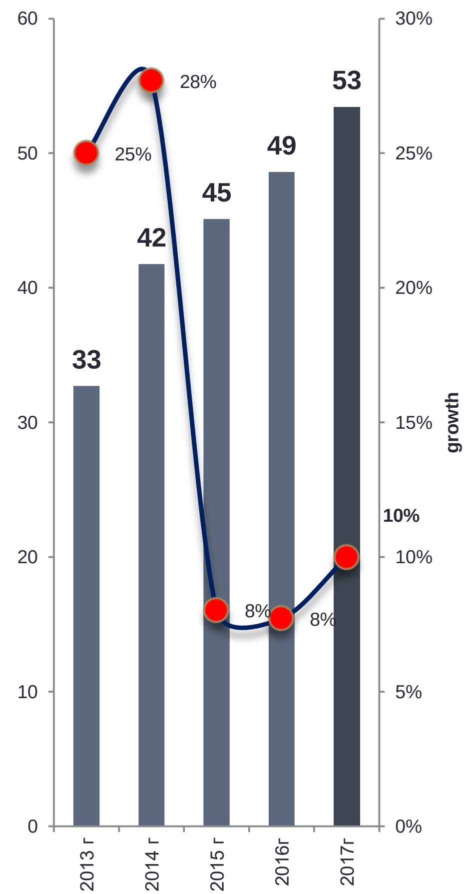
SMD
28.03.2018

Key market indicators
Market value

USD



UAH



Trends

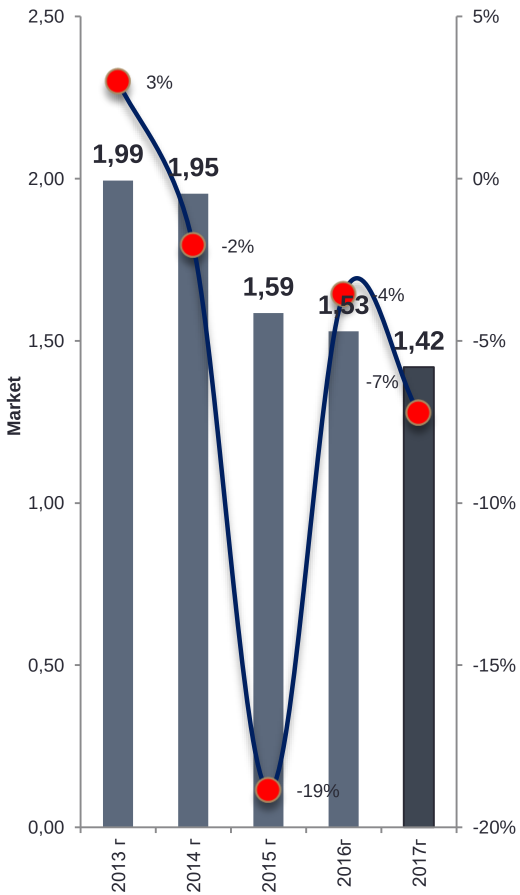
- As of 2017FY results, total market value in USD (pharmacies purchase price, without VAT) is equal to **2,1 billion**
- And value in local currency UAH - **53 billion**
- Slow recovery to the pre-war level is ongoing
- First time since 2013 we see market growth in foreign currency (USD) +11% in USD

Data source: SMD Data, all categories (RX, OTC, Nutritional supplements, patient care, personal hygiene , cosmetics).

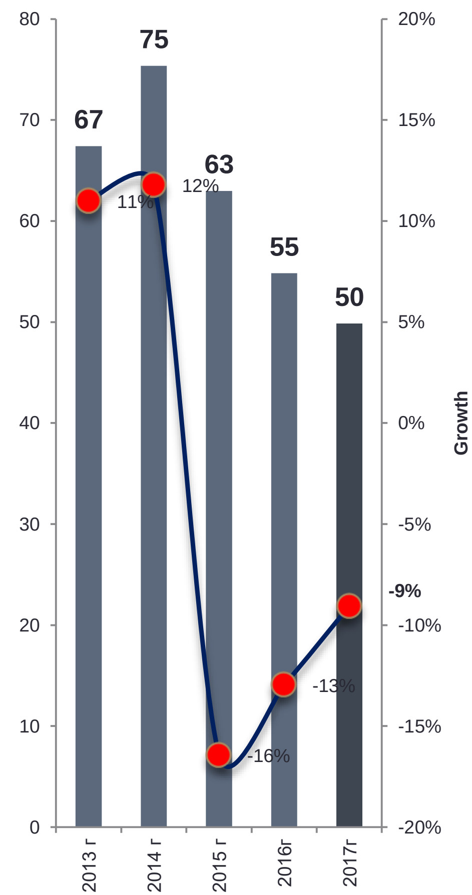
SMD Support in Market Development

Key market indicators
Market volume

Market dynamics in units



Market dynamics in standard units (tablets, ampoules, etc)



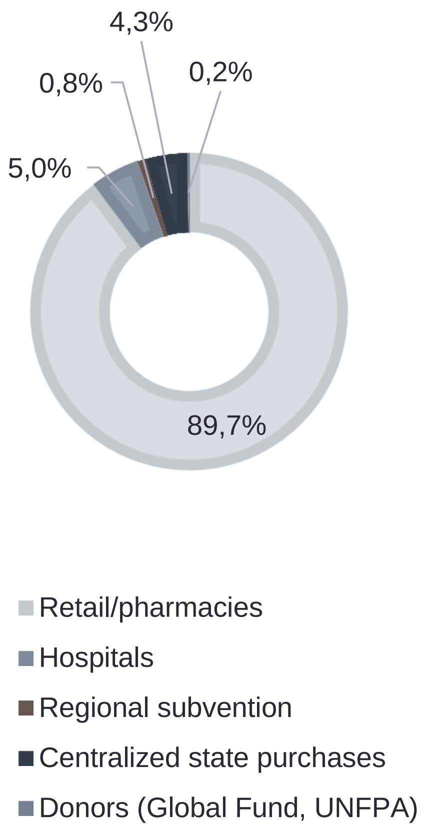
Data source: SMD Data, all categories (RX, OTC, Nutritional supplements, patient care, personal hygiene , cosmetics).

Market trends

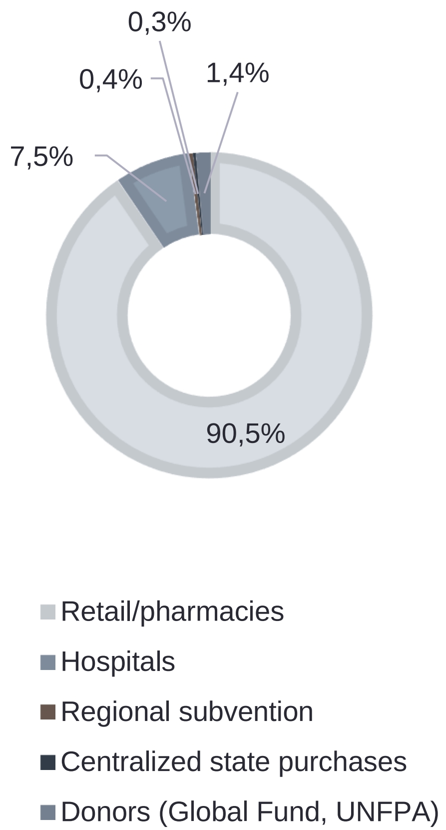
- Total 2017 result is **1,42 billion units**
- In standard units (ampoules, tablets, etc.) it made **50 billion standard units**
- Negative total market dynamics in units (-5%).
- At the same time Rx products and nutritional supplements grow by +3% и +2% accordingly
- Market dynamics in standard units is also still negative(-9%).
- There is a slow recovery trend and expectations of positive growth

Key factors - analyses
Market segments

Market segments in LC (UAH)



Market segments in units



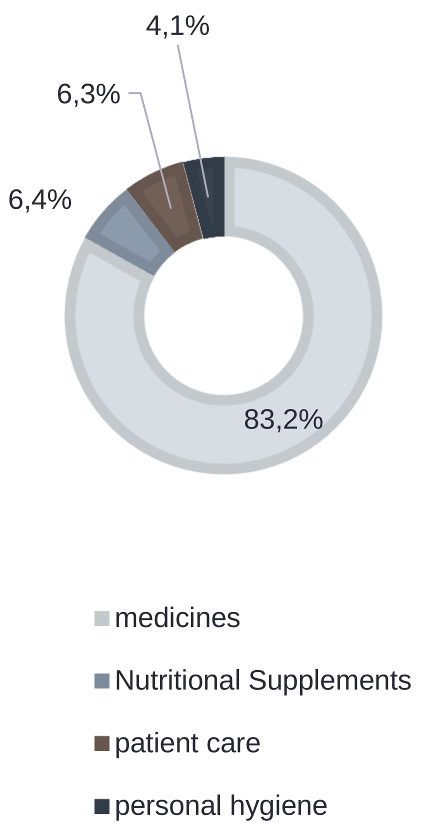
- Still mainly out-of-pocket market
- Citizens pay for 9 из 10 pack sold (cover 90% of all medicines' costs)
- Hospital purchases make 5% in UAH and 7,5% in units
- Centralized State purchases made 4,3% in local currency (UAH) and just 0,3% in units
- And vise versa supplies through donations (Global Fund, UNFPA) account 0,2% in local currency (UAH) and 1,4% in units

Data source: SMD Data, all categories (RX, OTC, Nutritional supplements, patient care, personal hygiene , cosmetics).

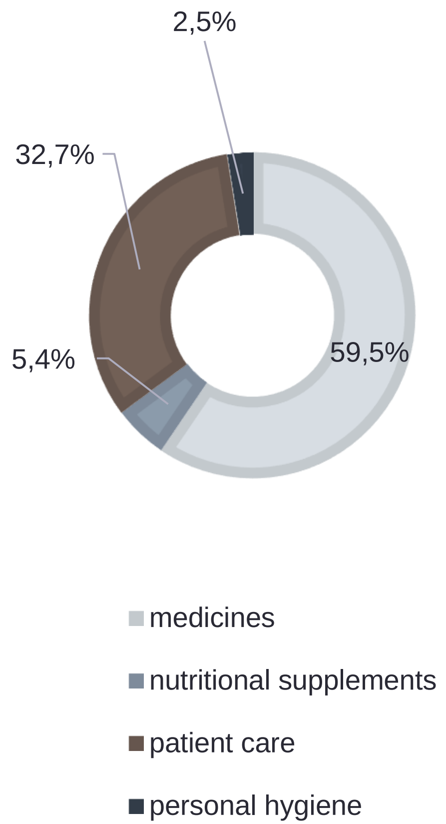
SMD Support in Market Development

Key market segments
Product market segments

Product segments, LC (UAH)



Product segments Units



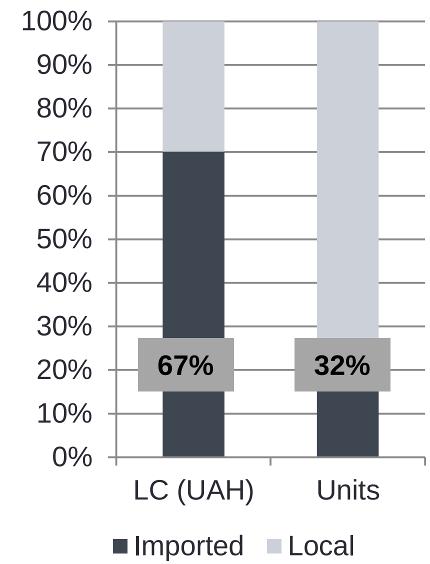
- Medicines make the biggest share of 83% in values LC (UAH) and volume - 60% of all units sold
- Nutritional supplements increased share vs previous years and reached up to 6,4% Bln UAH and 5,4% in units
- Patient care is the 2nd biggest volume segment. It make 6,3% in values LC (UAH) and 32,7% in volume (Units)
- Smallest is personal hygiene group – 4,1% вin UAH and 2,5% in Units
- The tendency of cosmetics transition from a drugstore segment to mass market proceeds. Where, due to high turnover, the price for the same cosmetics is lower than in the pharmacy. Dermocosmetics remain in the pharmacy.

Data source: SMD Data all categories (RX, OTC, Nutritional supplements, patient care, personal hygiene , cosmetics).

Retail Segment
Leading companies

Retail segment/ Leading companies

			2017Y		
2016Y	2017Y		USD MIO	MS %	USD(+-%)
		Retail segment (Medicines and Nutritional Supplements)	**1 605**	**100,0%**	**12%**
1	1	FARMAK	90	5,6%	15%
2	2	ARTERIUM	56	3,5%	7%
5	3	MENARINI GROUP	55	3,4%	15%
4	4	DARNITSA	55	3,4%	11%
3	5	SANOFI	53	3,3%	5%
7	6	BAYER Healthcare	47	2,9%	17%
6	7	GSK	46	2,9%	2%
8	8	TEVA	44	2,7%	10%
10	9	NOVARTIS	42	2,6%	11%
9	10	ZDOROVJE NARODU	42	2,6%	6%
11	11	TAKEDA	37	2,3%	12%
13	12	KRKA	35	2,2%	16%
12	13	KVZ	34	2,1%	10%
14	14	SERVIER GROUP	33	2,0%	14%
17	15	JURIA Pharm	31	1,9%	29%
16	16	KUSUM HEALTHCARE	29	1,8%	13%
15	17	RICHTER GEDEON	27	1,7%	-2%
18	18	ABBOTT	22	1,3%	9%
21	19	ACINO PHARMA AG	21	1,3%	11%
20	20	BHFZ	21	1,3%	8%



Retail segment demonstrated growth in values (USD)+12%, the first time since Y2013.

Local industry is really strong in Ukraine, in retail segment namely. So, in TOP 20 there are 9 local companies.

Among them Juria Pharm is growing most rapidly with +29%.

Menarini substantially improved performance, went up from the 5th to the 3rd position .

Data source: SMD retail audit (Medicines and nutritional supplements), price level – pharmacy purchase price w/o VAT

Retail Segment
Leading products in values, LC (UAH)

Leading products in retail segment in values as of Y2017

2011Y	2017Y	Brand	Status	UAH MIO	Purchase price
18	1	NIMESIL	Rx	262	265
1	2	ACTOVEGYN	Rx	256	379
5	3	Na Cl	Rx	201	10
363	4	NALBIFIN	Rx	198	205
1 779	5	XARELTO	Rx	197	1465
4	6	NO SPA	Rx/OTC	188	62
14	7	SPASMALGON	Rx/OTC	183	45
56	8	HEPTRAL	Rx	169	915
95	9	SERETID DISCUS	Rx	163	514
29	10	REOSORBILACT	Rx	157	65
3	11	ESSENTIALE FORTE H	Rx/OTC	157	172
43	12	CITRAMON DARNITSA	OTC	150	5
21	13	DETRALEX	OTC	134	258
99	14	EVKASOLIN AQUA	OTC	131	34
6	15	CARDIOMAGNYL	Rx/OTC	128	77
27	16	SINUPRET	OTC	127	137
19	17	TIATRIASOLIN	Rx	126	111
51	18	DEXALGIN	Rx	122	140
10	19	CANEFRON	OTC	120	178
131	20	TIVORTIN	Rx	118	68

In the TOP 20, Rx products make more than a half.

Since Y2011 the situation has changed a lot:

- "Old" traditional medicines, products with unproven efficacy and OTC drugs have withdrawn from the leading positions.
- Nimesil is N1 instead of Actovegin (was a leader for a decade)
- Xarelto and Seretid entered the leading positions as products with confirmed effectiveness (recommended by WHO)
- As well as other effective medicines, like Nalbufin, Dexalgin, Evcazolin.

Data source: SMD retail audit (Medicines and nutritional supplements), price level – pharmacy purchase price w/o VAT

SMD Support in Market Development

Reimbursement project «Dostupni Liky»

- Since April 2017, the reimbursement system has started, which includes the compensation of medicines for outpatient treatment in three nosology
    - arterial hypertension,
    - diabetes mellitus type 2
    - and bronchial asthma

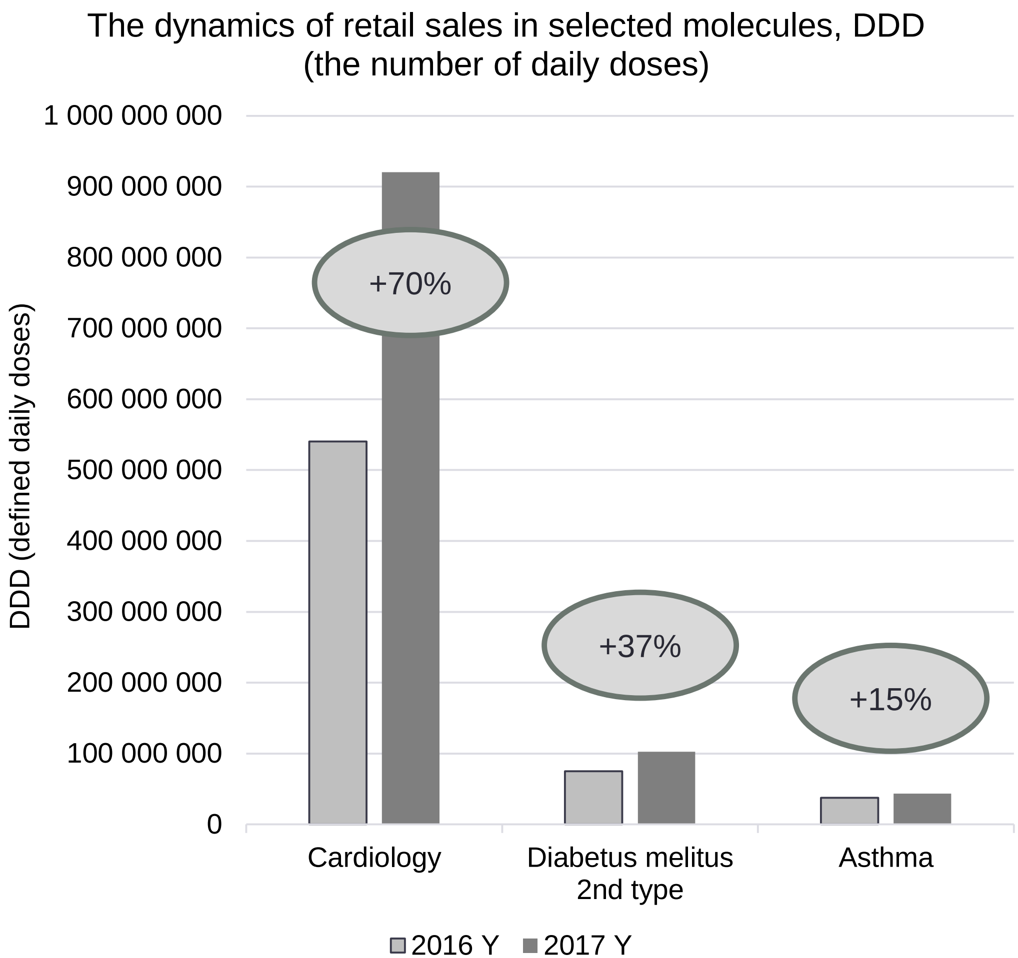
- 21 molecules have been selected, sales of which amount today not more than 5% of the market. But important to note, these nosology are leading in the structure of morbidity and mortality.

- Since January 2018, two more molecules have been added: Losartan and Glibenclamide

- The introduction of the reimbursement system has launched a flywheel in the pharmaceutical market and several mechanisms are working here.
    - The first of them is an increase in the influx of patients to doctors and the level of diagnosis, which in turn leads to an increase in the number of prescribed receipts for reimbursement drugs and recommendations for a parallel pathology.
    - The second mechanism - the patient, coming to the pharmacy with a free prescription, makes additional purchases of medicines, as well as medical supplies and personal hygiene items.

Source: http://liky.gov.ua/

Reimbursement project «Dostupni Liky»
The 1st year results



The greatest increase in DDD was recorded in the cardiology group + 70%

Diabetes mellitus 2nd type + 37%

On a bronchial asthma + 15%

The calculation is made in daily doses to eliminate the effect of the amount of packaging (the number of tablets and dosage) and price changes.

DDD - The basic definition of a defined daily dose (DDD) is:

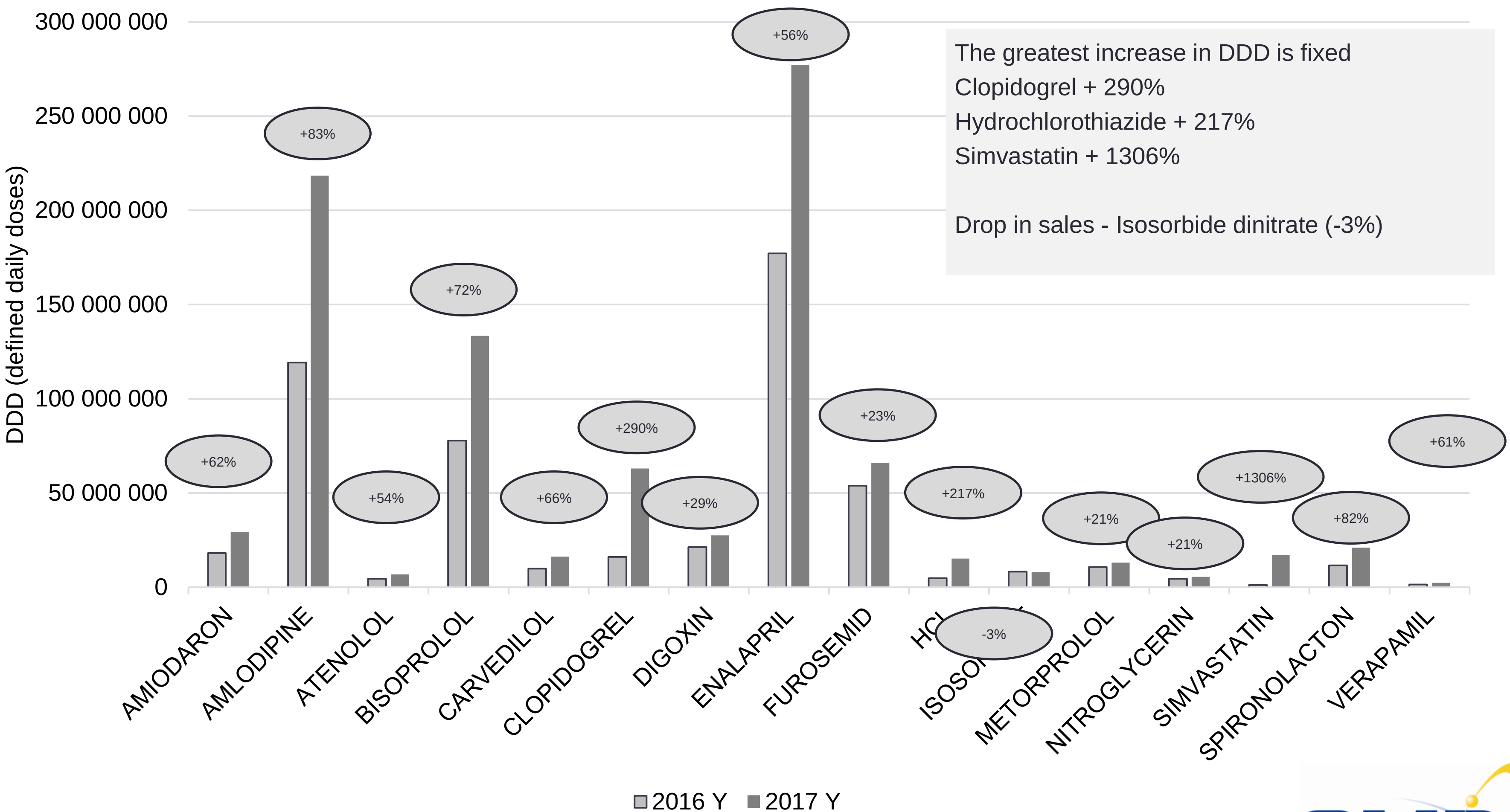
DDD is the estimated average maintenance dose per day for the drug used for its primary indication in adults.

DDD is a unit of measure and does not necessarily reflect the recommended or prescribed daily dose. Therapeutic doses for individual patients and patient groups will often differ from DDD, as they will be based on individual characteristics (such as age, weight, ethnic differences, type and severity of the disease) and pharmacokinetic considerations *https://www.whocc.no/ddd/definition_and_general_considera/*

Source: SMD retail data

Reimbursement project «Dostupni Liky»
The 1st year results – «Hypertension»

Dynamics of retail sales of selected molecules, DDD (number of defined daily doses)

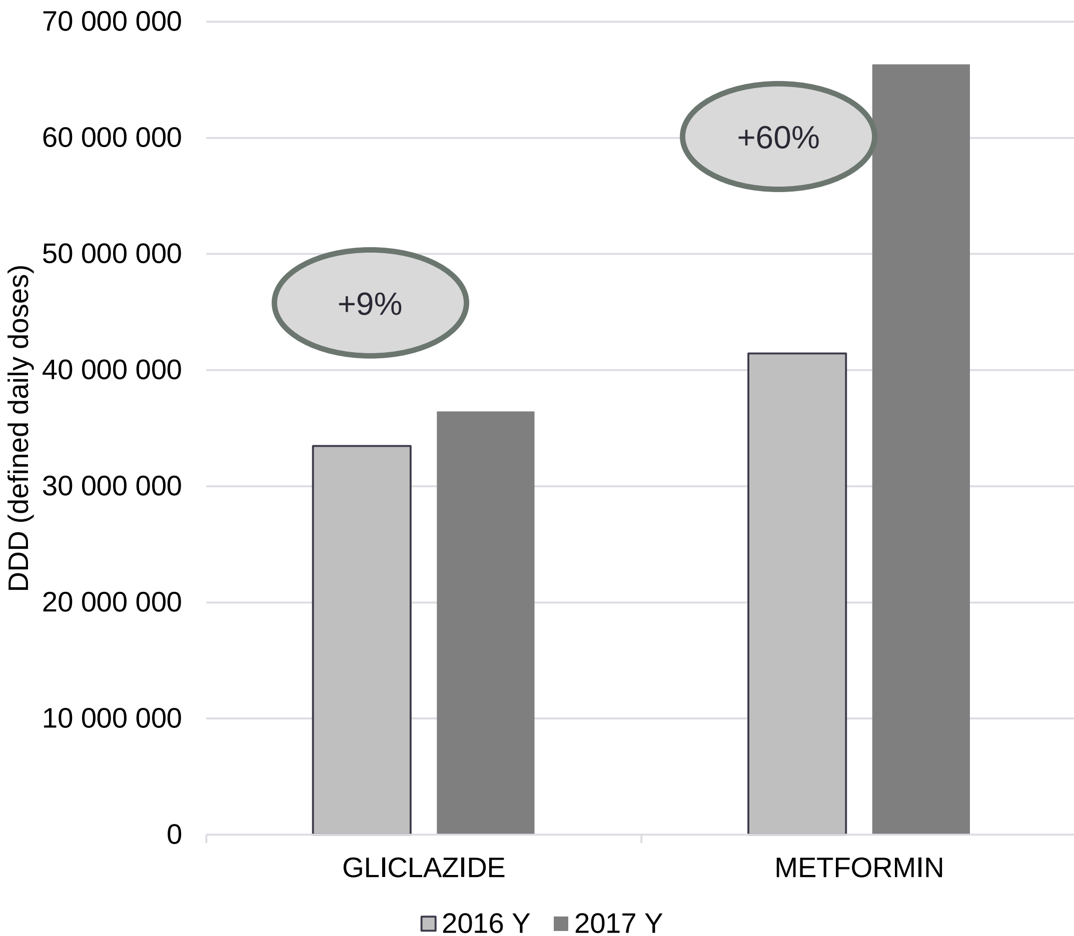


Source: SMD retail data

SMD
Support in Market Development

Reimbursement project «Dostupni Liky»
The 1st year results – «Type 2 Diabetes»

Dynamics of retail sales of selected molecules, DDD
(number of defined daily doses)

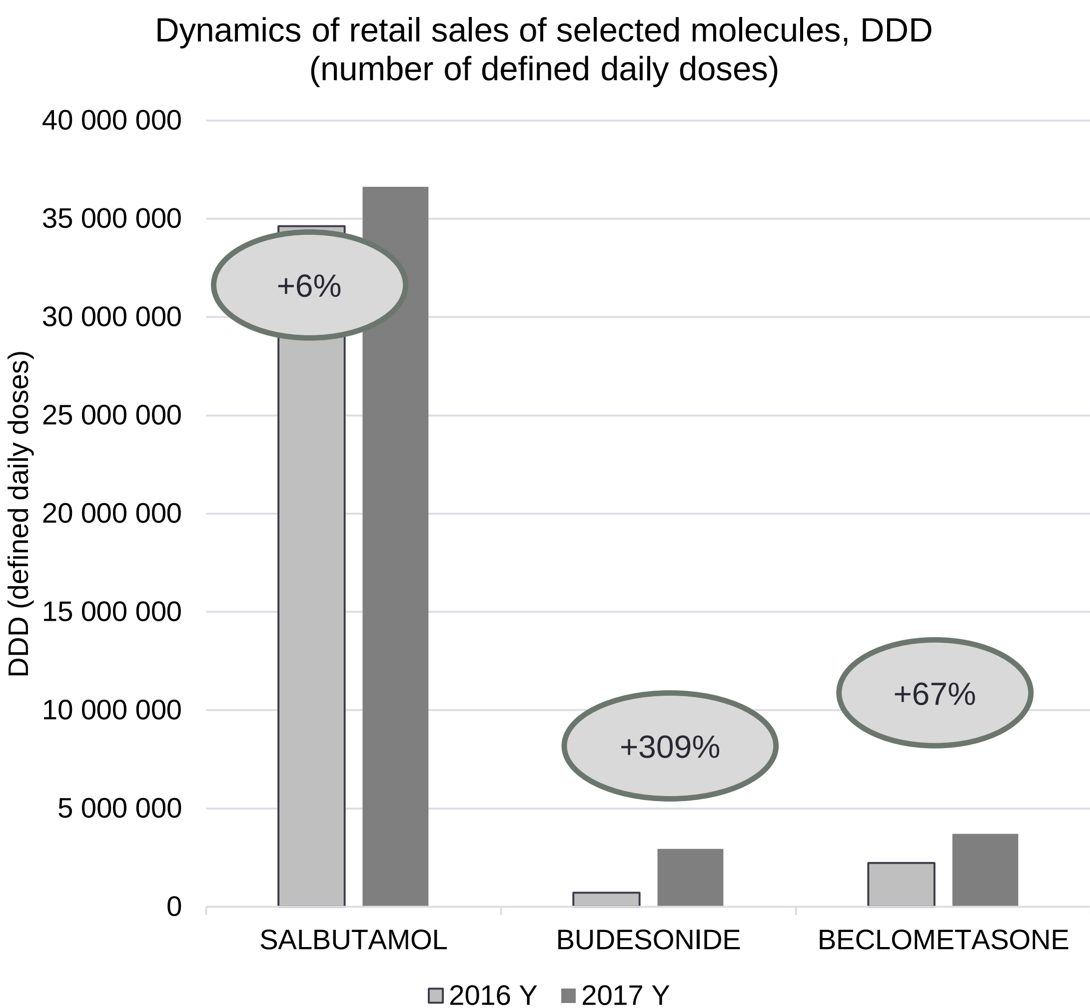


Sales of selected molecules for the treatment of Type 2 diabetes were 10% of all reimbursed drugs in DDD.

The greatest increase in Metformin + 60%

Source: SMD retail data

Reimbursement project «Dostupni Liky»
The 1st year results – «Bronchial asthma»



Sales of selected molecules for the treatment of bronchial asthma accounted for 4% of all reimbursed drugs in DDD.

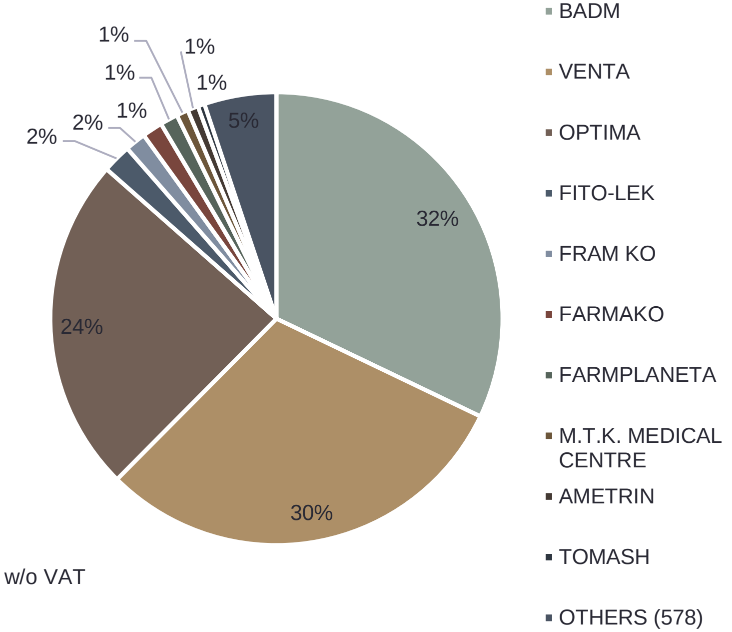
The greatest increase in budesonide + 309%, with a small base of comparison

Source: SMD retail data

Retail segment.
Leading distributors.

Лидирующие дистрибуторы в розничном сегменте в денежном выражении

	2014	2015	2016	2017
BADM	37,2%	34,9%	30,1%	32,1%
VENTA	14,0%	18,5%	22,7%	30,3%
OPTIMA	29,2%	25,1%	28,7%	24,0%
FITO-LEK	2,2%	2,8%	2,5%	2,1%
FRAM KO	0,1%	4,0%	4,1%	1,5%
FARMAKO	1,0%	1,3%	0,9%	1,5%
FARMPLANETA	3,4%	4,0%	1,8%	1,3%
M.T.K. MEDICAL CENTRE	0,4%	0,8%	0,7%	0,8%
AMETRIN	0,1%	0,5%	1,0%	0,8%
TOMASH	0,0%	0,0%	0,2%	0,5%
OTHERS (578)	12,4%	10,1%	9,3%	5,2%



Source SMD retail data, medicines and nutritional supplements, price level – pharmacy purchase price w/o VAT

Concentration of sales in the top ten distributors continues.
The first three players in 2017 concentrated 86% of sales in the retail market.
Optima lost 2nd place to Venta.
Farmplaneta following the results of 2017 came out of the top five. Leaving forward Fito-Lek and Farmako.

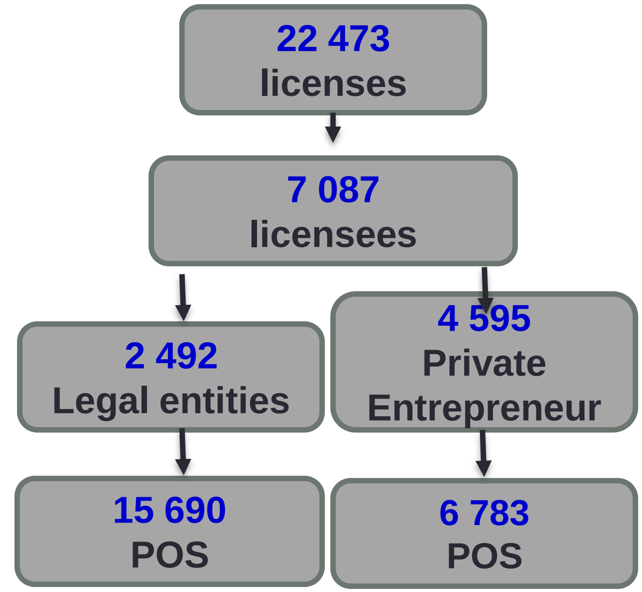
Retail segment. Pharmacy chains

In comparison with the Polish market, similar in population to Ukraine, the Ukrainian market has a much larger number of points of sale and a smaller turnover per point of sale.

Pharmacies' turnovers are beginning to grow. The driving force that triggers the sales flywheel is reimbursement.

The first run - is due to an increase in the influx of patients to doctors, which in turn leads to an increase in the number of prescribed reimbursement drugs and recommendations for a parallel pathology.

The second - the patient, coming to the pharmacy with a free prescription, makes additional purchases of both medicines and medical products and personal hygiene items



	Inhabitants, Mio	Market, Euro Bln	Number of pharmacies	POS per inhabitant	Annual Turnover in Euro per POS
POLAND	38,5	7,8	14 716	2 616	530 035
ROMANIA	19,9	2,6	9 429	2 111	275 745
BULGRIA	7,1	1,5	4 207	1 688	356 549
HUNGARY	9,8	1,9	3 220	3 043	590 062
CHECH REPUB	10,6	1,7	2 804	3 780	606 277
UKRAINE	42,3	2	22 474	1 882	88 992
BELARUS	9,5	0,7	3 196	2 972	219 024

Source: license data base 2018, UPharma

The question remains - the real number of points of sale in the country.

With such a small turnover per point of sale, it is natural to use Private Entrepreneur form of ownership as legal tools for tax optimization.

In our opinion, the actual number of points of sale is about 16,000, which is commensurate with Poland and is quite enough.

* POS – point of sales

Retail segment.
Pharmacy chains. Top 15 chains → 37% retail market

№	Leading Group of companies (and pharma chains brands)	POS	MS%, LC
1	Apteka Nizkih Tsin (Blagodiya, ANZ, Kopijka)	583	14,11%
2	Sirius-95 (Bajaemo Zdorovja)	456	6,18%
3	Farmastor (ADD, FarTop, 1st Social Pharmacy, Apteka MIRRA, Biokon)	345	2,31%
4	Osan (Pharmacy 911, 03, Plastik, The 1st pharmacy)	320	2,21%
5	Med-Service	316	1,33%
6	Solomia-Service (Podorojnik)	229	1,29%
7	RUAN	178	1,23%
8	I.K.VEL (Receptika, OptTorg)	158	1,22%
9	Titan (Apteka Zdorovja, Mega Apteka Zdorovja)	134	1,16%
10	Liky of Ukraine, Chernigiv oblrada	114	1,06%
11	Konex	104	1,03%
12	Ukrainian pharmaceutical holding (Zdravitsa, Dobri Liki, a +, Budte Zdorovi)	168	0,94%
13	Vitamin (Vitamin, Nova Apteka Nizkih Tsin)	57	0,88%
14	Dnipr Farmacia	132	0,87%
15	Mykolaiv-Pharm	104	0,84%

Source: SMD ranking of pharma chains, Y2017 results

Groups of companies include a number of legal entities and Private Enterpreneurs. They work with different brands of pharmacy chains that are part of a single financial and legal group, united by a purchasing and assortment management center.

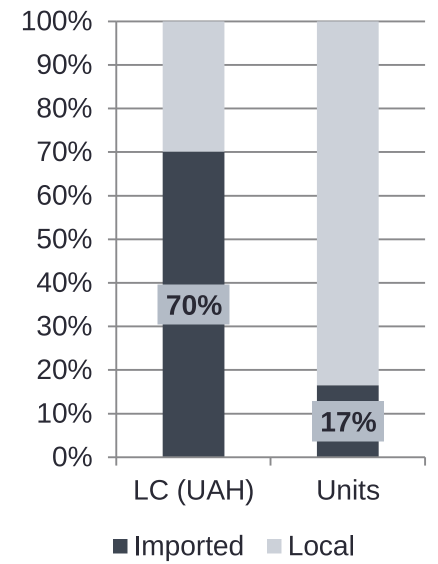
Brands of pharmacy chains have their own marketing positioning for different population groups and different regions, successfully coexist within the same group.

Consolidation of networks happen through the opening of new POS, the purchase of existing sales outlets, and through the franchising scheme.

Large pharmacy chains have more favorable conditions for the purchase of medicines and Para pharm, consolidating turnover. Thus, managing the volume of purchase of the product and the price, the pharmacy network dictates the market conditions for entry and cooperation.

State Procurement segment.
Leading companies.

Leading companies in state purchases in values (USD)					
2016Y	2017Y	Leading companies	USD MIO	MS (%)	Growth USD(+-%)
			164,7	**100,0%**	**-22%**
8	1	ABBVIE	21,5	13,1%	157%
5	2	ZDOROVJE	8,9	5,4%	-16%
12	3	JURIA PHARM	7,8	4,8%	39%
2	4	FARMAK	7,4	4,5%	-45%
3	5	ROCHE	7,0	4,3%	-47%
7	6	BAKSTER	6,9	4,2%	-20%
97	7	SHIRE	5,8	3,5%	999%
6	8	SANOFI	5,7	3,5%	-33%
11	9	ARTERIUM	5,3	3,2%	-10%
4	10	NOVO NORDISK	4,3	2,6%	-65%
17	11	PFIZER	4,3	2,6%	28%
13	12	GSK	4,2	2,5%	4%
10	13	MSD	3,8	2,3%	-43%
14	14	OCTAPHARMA	3,6	2,2%	-12%
29	15	TEVA	3,4	2,1%	70%
15	16	DARNITSA	3,1	1,9%	-14%
31	17	TAKEDA	3,0	1,8%	59%
24	18	GILEAD	2,6	1,6%	2%
16	19	BIOPHARMA	2,4	1,5%	-29%
18	20	BAXALTA	2,4	1,4%	-26%



Foreign companies are most active in Top 20 in state purchase segment.

Abbvie and Shire re entered the segment successfully

Local companies have larger share in hospital purchases than in retail (83% versus 68% in retail). But their dynamics in the foreign currency this year is worse than that of foreign companies.

Source: SMD audit of state purchases

State Procurement segment
Main trends

- The Segment has shown negative dynamics related to such factors as:

  - Change of insulin procurement scheme
- New system is based on Patient Register and direct supply through the pharmacies as prescribed by the doctor. That has already allowed to recalculate the number of patients and significantly save the state budget. Basically the budget was substantially reduced - from UAH 1 Bln in Y2016 to UAH 700 MIO in Y2017. You may see this trend in sales vials wise. With average consumption in previous years 7,7 MIO vials per year vs 4,9 MIO vials in 2017.

  - Change of Academy of Sciences financial System
- from June 2017 the State began to purchase Services instead of direct financial support (the experiment began with the four leading Academic Institutions)
  - Amosov Institute of Cardiology
  - Shalimov institute of Surgery and transplantology
  - Romodanov Institute of neurosurgery and Cardiology
  - Strazhesko Institute of Cardiology

By the Year end we see average drop of medicines procurement around 30%

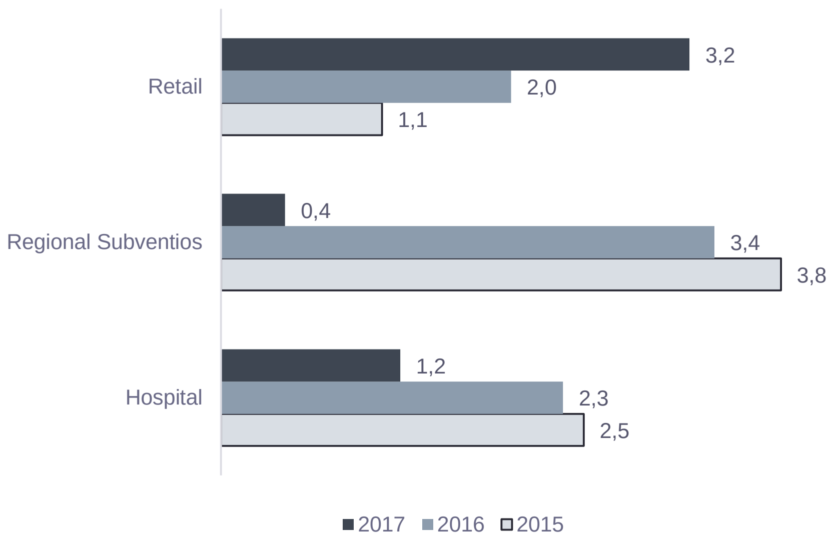
  - General trend to buy cheaper medicines, especially in the system of tender purchases of hospitals. Due to application of the National List of medical products for purchase by hospitals.

Average price per unit, UAH	2016Y	2017Y
Hospitals, tenders	89	77
Centralized procurement	251	630
Under the threshold procurement	53	47
Regional Subventions, under the threshold purchases	44	35
Regional Subventions , tender purchases	229	155

Data: SMD state purchase audit

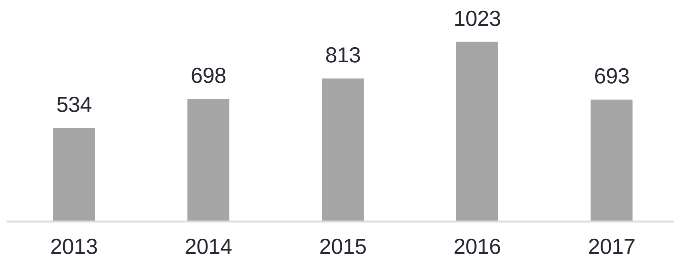
State Procurement.
Insulins.

Distribution by channels, MIO vials

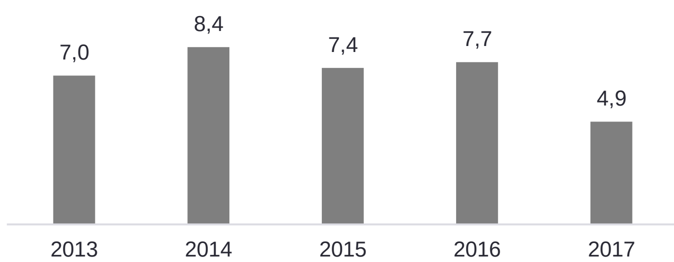


Sales

Values MIO LC (UAH)



Volume, MIO Vials



Dynamics of sales in local currency UAH and standard units (millions of viala), demonstrates negative dynamics in 2017. There was a transfer of sales from the channel of regional subventions to the channel of retail sales.

 Source: SMD audit

State Procurement.
Leading products, values (LC, UAH)

Leading products in segment of state procurement in Y2017, Values (LC UAH)

2017Y	Brands	Mio UAH	MS % UAH	MS % Units	Purchase prices, w/o VAT
1	ALUVIA	486	11,1%	0,99%	1 483
2	ELAPRASA	160	3,7%	0,01%	90 760
3	DIANEAL PD4+DEXTROSE	124	2,8%	2,03%	184
4	PRIORIX	89	2,0%	0,02%	16 354
5	SODIUM CHLORIDE	61	1,4%	18,65%	10
6	CEREZIM	59	1,3%	0,11%	1 621
7	CUROSURF	54	1,2%	0,01%	11 230
8	TUBERCULIN	53	1,2%	1,39%	115
9	PHENTANYL	53	1,2%	0,81%	198
10	REVACIO	50	1,1%	0,02%	7 978
11	OCTANAT	49	1,1%	0,05%	3 064
12	CANSIDAR	49	1,1%	0,01%	10 556
13	HARVONI	43	1,0%	0,01%	9 123
14	EMOCLOT	43	1,0%	0,03%	4 259
15	TRASTUMAB	39	0,9%	0,01%	13 799
16	IMMUNAT	39	0,9%	0,03%	3 890
17	REOSORBILACT	38	0,9%	1,73%	66
18	RITUXIM	37	0,8%	0,01%	19 403
19	TASIGNA	35	0,8%	0,01%	15 106
20	EXTRANEAL	32	0,7%	0,18%	545

Source: SMD state purchases audit

Over the past 4 years, the structure of leading medicines in public procurement has undergone significant changes.

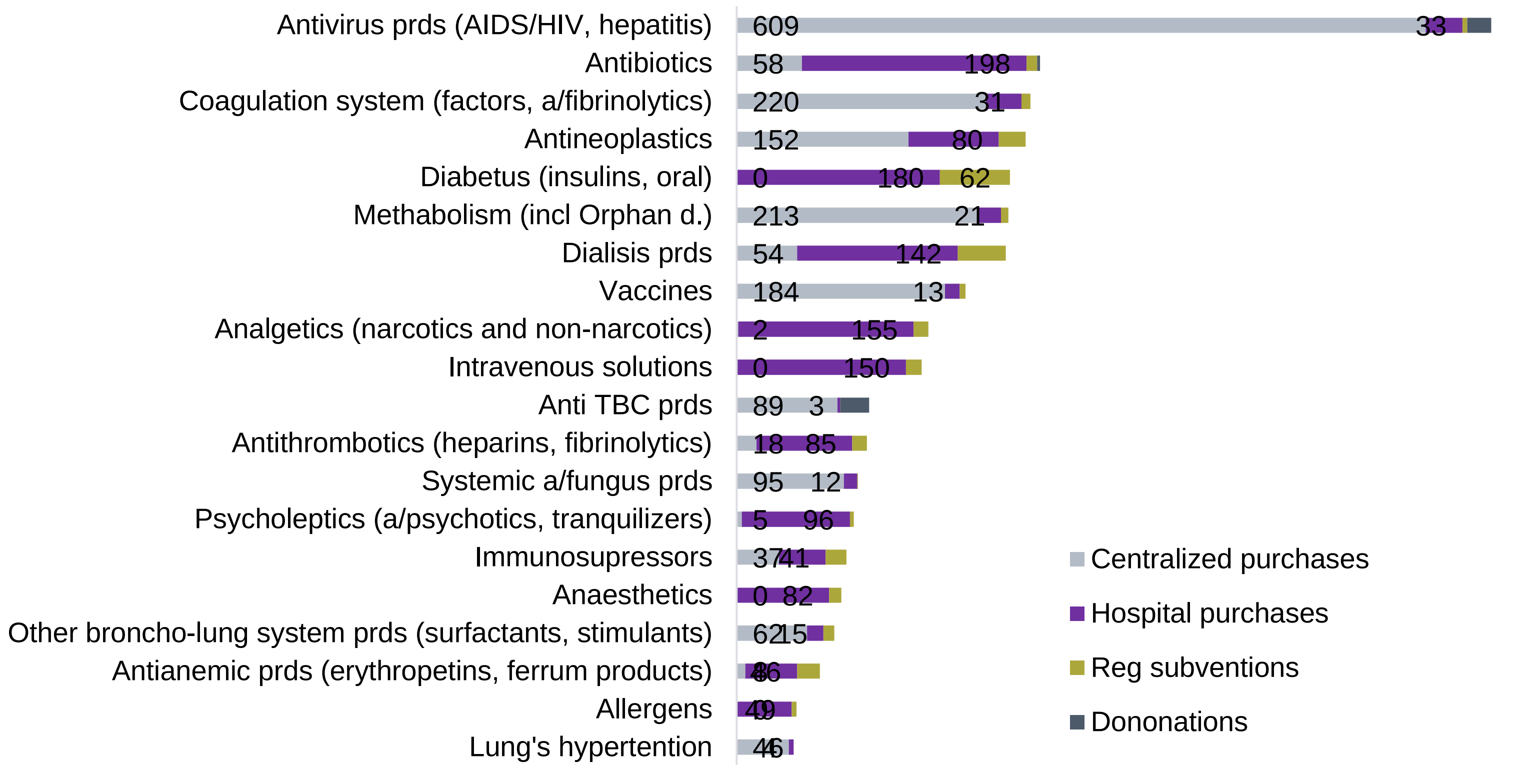
Along with traditional Sodium chloride, Reosorbilact and Fentanyl among the leading products, coagulation factors, vaccines, surfactants, drugs for the treatment of HIV / AIDS.

At the same time, it should be noted that the state primarily provides for the purchase of expensive drugs.

In the Top 20 there are only couple of popular and "mass“ products - Sodium Chloride, Tuberculin, Fentanyl and Reosorbilact

State Procurement.
Leading therapeutical groups in values (LC UAH)

Leading therapeutical groups in state procurements, MIO UAH



Antiviral, namely for the treatment of HIV / AIDS and viral hepatitis, is still among the leading groups (rose from 2nd to 1st place). Antibiotics and antineoplastics occupy a significant share in public procurement.

Source: SMD state purchases audit

State Procurement. Leading distributors.

Leading distributors in state procurements in values (LC UAH) as of Y2017 results

	2016Y	2017Y
ЦЕНТРАЛИЗОВАННЫЕ ЗАКУПКИ	19,7%	36,9%
БАДМ -Б	7,3%	8,5%
МЕДФАРКОМ	6,9%	4,8%
М.Т.К. МЕДИЦИНСКИЙ ЦЕНТР	1,6%	3,7%
ПРООН/УКРВАКЦИНА	0,0%	3,6%
ДИАВИТА	3,1%	2,6%
ФАРМПЛАНЕТА	1,6%	2,3%
ЛИНК МЕДИКАЛ	1,2%	1,8%
ФАРМАДИС	4,1%	1,8%
КИЕВСКАЯ ФАРМАЦИЯ	6,6%	1,2%
ЛЮДМИЛА ФАРМ	2,5%	1,2%
БИЗНЕС ЦЕНТР ФАРМАЦИЯ	1,9%	1,1%
РЕНАРТ	2,6%	1,1%
ПРООН/УКРМЕДПОСТАЧ	0,0%	1,0%
САНА КО	0,5%	1,0%
ДИАЛАЙФ	0,0%	0,8%
БИЛИМЕД	0,8%	0,8%
САНИТАС	0,6%	0,7%
ОПТИМА-ФАРМ	3,8%	0,7%
ЭДВИЛ	0,0%	0,6%
ТОМАШ	0,0%	0,6%

Centralized purchases through international organizations Crown Agency, UNDP, UNICEF accounted for almost 40% of the total values (LC UAH) of public procurement.

Their market share is double in comparison with Y2016.

Leadership in the segment is maintained by the company BADM-B, increasing its share from 7.3 to 8.5%.

Also the companies MTK, Farmplaneta and Link Medical are growing in this segment.

Medfarkom, Lyudmila Farm and Optima have lost market share, in comparison with Y 2016.

Source: SMD state purchases audit

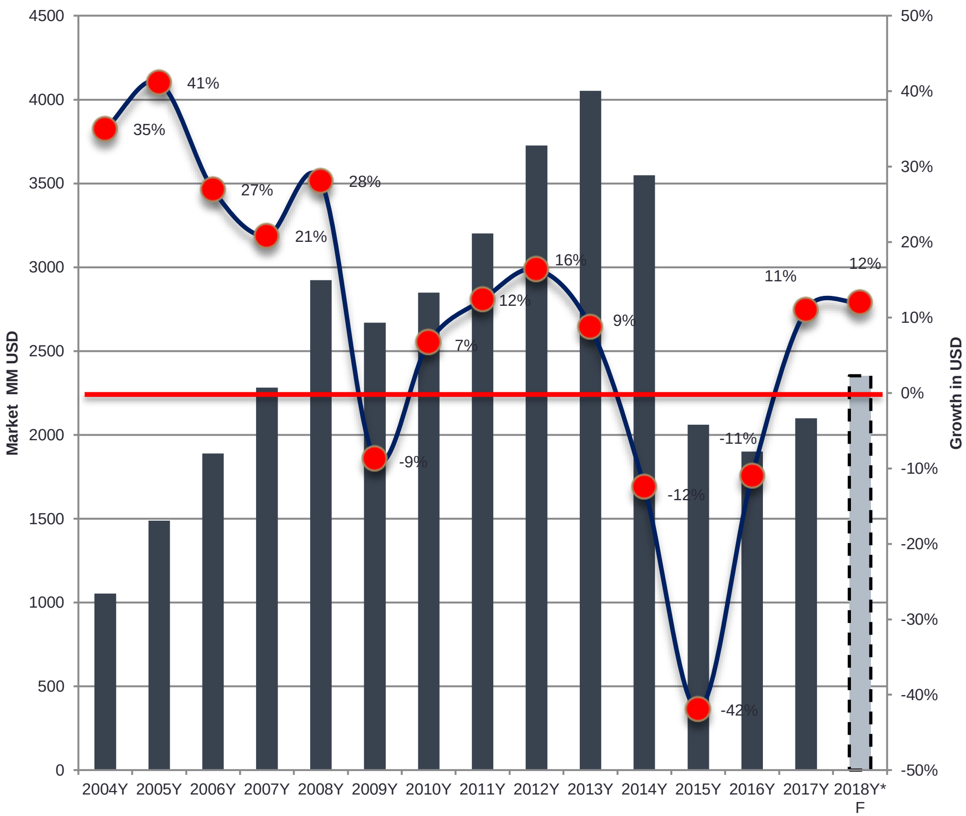
Conclusions

- Fateful changes occurred in the Ukrainian pharmaceutical market in Y2017:
- The State became the real player in the pharma market.
- Namely, since April 2017 reimbursement program “Dostupni Liki“ started in outpatient segment. It is planned to expand the lists of molecules and increase purchases. Despite the fact that the state's share is still small, this factor is becoming one of the most important drivers of the market.
- The National Drug List has been put in place, guaranteeing the basic minimum package of medicines for inpatient treatment provided by the state.
- For insulin, there was a transition from purchases through tenders with further distribution, to a reimbursement by name through the pharmacy segment. That allowed to update the register of insulin-dependent patients and significantly save the budget for the purchase of insulin.
- The state began transition from budget financing of medical institutions of the system of Scientific Research Institutes to the purchase of services from these institutions and their transfer to self-financing.
- At the end of the year, the National List of Medicines entered into force. It is called upon to become the basis for purchases in the state segment, and to shift costs from the citizen to the state.
- There is a further concentration in the pharmacy chain segment, the top 15 chains hold 37% of the market.
- In the retail segment, the positions in the top three of the distributors changed - Venta outperformed Optima and rose to second place. Farmaco and Fito-Lek improved their positions, rising in the ranking.

In the public procurement segment, almost 40% is carried out through a system of centralized procedures by international organizations UNICEF, Crown Agency, UNDP. It took almost two years to implement a new system of centralized public procurement and enter the level of purchases in 2013.

Ukraine: Y2018 expectations

Market dynamics in values (USD) and forecast for Y2018



Source: SMD data, all segments and all products (Rx, OTC, nutritional supplements, patient care and personal care, dermocosmetics).

- Further development of reimbursement system expected (since January 2018, 2 molecules have been added to the “Dostupni Liki" program, an expansion of the list of nosologies is expected)
- The entry into force of the National List of Medicines will shift most of the hospital expenses of population to the state. This will allow patients to use the released resources for disease prevention.
- The above trends will save double digit growth in foreign currency in 2018. Our forecast is + 12% in US dollars.
- It is expected that a number of important regulatory acts will be adopted in the industry in 2018, which will contribute to the growth of the market:
  - The program of medical guarantees as part of the law on the state budget. The list and scope of medical services and medicines that are guaranteed by the state will be determined (December 2018).
  - The licensing terms for imports will be revised (March 18)
  - The National Drug Policy is expected to be adopted (March 18)
  - New edition of the National List of medicines (November 18)

SMD at a glance

SMD is provider of Market research, Sales management and Consulting services for the pharmaceutical industry.

Operating across the CIS-region, we provide high quality information for governments, pharmaceutical corporations, distributors and non-profit organizations.

We transform raw data into strategic insights and tailor-made recommendations.

Our highest quality and timely market research services are tailored to client's individual marketing needs by the highly experienced and professional SMD team.

Giving a 3D overview the market performance, our data provides an opportunity to ZOOM IN and ZOOM OUT.

You can track the slightest changes in sales performance of multiple countries up to the country-region level.

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www.smd.net.ua
office@smd.net.ua

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