100

90

80

60

50

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20

10

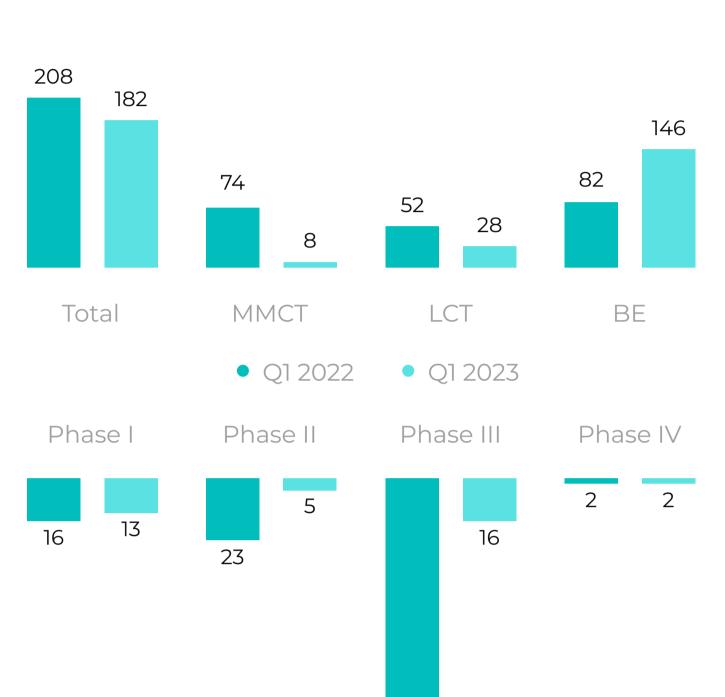
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O Trial Data

During Q1 2023 the Ministry of Health of the Russian Federation approved the start of 182 new clinical trials of all types, including local and bioequivalence studies. This represents a 13% year on year decline by the total number of studies.

The dominant type of clinical trials conducted across Russian sites in Q1 2023 were BE (Bio-equivalent Clinical Trials). The market share of BE studies achieved the unprecedent rate of 80% and doubled from 39% in the previous year. The market share of MMCTs (Multinational Multi-center Clinical Trials) collapsed from 36% to 5% whilst Local Clinical Trials declined from 25% to 15%.

Breakdown of Clinical Trials by Type and Phase



The most prevalent Phase of clinical trials conducted in Russian sites by total number of studies was Phase III. The total number of Phase III trials crashed by 81% – from 85 trials in Q1 2022 to 16 trials in Q1 2023.

Percentage Breakdown of Clinical Trials by Type

80%

15%

5%

Q1 2023

BE

39%

25%

36%

Q1 2022

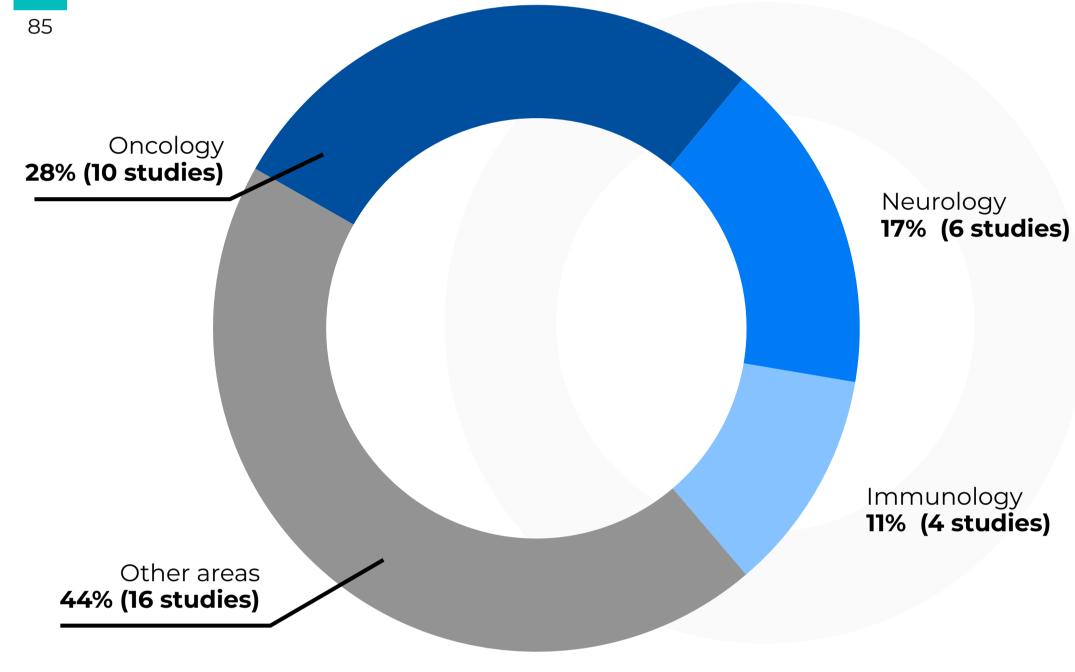
MMCT

The largest number of clinical trials initiated in Russia during Q1 2023 were related to Oncology (10 studies), Neurology (6 studies) and Rheumatology (4 studies). Other dominant therapy areas include Hematology, Dermatology and Infectious diseases.

Trials in Russia in Q1 2023 by Therapeutic Area More than one therapeutic area

Breakdown of Clinical

may be assigned to a trial. BE studies were not included in any therapeutic area group.



100

90

80

70

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Sponsor Data

Clinical trials initiated in Russia during Q1 2023 were

sponsored by pharmaceutical companies from Russia and 14 foreign countries. The combined market share of international pharmaceutical companies involved in the Russian Clinical trials market dropped from 46% to 19% of all studies.

Russian sites by international pharmaceutical companies in Q1 2023 was Phase III with 22% share among Phase I – IV studies.

The dominant Phase of Clinical trials conducted across

2023 were Russia (147 studies), Belarus (6 studies) and India (6 studies). Other prominent countries include the U.S. (5 studies), Croatia (3 studies) and Romania (3 studies).

Observational trials and trials without FDA-defined phases

(from I to IV) were not counted in the following ranking.

The most prevalent Sponsor's countries of origin in Q1

Combined market share shown as a percentage of both international and Russian sponsors.

Russian Sponsors
 International Sponsors

Percentage Breakdown of Clinical Trials

19%

81%

Q1 2023

Subjects

by Sponsor's Country of origin

46%

54%

Q1 2022

Top-10 International Trial Sponsors in Russia in Q1 2023 Top-10 Russian Trial Sponsors in Russia in Q1 2023 Nº Company Name Studies

Nº	Company Name	Studies	Subjects
1	Agenus	2	170
2	Besins Healthcare	1	332
3	Rompharm	1	220
4	Daewon	1	200
5	Belupo	1	182
6	Hyperion	1	120
7	Serum Institute of India	1	80
8	Merck	1	39
9	Abbvie	1	10
10	Pfizer	1	3
	Combined market share	31%	23%

Generium 4 820 2 Promomed 4 740 3 **BIOCAD** 2 738 AVVA 2 60 4 Mabscale 884 5 1 Microgen 600 6 Polysan 7 120 105 Petrovax Pharm 8 Moscow Pharmaceutical 9 96 Factory 10 90 Grand **Combined market share 72% 50%**

international and Russian sponsors. Bio-Equivalence (BE) studies were not included in this ranking.

Combined market share shown as a percentage of both

) Subject Data

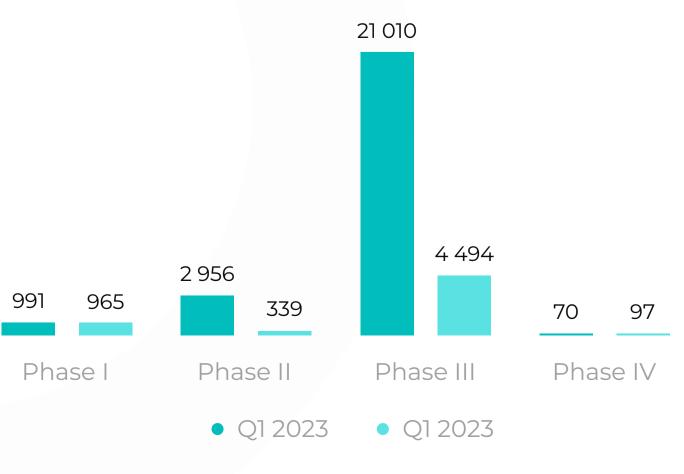
The overall number of subjects enrolled (or planned to be enrolled) in clinical trials initiated in Russia during Q1 2023 reached a total of 5,895 subjects – a 77% crash in comparison with the previous year when 25,027 subjects were enrolled. The most prevalent Phase of clinical trials by the number of participating subjects was Phase III with 76% of all subjects enrolled.

Studies indicated by sponsors as Phase I-II were counted as

Phase II; Phase II-III – as Phase III, Phase III-IV – as Phase IV.

21 010

Breakdown of number of Subjects enrolled by Phase



O Research Site Data

Top-5 Russian research sites (all studies) in Q1 2023

Nº	Site Name	City	No. Studies
7	City Hospital № 3	Yaroslavl	17
2	City Hospital № 2	Yaroslavl	14
3	Ecosafety	Saint Petersburg	14
4	I.M. Sechenov First Moscow State Medical University	Moscow	12
5	Clinical Hospital № 9	Yaroslavl	11
	Combined market share of these sites		37 %

O CRO Data

Top-10 CROs in Russia in Q1 2023 (Phase I - IV studies)

Observational Clinical trials and Clinical trials without FDA defined phases (from I to IV) were not included in this ranking.

Nº	Site Name	No. Studies	No. Subjects
1	X7 Clinical Research	3	302
2	Atlant Clinical	2	170
3	Benerix	1	884
4	iPharma	1	120
5	Ecosafety	1	42
6	Accellena	1	32
7	-	-	-
8	-	-	-
9	-	-	-
10	-	-	-
	Combined market share	25%	26%
		No. Studies	No. Subjects

Top-5 CROs in Russia in Q1 2023 (BE studies)

Only BE (bioequivalence) studies were included in this ranking.

were ii	ncluded in this ranking.	Combined market share	25 %	26 %	
Nº	Site Name		No. Studies	No. Subjects	
1	Probiotec Medical Center		4	181	
2	National Scientific Center for Resea	rch and Pharmacovigilance	4	155	
3	ClinPharmDevelopment		2	100	
4	Medical Development Agency		2	88	
5	Accellena		2	64	
	Combined market share of these	companies	10%	7 %	

O Regulatory Data

Research (CDER) of the U.S. FDA approved 24 new drugs, including 10 new molecular entities (NME); other approvals concerned new dosages, combinations or manufacturers.

During Q1 2023 the Center for Drug Evaluation and

Five of these 24 drugs were tested (or being studied) in clinical trials involving Russian sites.

Source: FDA

Appr.Date	Drug (Active Ingredient)	Company
20.01.2023	Brenzavvynda (Bexagliflozin)	TheracosBio
27.01.2023	Jaypircanda (Pirtobrutinib)	Loxo Oncology
01.02.2023	Jesduvroqnda (Daprodustat)	GlaxoSmithKline
17.02.2023	Syfovrenda (Pegcetacoplan)	Apellis Pharms
16.03.2023	Mekinistnda (Trametinib Dimethyl Sulfoxide)	Novartis

Human Use (CHMP) of the European Medicine Agency (EMA) approved 27 new drugs including 5 generics, 2 biosimilar and 3 orphan medicines.

In Q1 2023 the Committee for Medicinal Products for

clinical trials involving Russian sites.

Eleven of these 27 drugs were tested (or being studied) in

Source: EMA

Appr.Date	Drug (Active Ingredient)	Company
26.01.2023	Tolvaptan Accord (Tolvaptan)	Accord Healthcare
26.01.2023	Sitagliptin / Metformin Hydrochloride Sun (Sitagliptin Fumarate; Metformin Hydrochloride)	Sun Pharma
23.02.2023	Tidhesco (Ivosidenib)	Servier
23.02.2023	Tibsovo (Ivosidenib)	Servier
23.02.2023	Libtayo (Cemiplimab)	Regeneron
23.02.2023	Akeega (Abiraterone Acetate; Niraparib Tosilate Monohydrate)	Janssen
30.03.2023	Omvoh (Mirikizumab)	Eli Lilly
30.03.2023	Wegovy (Semaglutide)	Novo Nordisk
30.03.2023	Entresto (Sacubitril; Valsartan)	Novartis
30.03.2023	Ultomiris (Ravulizumab)	Alexion
30.03.2023	Neparvis (Sacubitril; Valsartan)	Novartis

FDA inspectionsAccording to the U.S. FDA data, there were no FDA

inspections conducted in a Russian investigative site during Q1 2023.

According to the Roszdravnadzor quarterly report, as of 26/04/2023 there were no Regulatory inspections

Roszdravnadzor inspections

conducted by Roszdravnadzor during Q1 2023.

About The Orange Paper The Orange Paper is a free publication produced by

Synergy Research Group for the pharmaceutical industry since 2007. It pulls together data from numerous public sources into a single brief document to aid decision makers planning to conduct clinical trials.

close of each year.

All of the data within this document are actual on date:

It is produced quarterly, with an annual summary at the

26/04/2023

About Synergy Research Group

Synergy Research Group is a contract research organization successfully operating in Russia & Kazakhstan since 2002.

From year to year our company is consistently in TOP-10 of market leaders by the numbers of conducted clinical

studies and enrolled patients.

The high recruitment rates of the emerging markets combined with innovative technology allows Synergy to

offer our clients conduct faster, more cost-effective studies

For all of clinical studies conducted by our company we've set up the highest level of world-class quality both for SOPs and for final study data.

We're continuously working on improvements of our SOPs, study risk management and IT infrastructure – and replacing an outdated R&D strategies by novel,

more efficient approaches to clinical research.



without sacrificing quality for our clients.