Clinical Trials in Russia
Orange Paper
1st Quarter 2011

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Contents

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Executive Summary

The Ministry of Health and Social Development of the Russian Federation (alias MoH) approved 95 new clinical trials of all types including local studies during the first quarter of 2011, 29% less than in Q1 2010.

The main contribution into the total number of studies is made by multinational multi-center clinical trials, the number of them also decreased by 11% from Q1 2010 and stood at 74 new studies in Q1 2011.

The number of the local clinical trials conducted in Russia by domestic and foreign sponsors is also down from 36 to 18 clinical trials, two times less than in the same period in 2010.

Clinical trials in Russia in Q1 2011 were sponsored by companies from 15 countries. The maximum number of trials (22) were initiated by US sponsors; Russian sponsors with 19 studies took the runner-up place; they are followed by Swiss sponsors with 15 trials; ten new studies were instigated by the UK manufacturers. The top six is concluded by German and French sponsors each having six new studies in Q1 2011.

Four new Phase I clinical trials were launched in the first quarter of 2011; seven trials down compared to the corresponding quarter of the last year. The number of the Phase II trials decreased by 33%, from 33 trials in the first quarter of 2010 to 22 studies in the first quarter of 2011. The number of Phase III trials demonstrated a 10% decrease from Q1 2010 number.

The number of subjects which are planned to be enrolled in the Phase II-IV trials launched in the first quarter of 2011 stood at 11,123 subjects, 15% less than in Q1 2010.

The *GlaxoSmithKlin*e sponsoring eight new studies is on the top of the heap in the first quarter of 2011. *Novartis* with six new trials in Q1 2011 took the runner-up place. It is followed by *AstraZeneca* sponsoring five new studies, and *Roche* also with five new studies, but with a smaller number of subjects. The top five is concluded by *sanofi-aventis* having four new studies in Q1 2011.

The Russian pharmaceutical company *Materia Medica* sponsoring four new clinical trials ranked number one among domestic pharmaceutical manufacturers by the number of new studies in the first quarter 2011. *Petrovaks* with two new trials took the runner-up place. It is followed by *Veropharm*, *Vector-Medica and Sintez* with one new study each differing only in the number of subjects and sites.

Seventy four percent of the new studies in Q1 2011 were conducted in the five leading therapeutic areas. The maximum number of trials (29) were initiated in Oncology; 12 clinical trials in Respiratory diseases; 11 new studies in Endocrinology; seven new studies in Cardiovascular diseases, and six new studies in Musculoskeletal diseases were initiated in Q1 2011.

The Center for Drug Evaluation and Research (CDER) of the FDA approved 30 new drugs during Q1 2011; six of them are new molecular entities (NME); others are new formulations, new combinations, new manufacturers or OTC (over-the-counter) switches of the already marketed drugs. Nine of the drugs were tested in clinical trials involving Russian sites.

During the period from January 1 to March 31 2011 the Committee for Medicinal Products for Human Use (CHMP) of the European Medicine Agency (EMEA) reviewed 11 applications to market drugs in the EU. Six of the drugs which received positive opinions were (or are being) tested in Russia.

Clinical Trials by Type and Manufacturing Country

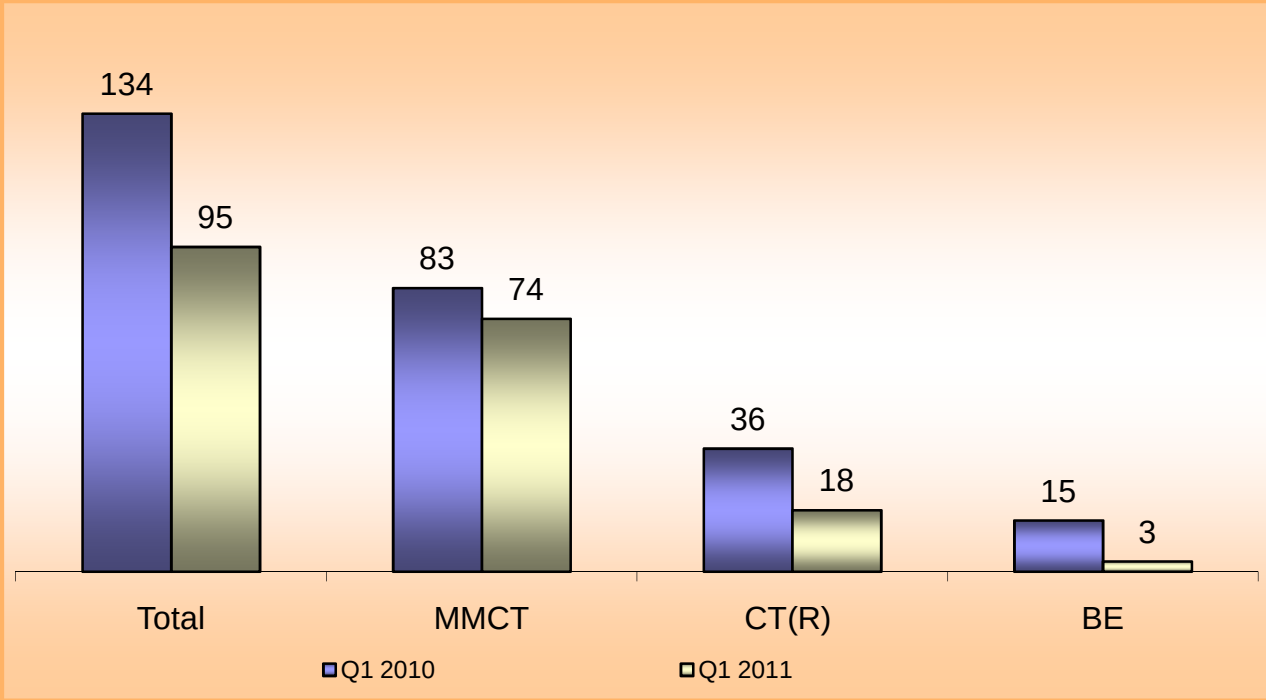
The Ministry of Health and Social Development of the Russian Federation (alias MoH) approved 95 new clinical trials of all types including local studies during the first quarter of 2011; 29% less than in the corresponding period of last year.

As shown in the Figure 1, the main contribution to the total number of studies is made by multinational multi-center clinical trials (MMCT). The number of these studies decreased by 11% from Q1 2010 and stood at 74 new studies in Q1 2011.

The number of the local clinical trials conducted in Russia by domestic and foreign sponsors (CT(R) is also down from 36 to 18 clinical trials demonstrating a 50% decrease over the same period in 2010.

The number of bioequivalence studies (BE) in the first quarter of 2011 stood at 3 new trials, five times down compared to the last year's figure.

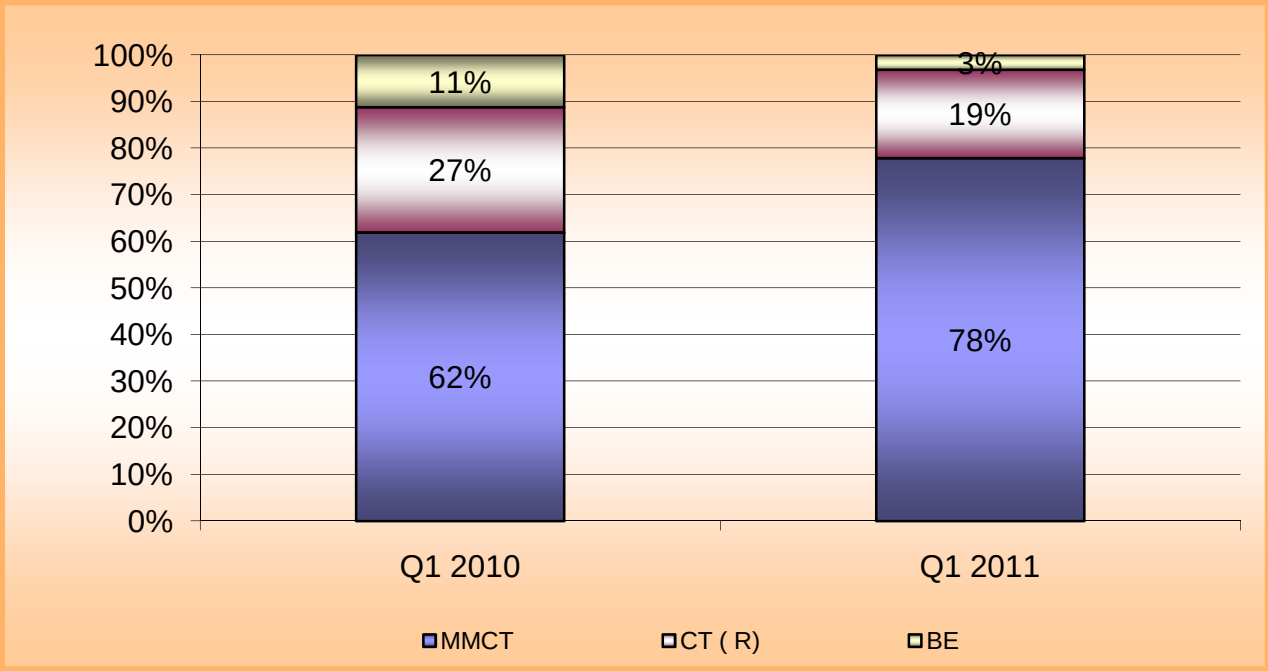
Figure 1. Clinical trials approved by MoH in Q1 2011



The proportions between different study types (multinational multi-center clinical trials, local studies and bioequivalence trials) did not change significantly over the same point in 2010 and will doubtfully change in the near future.

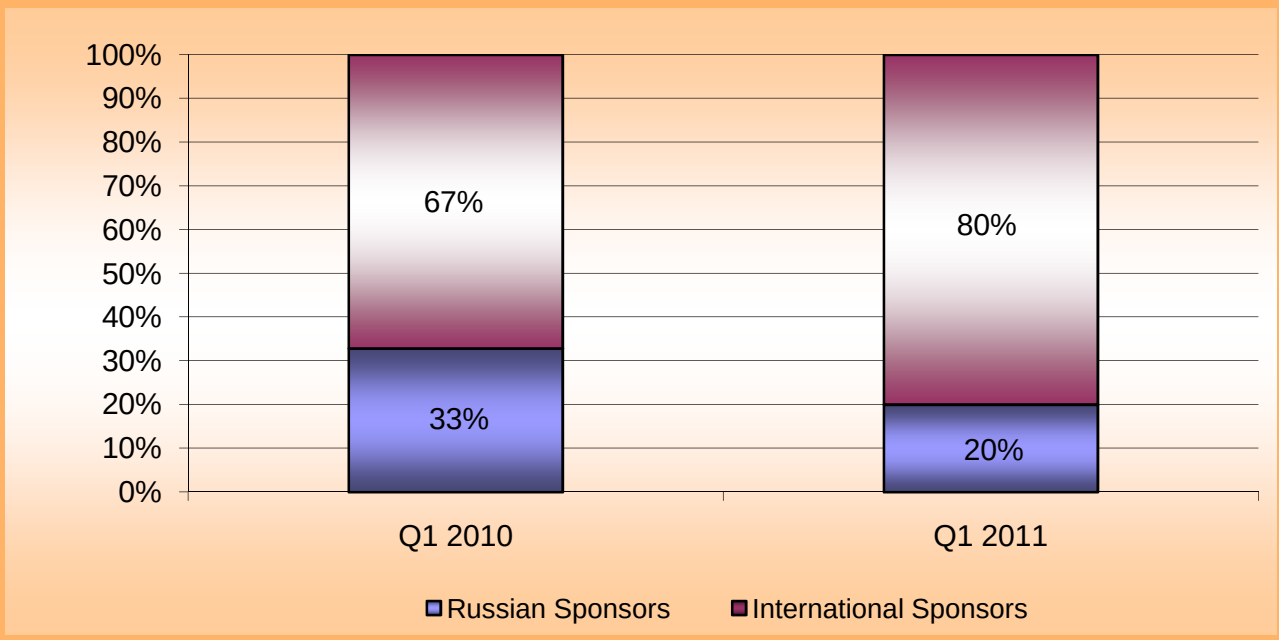
Despite the decrease in the number of studies, the share of multinational multi-center clinical trials increased from last year's figure and stood at 78% of the total number of clinical trials approved by MoH in the first quarter of 2011. The shares of the local trials and bioequivalence studies in Q1 2011 stood at 19% and 3% of the total number of studies, respectively, while they accounted to 27% and 11% in Q1 2010.

Figure 2. Clinical trials by type in Q1 2011



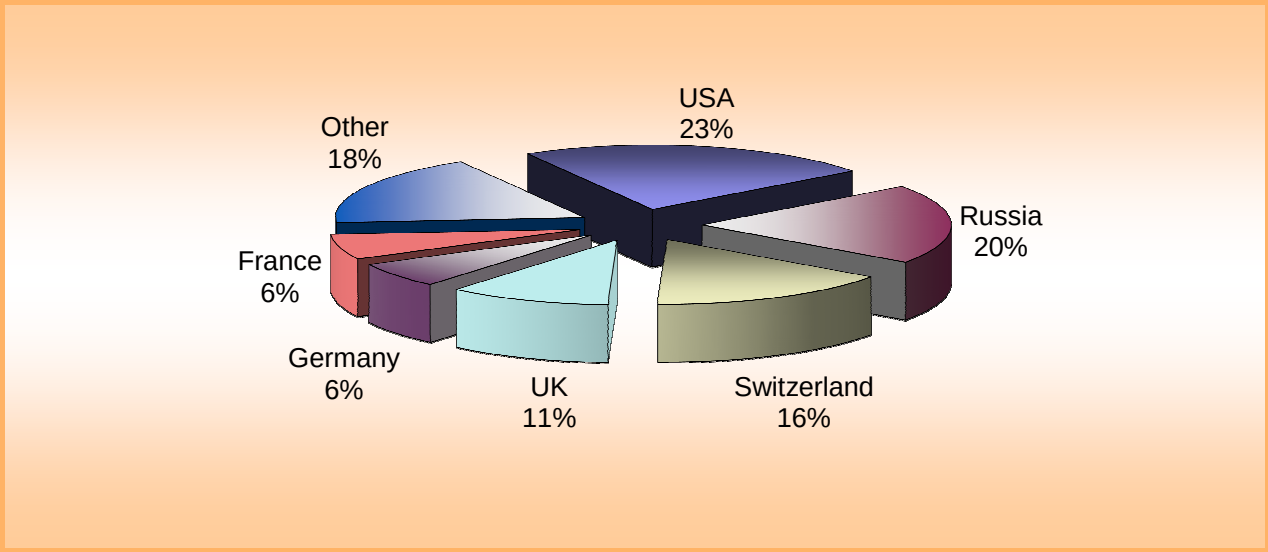
The lion's share of clinical trials in Russia is being sponsored by foreign companies - 80% of the total number of new studies in Q1 2011. The share of local sponsors decreased by 13% from Q1 2010 figure and accounted to about one fifth of the total number of studies.

Figure 3. Russian and International sponsors in Q1 2011



Clinical trials in Russia in Q1 2011 were sponsored by companies from 15 countries. Figure 4 demonstrates the input of the leading countries of sponsor's origin into the total number of clinical trials. The maximum number of trials (22) were initiated by US sponsors; Russian sponsors with 19 studies took the runner-up place; they are followed by Swiss sponsors with 15 trials; ten new studies were instigated by the UK and six new studies by German manufacturers. The top six is concluded by French sponsors also with six new studies in Q1 2011.

Figure 4. Countries presented on the Russian clinical trials market in Q1 2011

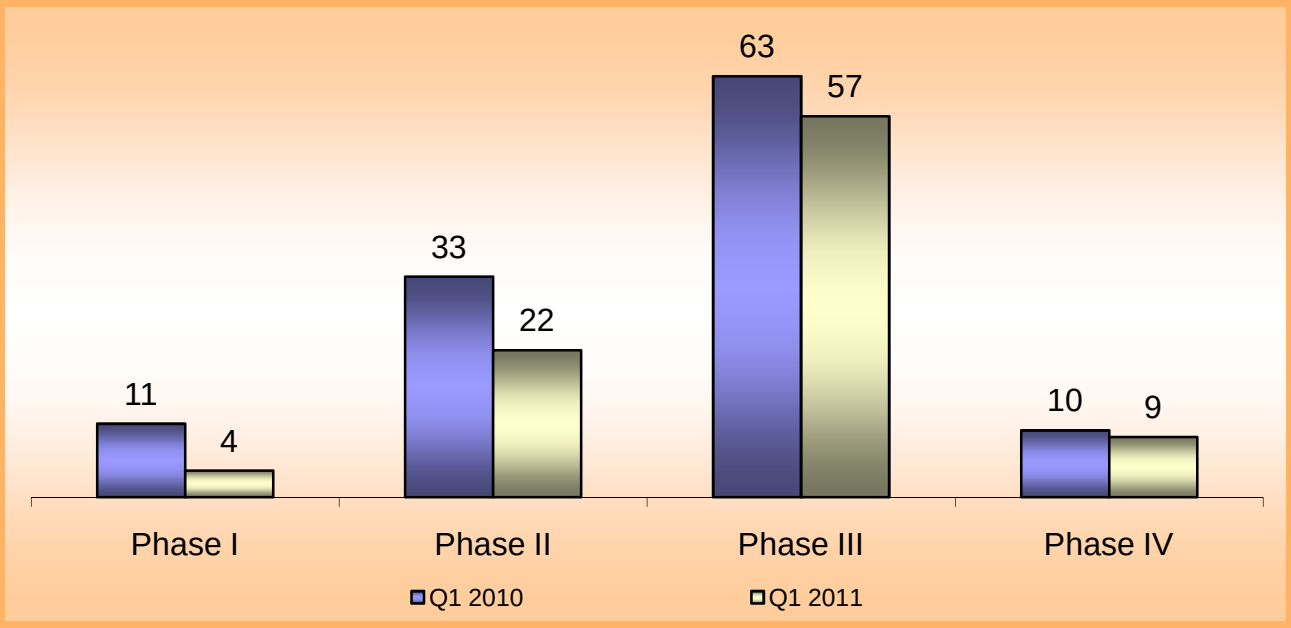


Austria, Denmark, Italy, Australia, Belguim, Finland, Latvia, Slovenia, Sweden and Finland are represented among others.

Clinical trials by Phase

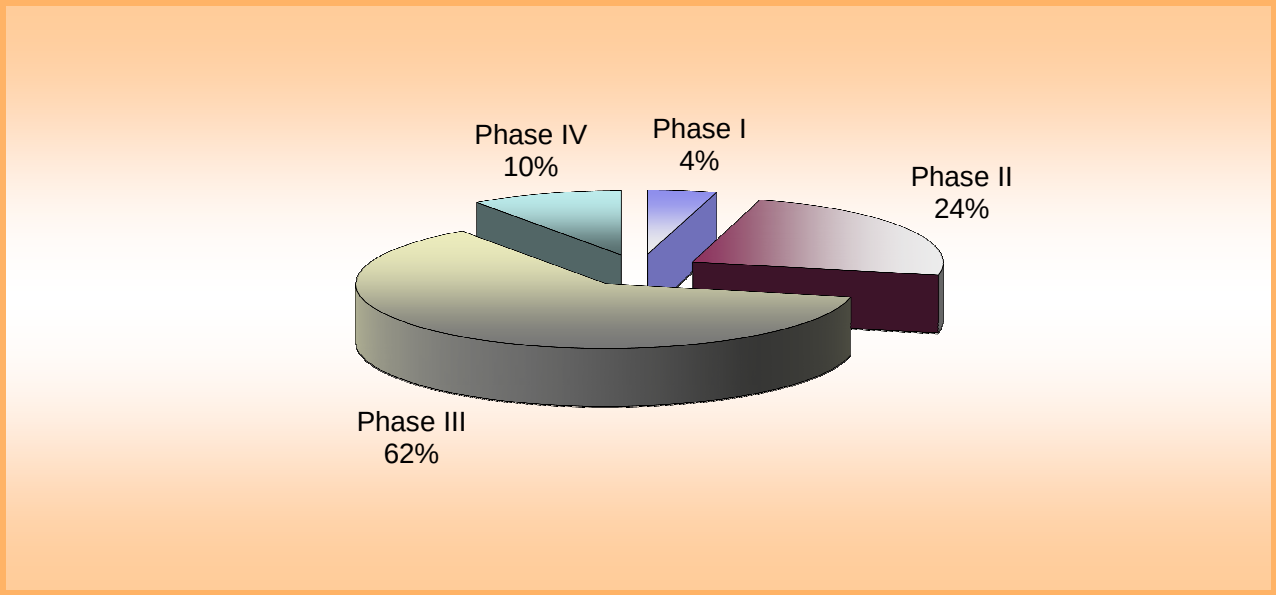
Four new Phase I clinical trials were launched in the first quarter of 2011; seven trials down compared to the corresponding quarter of the last year. The number of the Phase II trials decreased by 33%, from 33 trials in the first quarter of 2010 to 22 studies in the first quarter of 2011. The number of Phase III trials decreased by 10% from Q1 2010 number, from 63 down to 57 studies. The number of Phase IV trials also slightly decreased from ten studies in Q1 2010 to nine in Q1 2011.

Figure 5. Clinical trials in Russia in Q1 2011 by phase



As shown in Figure 6, the share of Phase III trials in Q1 2011 stood at 62% of the total number of studies, the share of Phase II trials accounted at 24%, Phase IV trials stood at 10%, and the share of Phase I studies stood at four per cent.

Figure 6. The proportions between study phases in Russia in Q1 2011



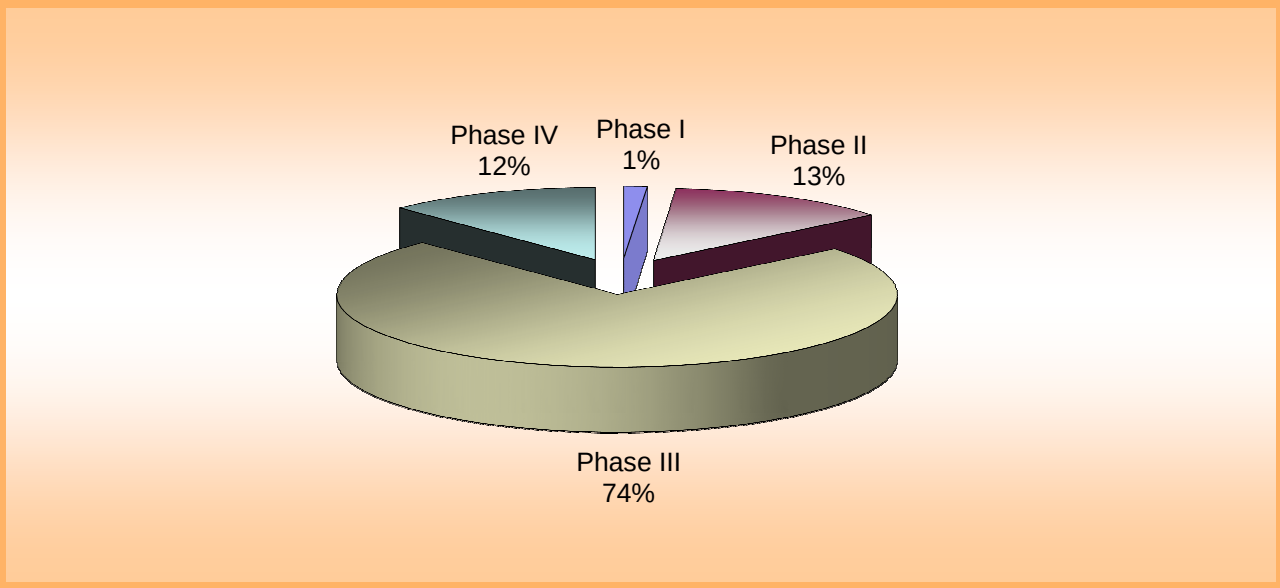
The number of subjects which are planned to be enrolled in the Phase II-IV trials launched in the first quarter of 2011 stood at 11,123 subjects, 1,893 subjects less than in Q1 2010 (13,016 subjects).

143 subjects will be recruited in Phase I trials; 1,429 subjects – in Phase II trials; 8,187 subjects – in Phase III studies and 1,364 subjects will be enrolled in Phase IV studies.

The minimal number of subjects in a single study is two, the maximum number is 1,500.

The proportion of the number of subjects between different Phases is shown on the Figure 7.

Figure 7. The number of subjects in Q1 2011 by study phase



The duration of the shortest trial is three months, the longest one will take 7,5 years.

Rating of international sponsors

The *GlaxoSmithKline* sponsoring eight new studies is on the top of the heap in the first quarter of 2011. *Novartis* with six new trials in Q1 2011 took the runner-up place. It is followed by *AstraZeneca* sponsoring five new studies, and Roche also with five new studies, but with a smaller number of subjects. The top five is concluded by *sanofi-aventis* with four new studies in Q1 2011.

Top five international sponsors by the number of new studies in Q1 2011 are presented in Table 1.

Table 1. Top-5 international study sponsors in Q1 2011

№	Sponsor	No. of trials	No. of patients	No. of sites
1	GlaxoSmithKline	8	580	53
2	Novartis	6	837	50
3	AstraZeneca	5	1485	78
4	Roche	5	284	25
5	sanofi-aventis	4	377	36

Rating of Russian sponsors

The Russian pharmaceutical company OOO *Materia Medica* sponsoring four new clinical trials enrolling 904 subjects in 29 sites, ranked number one among domestic pharmaceutical manufacturers by the number of new studies in the first quarter 2011.

NPO *Petrovaks* with two new trials and 99 subjects in 4 sites, took the runner-up place. It is followed by OAO *Veropharm*, ZAO *Vektor-Medica and OAO Sintez* with one study each differing only in the number of subjects and sites.

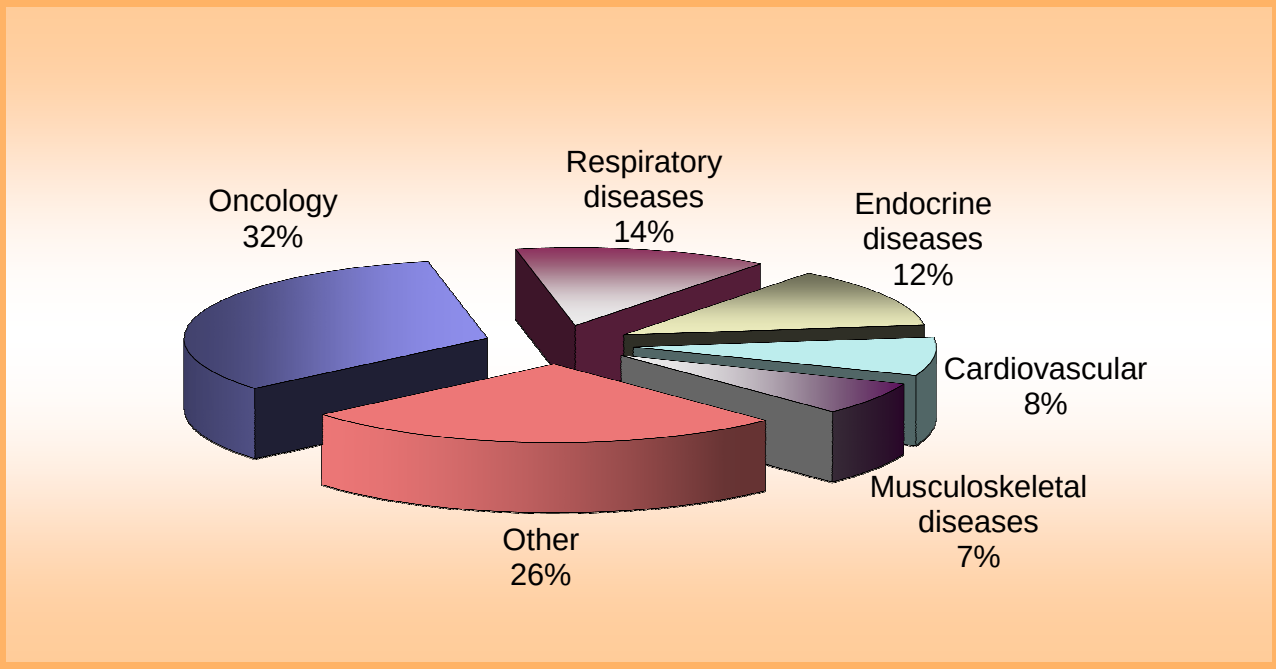
Table 2. Top-5 Russian study sponsors in Q1 2011

№	Sponsor	No. of trials	No. of subjects	No. of sites
1	Materia Medica	4	904	29
2	Petrovaks	2	99	4
3	Veropharm	1	300	2
4	Vektor-Medica	1	150	2
5	Sintez	1	80	2

Therapeutic areas of clinical trials in Russia in Q1 2011

74% of the new studies in Q1 2011 were conducted in the five leading therapeutic areas. The maximum number of trials (29) were initiated in Oncology; 12 clinical trials in Respiratory diseases; 11 new studies in Endocrinology; seven new studies in Cardiovascular diseases, and six new studies in Musculoskeletal diseases were initiated in Q1 2011. The proportions between different therapeutic areas are shown in Figure 8.

Figure 8. Clinical trials in Russia in Q1 2011 by therapeutic area



Clinical trials results

The Center for Drug Evaluation and Research (CDER) of the FDA approved 30[1] new drugs during Q1 2011; six of them are new molecular entities (NME); others are new formulations, new combinations, new manufacturers or OTC (over-the-counter) switches of the already marketed drugs. The Table 3 represents nine of the drugs which were tested in clinical trials in Russia.

Table 3. New Drugs approved by FDA in Q1 2011 and tested in Russian sites

Approval date	Drug	Manufacturer
01/24/2011	Children's Allegra Allergy (Fexofenadine hydrochloride)	Sanofi Aventis US
01/28/2011	Gralise (Gabapentin)	Abbott Prods
02/03/2011	Makena (Hydroxyprogesterone caproate)	KV Pharm
02/25/2011	Edarbi (Azilsartan medoxomil)	Takeda Pharms
02/28/2011	Daliresp (Roflumilast)	Forest Research Institute Inc.
03/08/2011	Docetaxel (Docetaxel)	Hospira Inc.
03/10/2011	Benlysta (Belimumab)	Human Genome Sciences Inc.
03/14/2011	Gadavist (Gadobutrol)	Bayer Healthcare
03/25/2011	Viramune XR (Nevirapine)	Boehringer Ingelheim
Source: CDER FDA http://www.fda.gov/cder		

During the period from January 1 to March 31 2011 the Committee for Medicinal Products for Human Use (CHMP) of the European Medicine Agency (EMEA) reviewed 13[2] applications to market drugs in the EU. Two negative opinions were adopted by the Committee (Fampyra (fampridine), from Biogen Idec Ltd and Movectro (cladribine), from Merck Serono Europe Limited).

[1] CDER FDA http://www.fda.gov/cder
[2] CHMP EMEA http://www.emea.europa.eu/index/indexh1.htm

Six of the drugs which received positive opinions were (or are being) tested in clinical trials in Russia (see Table 4).

Table 4. New Drugs approved by EMEA in Q1 2011 and tested in Russian sites

Approval date	Drug	Manufacturer
01/28/2011	Gilenya (Fingolimod),	Novartis Europharm Ltd
01/28/2011	Halaven (Eribulin)	Eisai Europe Ltd
01/28/2011	Jevtana (Cabazitaxel)	Sanofi-aventis
01/28/2011	Trobalt (Retigabine)	Glaxo Group Ltd
02/25/2011	Rasilamlo (Aliskiren/Amlodipine)	Novartis Europharm Ltd
03/25/2011	Eliquis (apixaban)	Bristol-Myers Squibb/Pfizer EEIG
Source: CHMP EMEA http://www.emea.europa.eu/index/indexh1.htm		

FDA inspections

According to the FDA data, there were no FDA inspections conducted in the Russian investigative sites during Q1 2011.