Clinical Trials in Russia
Orange Paper
3rd Quarter 2011

SPECIAL EDITION FOR

Rusnanotech
МЕЖДУНАРОДНЫЙ ФОРУМ
по НАНОТЕХНОЛОГИЯМ
МОСКВА 26-28 ОКТЯБРЯ
2011

11, 4-Magistralnaya Ul., 123007 Moscow, Russia

www.synrg-pharm.com

Contents

11, 4-Magistralnaya Ul., 123007 Moscow, Russia

www.synrg-pharm.com

Executive Summary

The Ministry of Health and Social Development of the Russian Federation (MoH) approved 132 new clinical trials of all types including local and bioequivalence studies during the third quarter of 2011, two trials less than in Q3 2010.

The number of multinational multi-center clinical trials increased by 40% and stood at 84 new studies in Q3 2011.

The share of multinational multi-center clinical trials stood at 64% of the total number of clinical trials in Q3 2011, while the local and bioequivalence studies amounted to 25% and 11%, respectively.

Clinical trials in Russia in Q3 2011 were sponsored by companies from 17 countries. The maximum number of trials (44) was initiated by Russian sponsors. American sponsors with 40 new studies took the runner-up place, they are followed by Swiss sponsors with 19 trials and Danish sponsors with 6 new studies, the group of leaders is concluded by French sponsors with four new studies in Q3 2011.

Seventeen new Phase I clinical trials were launched in Q3 2011, which is 5 trials more than in Q3 2010. The number of the Phase II trials wasn't significantly changed and stood at 19 new studies in Q3 2011. The number of Phase III trials increased from 61 to 75 studies, almost 23% more than in Q3 2010. Phase IV trials demonstrated the significant increase from 10 studies in Q3 2010 to 21 studies in Q3 2011.

The number of patients planning to be enrolled in Phase I-IV trials launched in Q3 2011 stood at 13,211, a 12% more than in Q3 2010 figure, when 11,758 patients were planned to be enrolled.

American *Merck & Co* sponsoring seven new studies is on the top of the heap in Q3 2011. It is followed by *Roche*, *Novartis* and *Novo Nordisk* each having five new trials and differentiating in the number of patients. Top five is concluded by *Pfizer* with four new studies in Q3 2011.

Russian *Biocad* sponsoring six new clinical trials, ranked number one among domestic pharmaceutical manufacturers by the number of new studies in Q3 2011. Russian *Obolenskoe also* with six new trials and fewer patients took the runner-up place, followed by *Canonpharma* with 4 new studies*, Valenta* with 3 new trials and *Pharmstandart* with two new trials in Q3 2011.

More than three quarters of new studies in Q3 2011 were initiated in seven leading therapeutic areas: the largest number of studies has been initiated in Oncology (27); 14 new studies were instigated in Pulmonology and 13 new studies in Hematology; eleven studies - in Cardiology; nine studies in Musculosceletal diseases; eight studies – in Infectious diseases and seven new clinical trials were instigated in Neurology.

The Center for Drug Evaluation and Research (CDER) of the FDA approved 18 new drugs during Q3 2011, and nine of them were studied in clinical trials conducted in Russia.

During the third quarter of 2011 the Committee for Medicinal Products for Human Use (CHMP) of the European Medicine Agency (EMEA) approved 23 new drug applications, fourteen of which were tested in Russian sites.

No FDA inspections were conducted in Russia during Q3 2011.

Clinical Trials by Type and Manufacturing Country

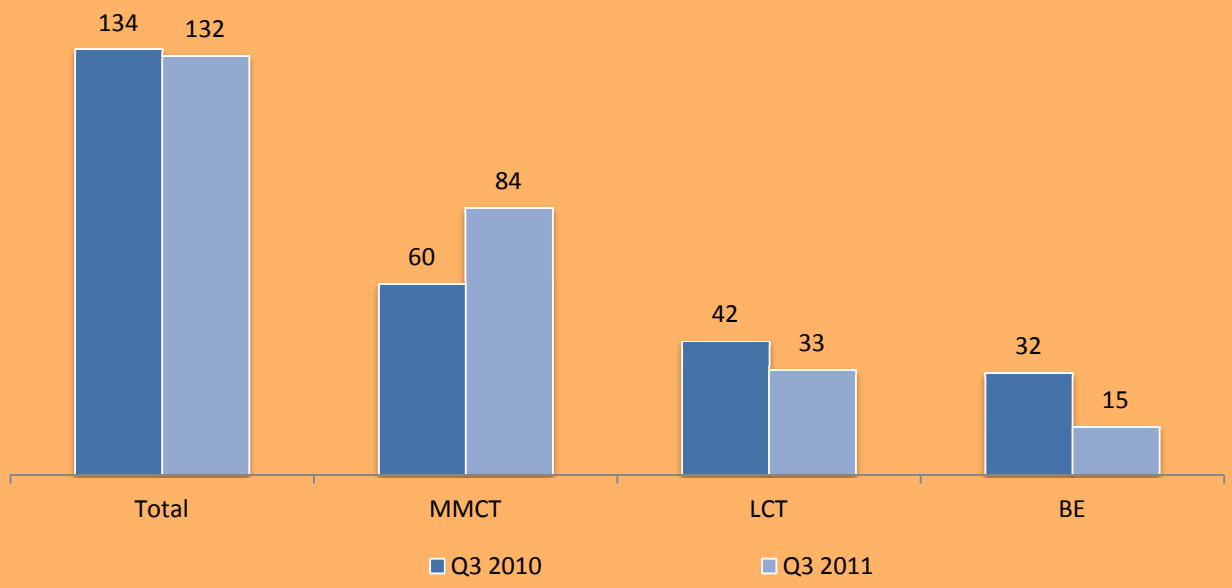
The Russian MoH approved 132 new clinical trials of all types including local and bioequivalence studies during the third quarter of 2011, only two trials below the last year's figure.

As shown in Figure 1, the main contribution into the total number of studies is made by multinational multi-center clinical trials (MMCT), the number of these studies increased by 40% over 2010 and stood at 84 new studies in Q3 2011.

The number of the local clinical trials (LCT) conducted in Russia by domestic and foreign sponsors decreased from 42 to 33 clinical trials, almost 21% drop from last year's figure.

The number of bioequivalence studies (BE) in Q3 2011 stood at 15 new trials, 53% less than in Q3 2010.

Figure 1. Clinical trials in Russia in Q3 2011

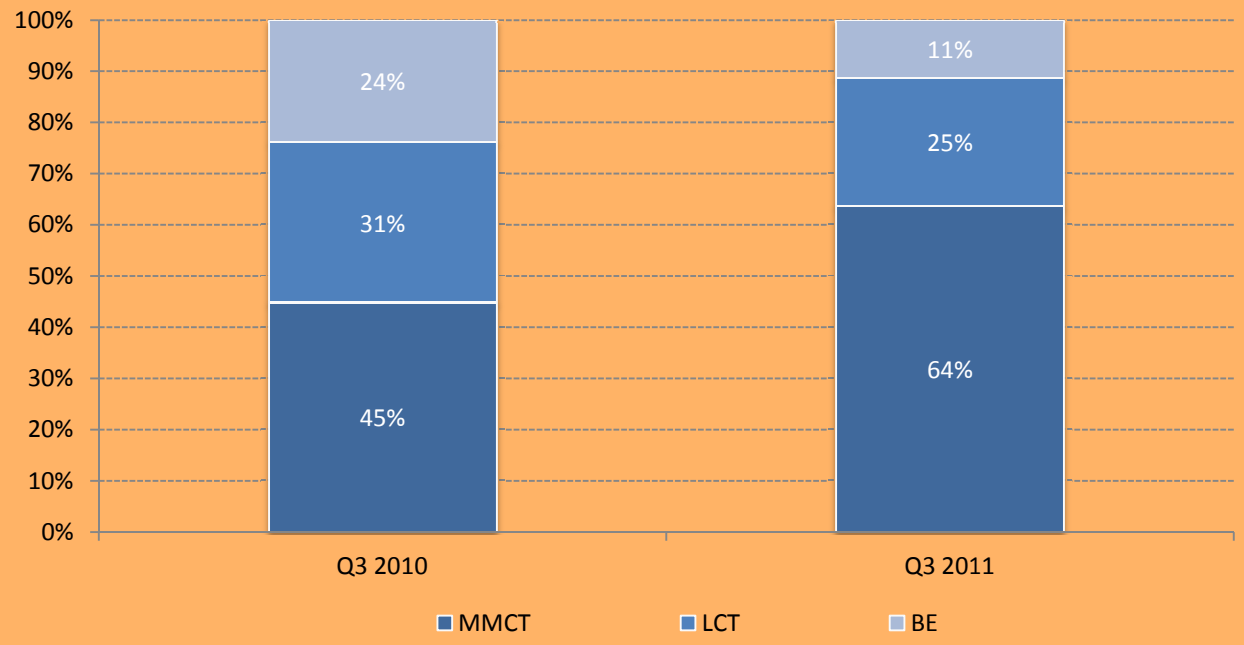


The proportions between different study types (multinational multi-center clinical trials, local studies and bioequivalence trials) notable changed since last year (see Figure 2).

The share of multinational multi-center clinical trials increased dramatically from 45% to 64% of the total number of clinical trials approved in Q3 2011.

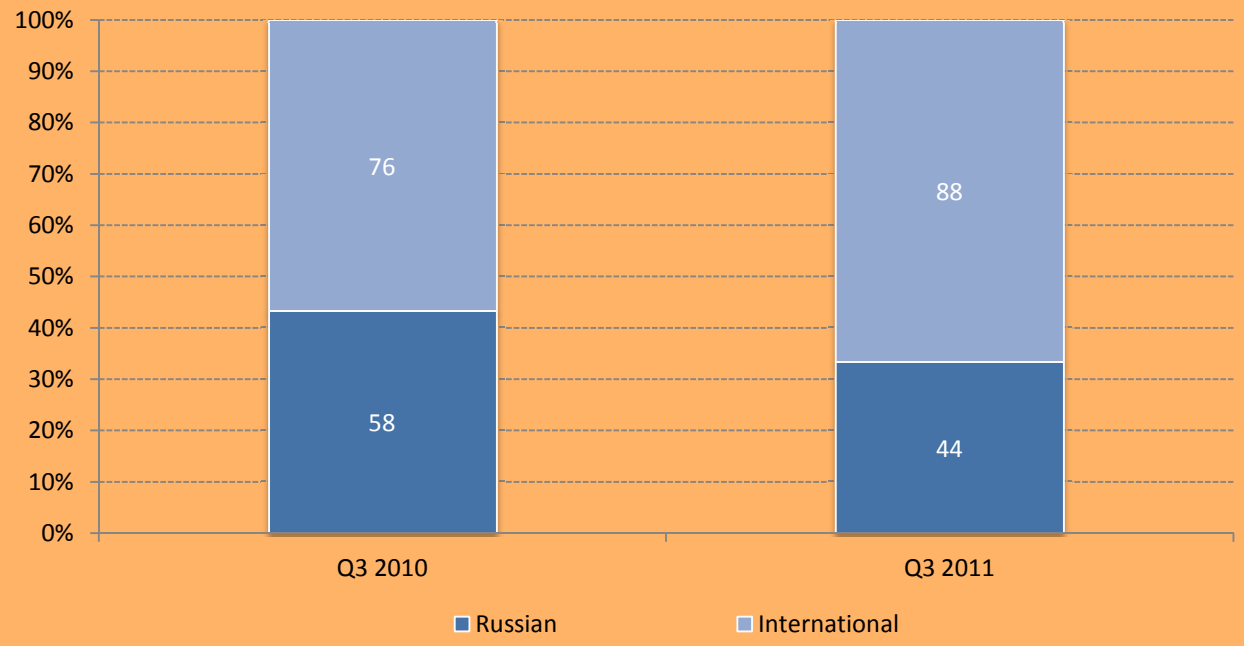
The share of the local trials decreased from 31% in Q3 2010 to 25% of the total number of studies in Q3 2011, and the share of bioequivalence studies also decreased from 24% to 11% of the total number of trials approved during the third quarter of 2011.

Figure 2. Clinical trials by type in Q3 2011



The major share of clinical trials in Russia is sponsored by foreign companies which received 88 study approvals, or 67% of the total number of new studies in Q3 2011. The share of studies of local manufacturers decreased from 43% in Q3 2010 to 33% in Q3 2011, from 58 to 44 studies, respectively.

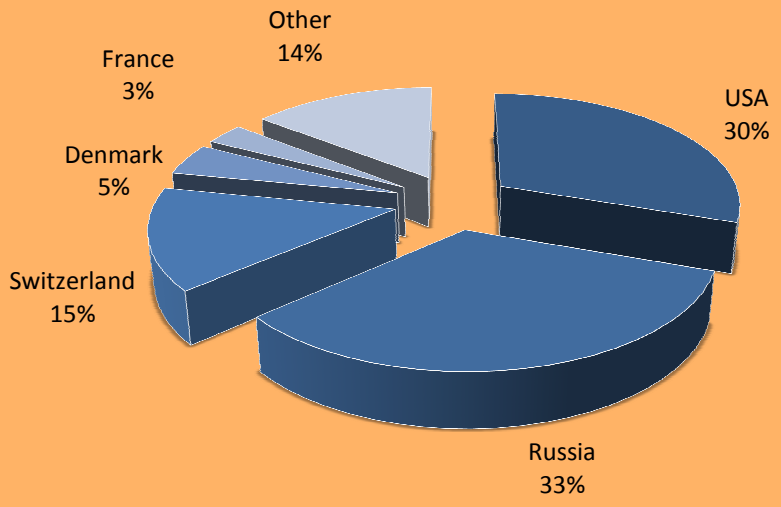
Figure 3. Russian and International sponsors in Q3 2011



Clinical trials in Russia in Q3 2011 were sponsored by companies from 17 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 (44) was initiated by Russian sponsors. American sponsors with 40 new studies took the runner-up place, they are followed by Swiss sponsors with 19 trials and Danish sponsors with 6 new studies, the group of leaders is concluded by French sponsors with four new studies in Q3 2011.

Figure 4. Countries presented on the Russian clinical trials market in Q3 2011



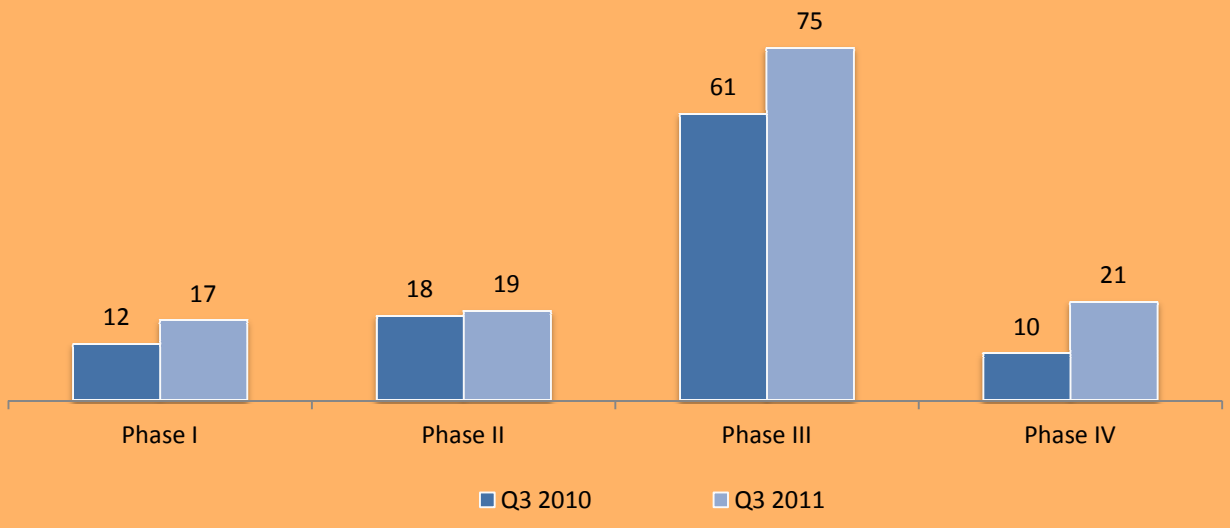
Among others are: UK, Austria, Germany, Ireland, India, Italy, Portugal, Slovenia, Sweden, Canada, Belgium and Netherlands.

Clinical trials by Phase

Seventeen new Phase I clinical trials were launched in Q3 2011, which is 5 trials more than in Q3 2010. The number of the Phase II trials didn't significantly change and stood at 19 new studies in Q3 2011.

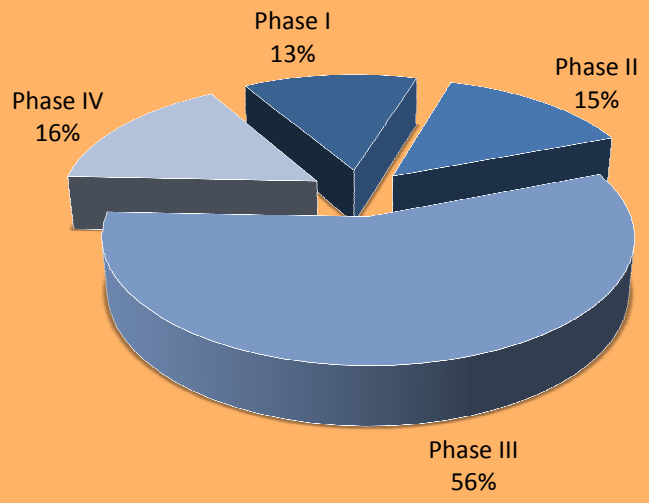
The number of Phase III trials increased from 61 to 75 studies, almost 23% more than in Q3 2010. Phase IV trials demonstrated the significant increase from 10 studies in Q3 2010 to 21 studies in Q3 2011.

Figure 5. Clinical trials in Russia in Q3 2011 by phase



As shown in Figure 6, the share of Phase III trials in Q3 2011 stood at 56% of the total number of studies, the share of Phase II trials accounted at 15%, Phase IV trials stood at 16%, and the share of Phase I studies amounted to 13%.

Figure 6. The proportions between study phases in Russia in Q3 2011



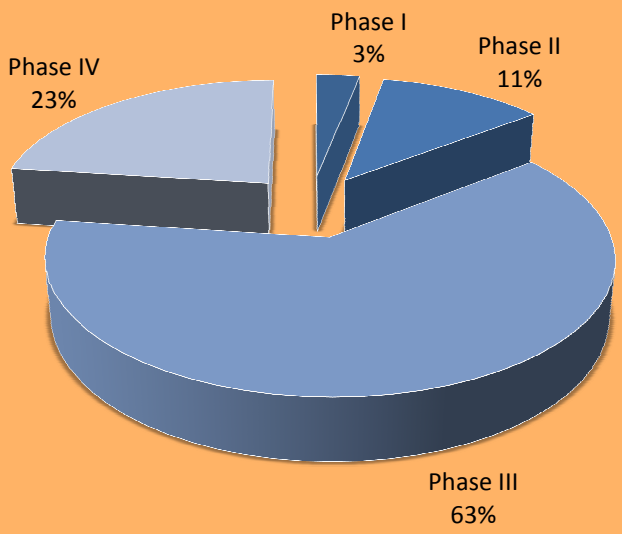
The number of patients which are planned to be enrolled in Phase I-IV trials launched in Q3 2011 stood at 13,211, a 12% more than in Q3 2010 figure, when 11,758 patients were planned to be enrolled.

Three hundred and ninety five subjects will be recruited in Phase I trials; 1,522 patients – in Phase II trials; 8,261 subjects – in Phase III studies and 3,033 patients will be enrolled in Phase IV studies.

The minimal number of subjects in a single study is three, the maximum number is 865.

The proportion of the number of patients between different Phases is shown on Figure 7. Only studies in which phase is specified were included.

Figure 7. The number of patients in Q3 2011 by study phase



Rating of international sponsors

Merck & Co sponsoring 7 new studies is on the top of the heap in Q3 2011. It is followed by *Roche*, *Novartis* and *Novo Nordisk* each having five new trials and differentiating in the number of patients. Top five is concluded by *Pfizer* with four new studies in Q3 2011.

Top five international sponsors by the number of new studies in Q3 2011 are presented in Table 1.

Table 1. Top-5 international study sponsors in Q3 2011

№	*Company Name*	*No. studies*	*No. patients*
1	Merck & Co.	7	1066
2	Roche	5	600
3	Novartis	5	225
4	Novo Nordisk	5	59
5	Pfizer	4	1050

Rating of Russian sponsors

The Russian company *OOO "Biocad"* sponsoring six new clinical trials, ranked number one among domestic pharmaceutical manufacturers by the number of new studies in Q3 2011. ZAO *"FP Obolenskoe"* also with six new trials and fewer patients took the runner-up place.

It is followed by *ZAO "Canonpharma" with 4 new studies,* OAO *"Valenta"* with 3 new trials and *OAO "Pharmstandart"* with two new trials in Q3 2011.

Table 2. Top-5 Russian study sponsors in Q3 2011

№	*Company Name*	*No. studies*[1]	*No. patients*
1	Biocard	6	356
2	Obolenskoe	6	172
3	Canonpharma	4	90
4	Valenta	3	920
5	Pharmstandart	2	885

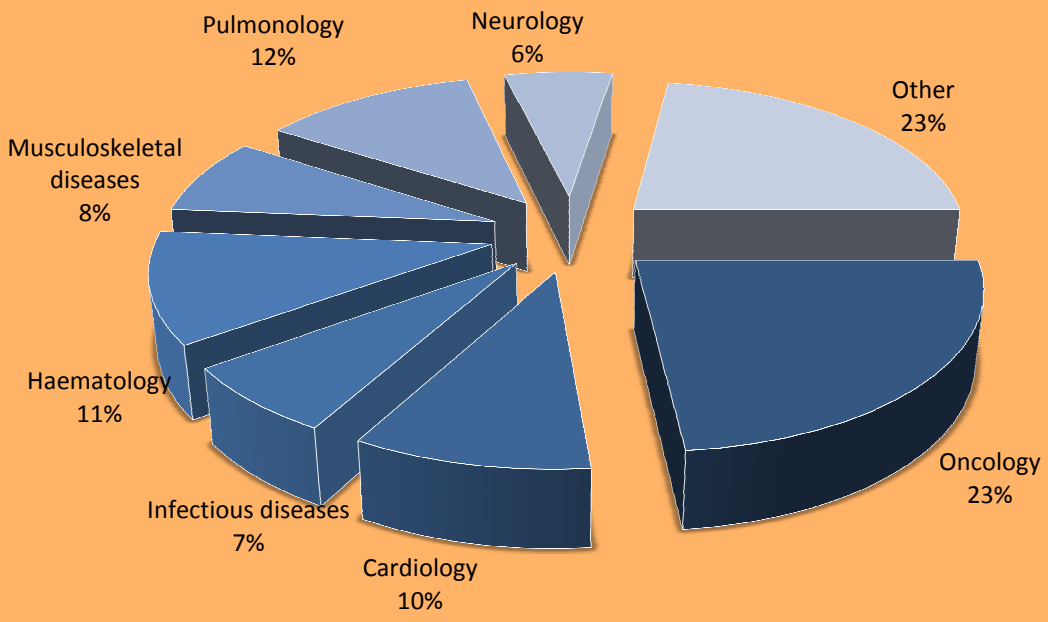
[1] Excluding BE studies

Therapeutic areas of clinical trials in Russia in 2011

More than three quarters of new studies in Q3 2011 were initiated in seven leading therapeutic areas: the largest number of studies has been initiated in Oncology (27); 14 new studies were instigated in Pulmonology and 13 new studies in Hematology; eleven studies – in Cardiology; nine in Musculoskeletal diseases, eight studies – in Infectious diseases and seven new clinical trials were instigated in Neurology.

The proportions between different therapeutic areas are shown in Figure 8.

Figure 8. Clinical trials in Russia in Q3 2011 by therapeutic area



Clinical trials results

The Center for Drug Evaluation and Research (CDER) of the FDA approved 18 new drugs during Q3 2011; six of them are new molecular entities (NME); others are new dosages, manufacturers or indications of the already marketed drugs. Nine drugs were studied in clinical trials conducted in Russia.

The Table 3 represents drugs which were approved by FDA and were being tested in clinical trials in Russia in Q3 2011.

Table 3. New drugs approved by FDA in Q3 2011 and tested in Russian sites

Appr.date	*Drug (active ingredient)*	*Company*
01/07/2011	Arcapta Neohaler (Indacaterol Maleate)	Novartis
01/07/2011	Xarelto (Rivaroxaban)	Johnson and Johnson
20/07/2011	Brilinta (Ticagrelor)	AstraZeneca LP
19/08/2011	Adcetris (Brentuximab Vedotin)	Seattle Genetics
25/08/2011	Firazyr (Icatibant Acetate)	Shire Orphan Therap
26/08/2011	Xalkori (Crizotinib)	Pfizer
		Source: FDA

During the third quarter of 2011 the Committee for Medicinal Products for Human Use (CHMP) of the European Medicine Agency (EMEA) approved 23 new drug applications. Negative opinion was adopted for four drugs. Fourteen 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 Q3 2011 and tested in Russian sites

Appr. date	*Drug (active ingredient)*	*Manufacturer*
21/07/2011	Dexdor (dexmedetomidine)	Orion Corporation
21/07/2011	Zytiga (abiraterone acetate)	Janssen-Cilag
21/07/2011	Afinitor (everolimus)	Novartis
21/07/2011	Enbrel (etanercept)	Wyeth
21/07/2011	Tarceva (erlotinib)	Roche
22/09/2011	Edarbi (azilsartan medoxomil)	Takeda Global Research and Development Centre Ltd
22/09/2011	Komboglyze (saxagliptin / metformin)	Bristol-Myers Squibb / AstraZeneca EEIG
22/09/2011	Onduarp (telmisartan / amlodipine)	Boehringer Ingelheim
22/09/2011	Rasitrio (aliskiren / amlodipine / hydrochlorothiazide)	Novartis
22/09/2011	Alimta (pemetrexed)	Eli Lilly
22/09/2011	Avastin (bevacizumab)	Roche
22/09/2011	Levemir (insulin detemir)	Novo Nordisk
22/09/2011	Prevenar 13 (pneumococcal polysaccharide conjugate vaccine (13-valent, adsorbed)	Wyeth
22/09/2011	Xarelto (rivaroxaban)	Bayer Schering Pharma AG
		Source: EMEA

FDA inspections

According to the FDA data, no FDA inspections were conducted in the Russian investigative sites during the third quarter of 2011.