The latest progresses in development of Chinese pharmaceutical industry and administration of drug registration

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Overview

1 Progresses in construction of the regulatory system for administration of drug registration in 2009

2 Several important measures in the domain of drug registration

3 Data analysis of administration of drug registration in 2009

4 Data of pharmaceutical industry development in 2009

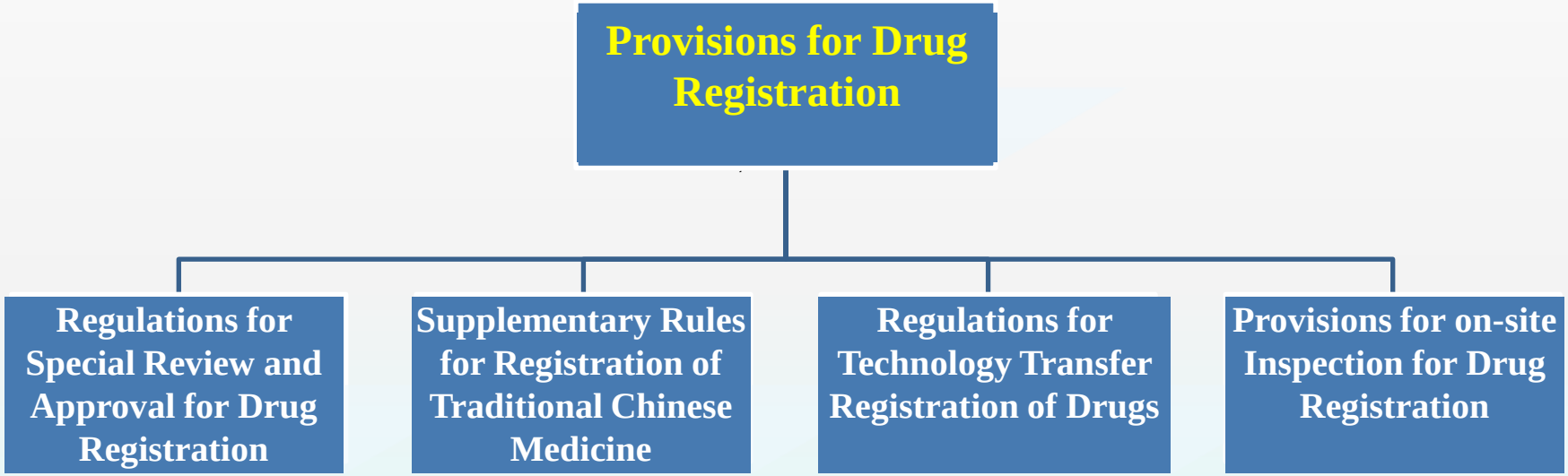
5 Application and approval status of drug clinical trials in China

Progresses in construction of the regulatory system for administration of drug registration in 2010

Regulatory system for administration of drug registration

- Regulatory system for drug administration
- Regulatory system for administration of drug registration
- Technical guideline for drug research

Regulatory system for administration of drug registration



Regulatory system for administration of drug registration

Other standard documentation

- Guideline for Protection of Traditional Chinese Medicinal Products
- Administrative requirements for biological products
- Rules for Administration of Record Filing of pharmaceutical raw materials and adjuvant (under study and formulation)
- Measures for Registration of Pharmaceutical Preparations of Medical Institutions (Trial implementation)

Regulatory system for administration of drug registration

Provisions for drug standards

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Under study and formulation …..

“Provisions for Drug Registration”

Chapter 15 Article 177

Supplementary documentation for newly revised “Measures”

“***Supplementary Rules for Registration of Traditional Chinese Medicine***” **(Article 22)**

“Provisions for on-site Inspection for Drug Registration” **(Chapter 6 Article 55)**

“Regulations for Special Review and Approval for Drug Registration” **(Article 22)**

“Regulations for Technology Transfer Registration of Drugs” **(Chapter 4 Article 26)**

“Regulations for Special Review and Approval for Drug Registration”

Four detailed rules for implementation

“Writing guide for independent filing of varieties for special review and approval”

“Detailed rules for implementation of communication and exchange working mechanism of varieties for special review and approval ”

“Writing format of communication meeting memoir of varieties for special review and approval”

“information disclosure of varieties for special review and approval”

Status of implementation and progress

- Twenty-eight drug varieties have entered into special review and approval process up to present including 23 chemical drugs and 5 biological products.
- Specific category and condition of these varieties: There are 27 chemical raw materials and preparations, and biological products that have not been approved for marketing domestically or internationally [satisfying Article 2 (2)]. One is a new drug with therapeutic advantages or ability to treat diseases of no effective treatment [Article 2 (3)].
- In addition, the 11 varieties that were evaluated per “Regulations for special review and approval of drugs” are drugs and vaccines for treatment or prevention of HIN1 flu.

“Provisions for on-site Inspection for Drug Registration”

- **Reflect scientific regulatory philosophy of “Stress approval and enforce supervision”**
- **Ensure authentic, scientific and standard properties of application materials and samples**
- **Safeguard drug safety from the source by standardizing behavior and order of drug development and application for registration, and penalizing deceit and hypocritical behaviors.**

“Regulations for Technology Transfer Registration of Drugs”


Encourage innovation
Activate market
Facility integration
Reduce cost
Policy highlights
Open transfer
Ensure quality
Control risks
Standardize registration

Technical guidance system for drug research

Technical guidance for drug research

- Standardize drug R&D behaviors and improve overall R&D performance
- Introduction of “ICH” technical guideline
- Facility international mutual recognition of drug registration and coordination of standards in response to global simultaneous drug development
- Continue to improve requirements for drug safety in response to issues revealed during monitoring and supervision

Technical guidance for drug research

- Published officially: 80
- Chemical drugs: 31 (“Technical guideline for necessity of drug carcinogenic test” will be published shortly)
- Traditional Chinese medicine:12
- Biological products:26
- Cross-disciplinary: 6
- General guideline: 5

Technical guidance for drug research

- Ongoing invitation for comments
- Chemical drugs: 4
- Traditional Chinese medicine: 1

Technical guidance for drug research

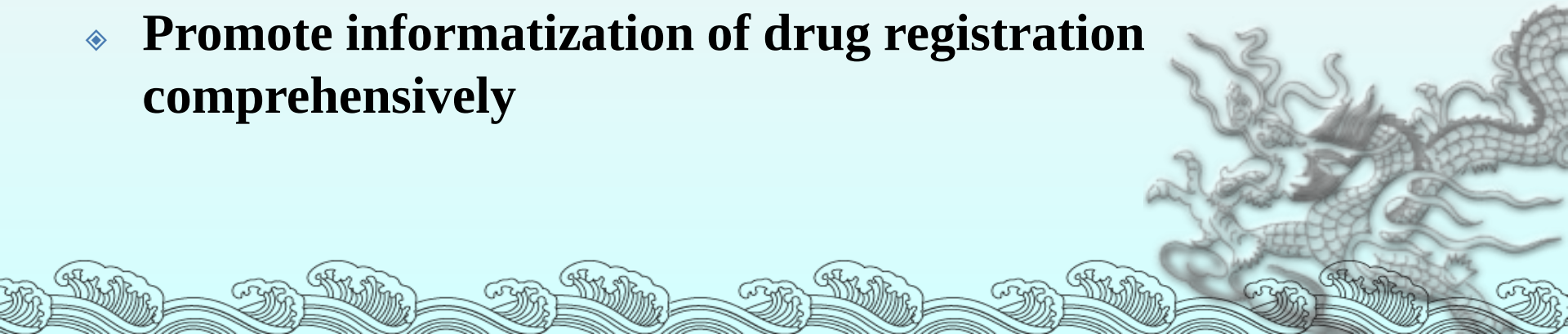
- **Examples:**

——Improve requirements for drug safety in response to issues revealed during monitoring and supervision. The followings are technical requirements and technical guidelines published in 2008 from time to time:

- **Basic technical requirements for chemical drug injection**
- **Basic technical requirements for injections of multi-component biochemical drugs**
- **Technical guideline for modification study of marketed chemical drugs**
- **Technical guideline for modification study of marketed traditional Chinese medicine**

Several important measures in drug registration

- **Standardize on-site inspection for drug registration**
- **Evaluated GCP implementation by clinical research organizations**
- **Initiated drug re-registration**
- **Insist on scientific evaluation and reinforce risk control**
- **Increase level of openness and transparency in technical review and approval**
- **Increase efficiency of review and approval**
- **Initiated review and approval of drugs for emergency prevention and control**
- **Promote informatization of drug registration comprehensively**



Standardize on-site inspection for drug registration

- Each provincial bureaus has established:
- ——Detailed rules for implementation and working procedures for on-site inspection of drug registration
- ——Rules and regulations for inspectors
- A total 3721 on-site inspections for registration applications have been completed in 31 provinces nationwide

Insist on scientific evaluation and reinforce risk control

- Initiated study of ”Requirements for submission of application materials in Common technical document (CTD) format” for chemical generic drugs
- Formulated and implemented “Technical guideline for necessity of drug carcinogenic test”
- Ensure that approval conclusions are supported by scientific evidence by using third party validation approach
- Solve challenging and common issues by convening special topic review meetings and expert consultation meetings in order to unify standards and ensure consistency during review and approval.

Increase level of openness and transparency in technical evaluation

- Disclosed approximately 70 cases of evaluation
- Communication and exchange with applicants: expert consultation meetings, voluntary consultation meetings, video conferences, and teleconferences
- In review and approval of type A H1N1 flu vaccines, open evaluation was adopted to achieve “On-site voting, safe and effective vaccine; public participation, open and transparent evaluation ”
- Communication and exchange with all levels of society are strengthened continuously in the forms of counseling day, open day, director’s mailbox, and Internet information feedback to facilitate openness and transparency in evaluation and accomplish “sunlight evaluation” gradually.

Open and transparent measures used in 2009 technical evaluation

Measures and methods	Quantity	Measures and methods	Quantity
1.Open evaluation	Open evaluation and on-site voting for 10 H1NI flu vaccines of 10 companies	6. Video conferences	10 times
2.Disclose cases of evaluations	70 cases of evaluation and issue analysis were disclosed on the website	7. Seminars	14 times and over 4000 participants
3. Open days	11 groups and 281 participants	8. Voluntary counseling meeting (Communication meetings)	80 times
4.Counseling day	Accommodated over 4000 participants	9. Expert consultation meetings	11 times and，282 drugs
5.Information release	Responded to over 1600 inquiries		

Initiated review and approval of drugs for emergency prevention and control

The followings were issued successively in response to emergency situations:

- Notice on the Preparation of H1N1 Vaccine Production
- Work Plan on the Special Review and Approval for H1N1 Vaccines
- Work Plan on the Review and Approval of H1N1 Vaccines
- Key Items on the Research and Development of H1N1 Vaccines
- Notice on Strengthening the Regulation on Research and Development of H1N1 Vaccines
- Notice on the On-Site Inspection for the H1N1 Vaccine Samples for Clinical Trials.
- Notice on Issuing the Approval License for H1N1 Vaccines

To Promote the IT System on Drug Registration

- The NDRC approved SFDA's proposal on Phase I IT System on Drug Regulation on September 30, 2009.
- The Department of Drug Registration established the IT system on the Insert Sheet and Labeling of Drugs and initiated the testing program on that system.

IT systems to be established in 2010：

- IT system on the Filing of APIs and Excipients.
- IT system on the Drug Standards Management

Data Analysis of drug registration in 2009

Drug Registration Approval in 2009

Drug Registration Approval in 2009

Drug category	Centralized evaluation	Routine review and approval
Chemical Drugs	834	548
Traditional Chinese Medicine	1474	92
Biological Products	/	38
Imported	/	114
Subtotal	2308	792
Grandtotal	3100	

The Drug Approvals made in accordance with the newly revised Provisions on Drug Registration

The Drug Approvals made in accordance with the newly revised Provisions on Drug Registration in 2009

Type of Registration	Approval for domestic production				Approval for Importation
	New Drugs	Changed Dosage Forms	Generics	Total	
Chemical Drugs	175	17	356	548	100
Traditional Chinese Medicine	72	8	12	92	1
Biological Products	38			38	13
Subtotal	678				114
Grandtotal	792				

Various Categories of Domestic New Drugs approved in 2009

Classification of registration	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Chemical Drugs	13 inc: 1.1, 2; 1.3, 2; 1.5, 6, Original Class I, 3	20 inc: 2, 1 Original class II, 19	95 inc: 3.1,69; 3.2,18; 3.3,4; 3.4,2; Original Class III, 2	47 inc: 4, 14; Original Class IV, 33	/	/
Traditional Chinese Medicine					2	70 Inc: 6, 65; Original Class VI,5

NOTE: Calculated according to Number of Receiving and Acceptence.

Ratio of the Compounds or TCM preparations and the Number of Receiving and Acceptance

	Approvals for Chemical Drugs			Approvals for TCMs		
	New Drugs	Changed Dosage Forms	Generics	New Drugs	Changed Dosage Forms	Generics
Compounds or Prescriptions	94	16	142	72	8	12
Number of Receiving and Acceptance	175	17	356	65	8	11
Ration	1:1.9	1:1.1	1:2.5	1:1.1	1:1	1:1

This ration can show the status of repeated application. The statistics show that the ration of chemical compounds for new drugs and the number of receiving and acceptance is 1:1.9, for the changed dosage forms, 1: 1.1, for generics, 1:2.5, much lower than the ration in 2008 (1:2.5 for new drugs and 1:3 for generics). While for the approval for TCMs, it shows that there is no repeated applications for TCMs.

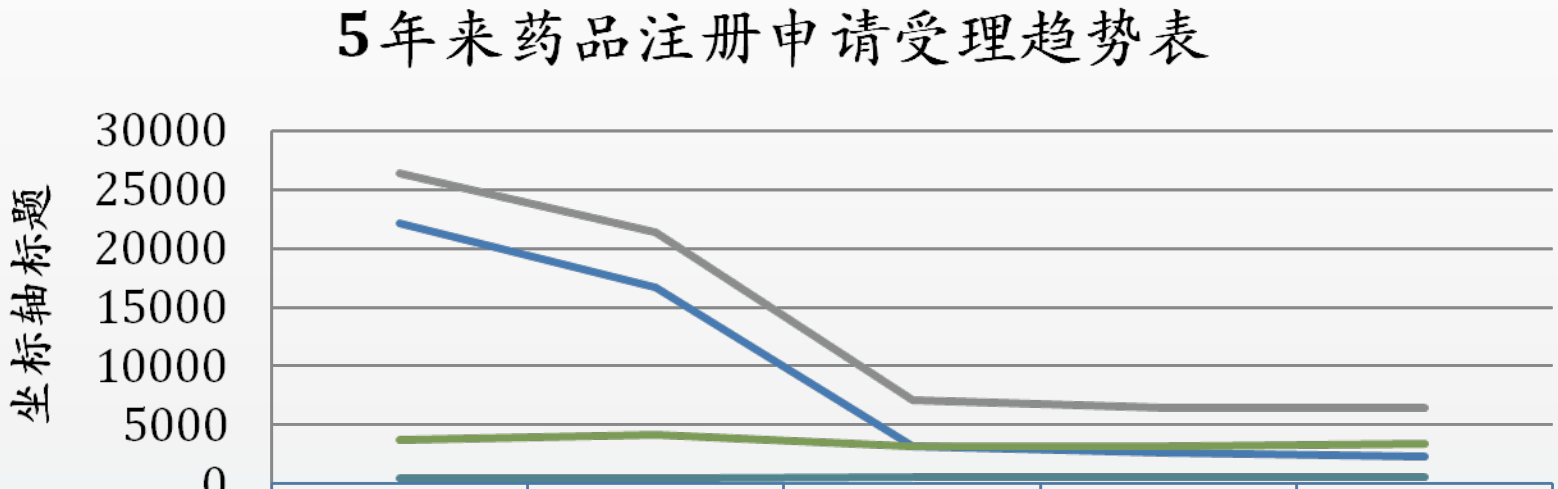
Rations of Different Application Items

Rations of Different Application Items Calculated according to the Numbers of Receiving and Acceptance.

	Approvals for Chemical Drugs			Approval for TCMs		
	New Drugs	Changed Dosage Forms	Generics	New Drugs	Changed Dosage Forms	Generics
Number of Receiving and Acceptance	175	17	356	72	8	12
Proportions	32%	3%	65%	78%	9%	13%

The Ration of New Drugs reflects the status of drug research, review structure and tendency. The annual statistics (calculated according to the number of receiving and acceptance) shows that the new chemical drugs accounts for 32% of the total approval, while for changed dosage forms, 3%, for generics, 65%. For TCMs, the proportion is 78%, 9% and 13%（see the form above). While for the year 2006 and 2007, the ration of new drug is no higher than 15% and the changed dosage forms and generics accounts for more than 80%.)

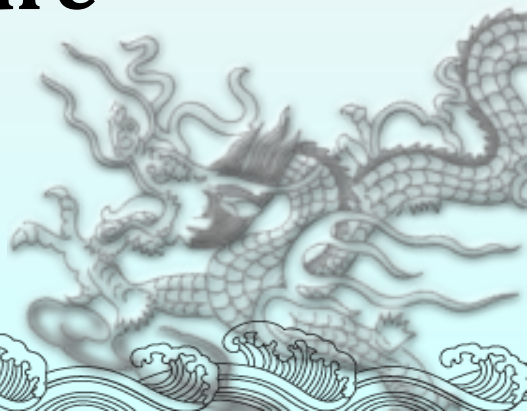
Statistics on Receiving and Acceptance in Recent Five Years



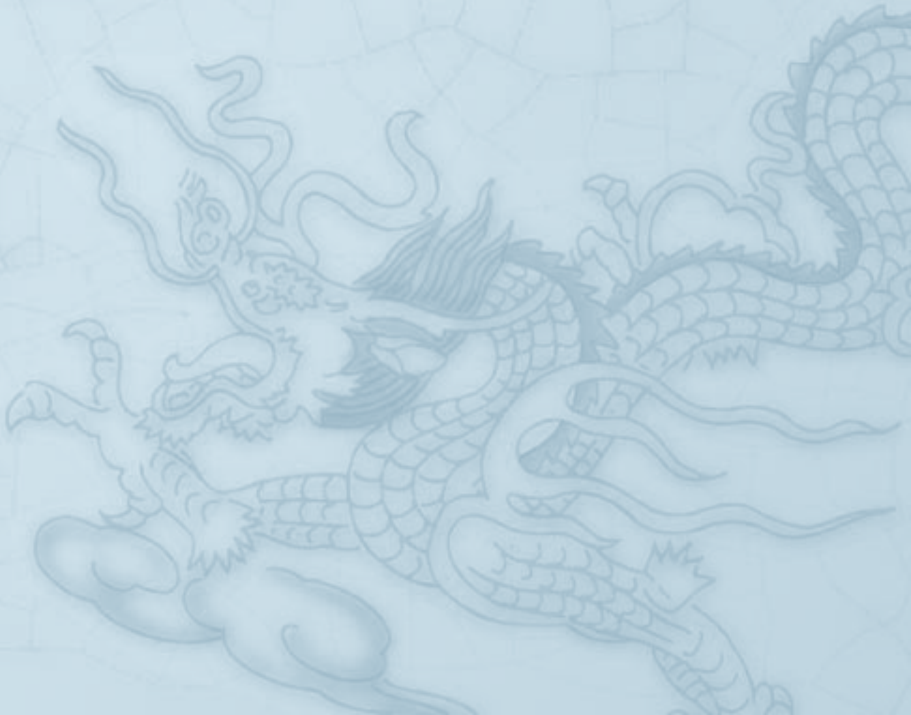
	2005年	2006年	2007年	2008年	2009年
国内申请	22166	16728	3245	2634	2336
国外申请	518	448	603	593	614
补充申请	3710	4187	3226	3235	3478
合计	26394	21363	7075	6462	6428

Data Analysis on Drug Registration Approvals in 2009

- **The numbers of applications returns to normal;**
- **The repeated applications were reduced;**
- **Rational application structure reached and remained.**



Statistics on Pharmaceutical Industry in 2009



The Rapid Development of Chinese Pharmaceutical Industry in spite of Depression

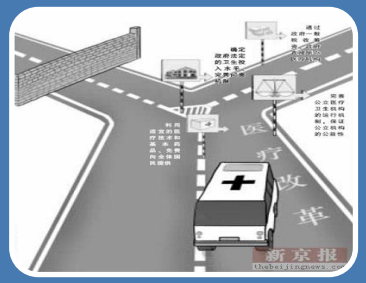
2009年全行业整体产销率为95.5%，同比提高 0.15个百分点

1998～2009年，我国医药工业总产值年均增长20%，是GDP增速的2倍左右

2009年医药行业累计工业总产值突破1万亿元业

增加值累计同比增长14.9%，高于全国工业平均水平（11.0%）3.9个百分点

Opportunities for the Development of Chinese Pharmaceutical Industry



医改和公共卫生的刚性需求创造机遇

- 2011年基本医疗保障制度和3年内8500亿投入
- 老龄化城镇化加速造成的医疗卫生刚性需求增长
- 人均GDP超过3000美元后医药产业发展出现新的向上拐点

研发产业转移和专利药集中到期的机遇

- 以委托加工，合同定制，研发外包为主要形式产业转移
- 10年内专利药集中到期的仿制药的增长机遇

本土医药企业国际化选项创造机遇

- 获得欧盟美国等地区国家国际注册认可
- 多种形式的海外布局包括并购和海外上市等

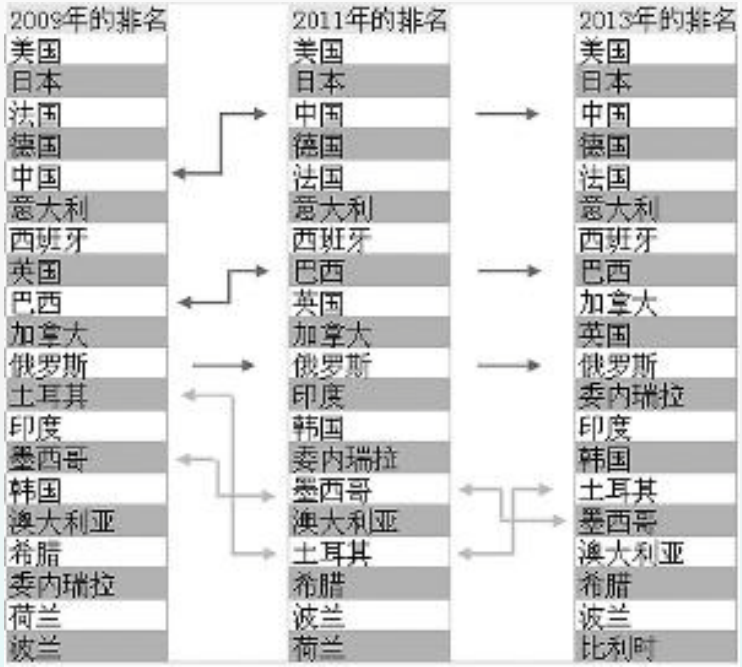
Policy Factors that may Affect the Pharmaceutical Industry in 2010

In 2009, there are many policies related to medicines were promulgated.

- In April, 2009, the new plan on medical reform was issued;
- In May, the Comments on the Promotion of TCM Industry was issued;
- In June, the Comments on the Promotion of Biologic Products Industry was issued;
- The List of Essential Medicines and the List on Medical Insurance.

——These policies have greatly stimulated the demand for medicines and the industry tended to move towards the local and village level. The concentration of the industry was encouraged and the market became larger and larger.

In 2011, China will become the third biggest market for pharmaceuticals in the World.



From 2009 to 2013, it is estimated that 17countries will boast the increase of total sale of medicines, which accounts for 90 billion US dollars and accounts for 48% of the total increase throughout the world. While in 2009, the proportion is 37%.

The great changes on the world economy, the development of health industry (improvement of medical service and increased investment), and the changed proportion between generics and innovative drugs have led to the adjustment of the market.

Conclusion

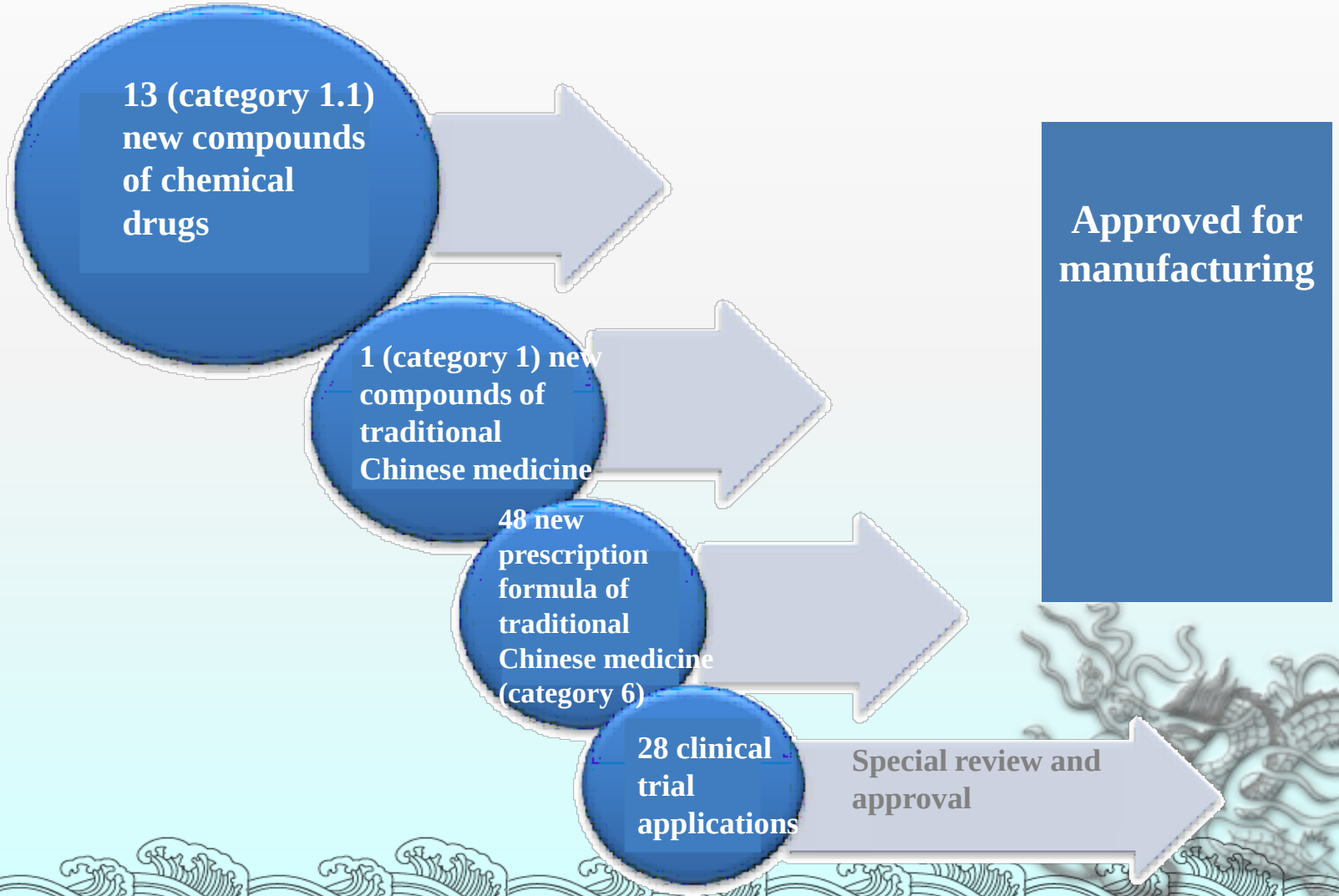
- In spite of the background of financial crisis in 2009, the pharmaceutical industry in China has increased and the increasing rate is higher than the common ratio of the other industry sectors.
- The strengthened legal system of drug registration as well as other important activities had greatly promoted the healthy development of Chinese pharmaceutical Industry.

Application and approval status of drug clinical trials in China

Acceptance of Clinical Research Application

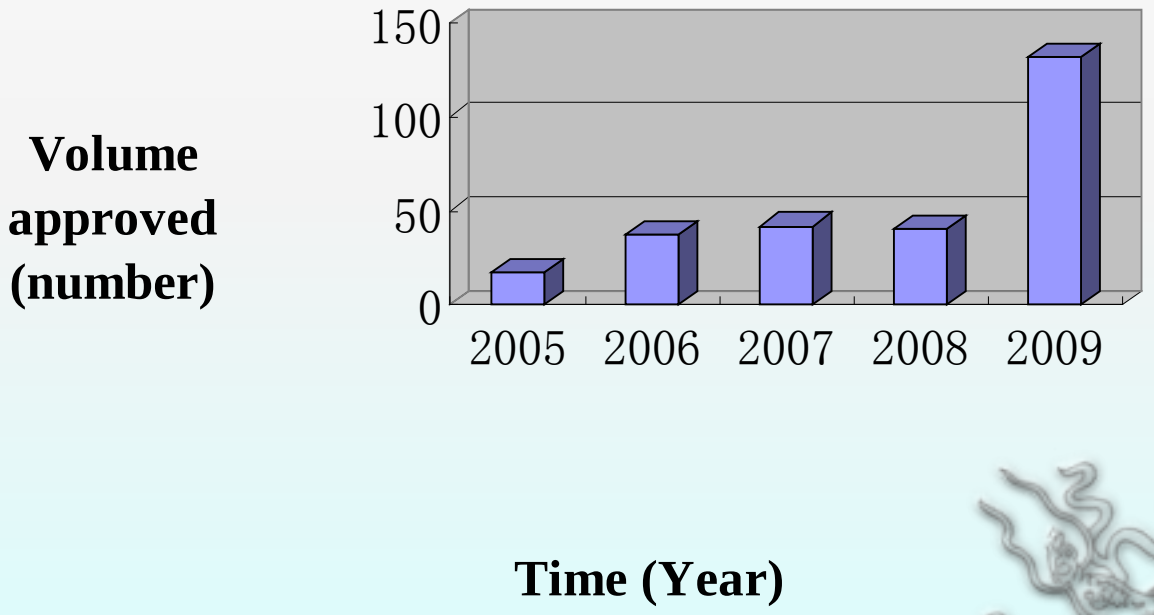
临床受理（不包括BE）	2005	2006	2007	2008	2009
国内企业	2599	1447	646	757	697
国外企业	294	282	437	460	517
国际多中心	72	74	70	131	205

Status of approval for entry into clinical trials in 2009



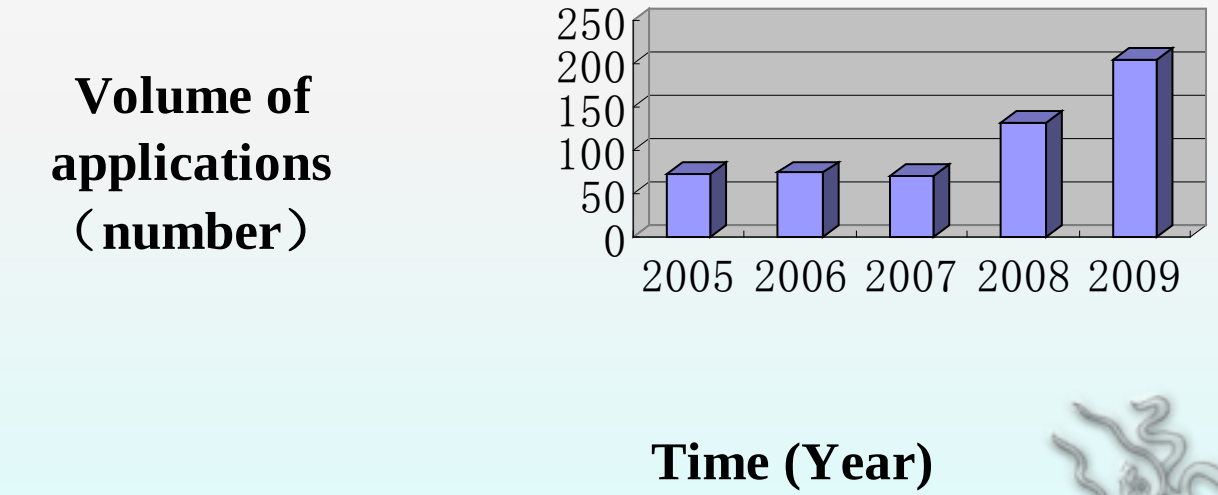
Status of international multicenter clinical trials

Figure 1 Volume of international multicenter clinical trials approved between 2005 and 2009



Status of applications for international multicenter clinical trials in 2009

Figure5 Changes in volume of applications for international multicenter clinical trials in 2009



Thank you!