CDER Facts and Figures

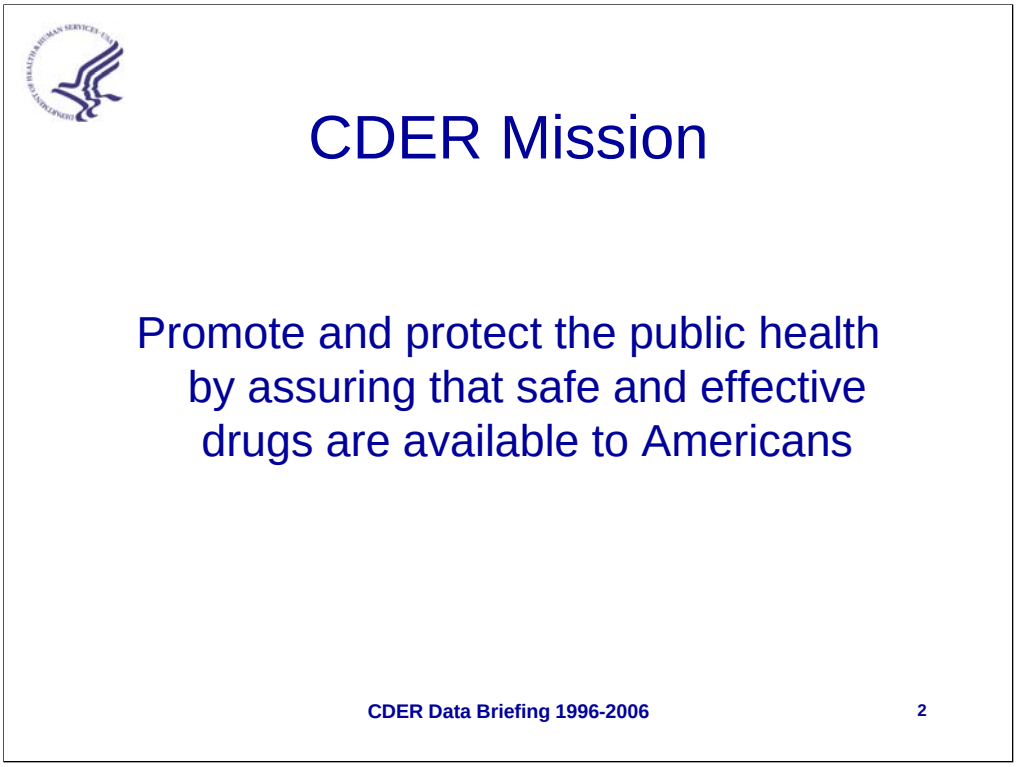
U.S. Department of Health and Human Services

Food and Drug Administration

Center for Drug Evaluation and Research

Steven Galson, M.D., MPH
Center Director

August 8, 2007



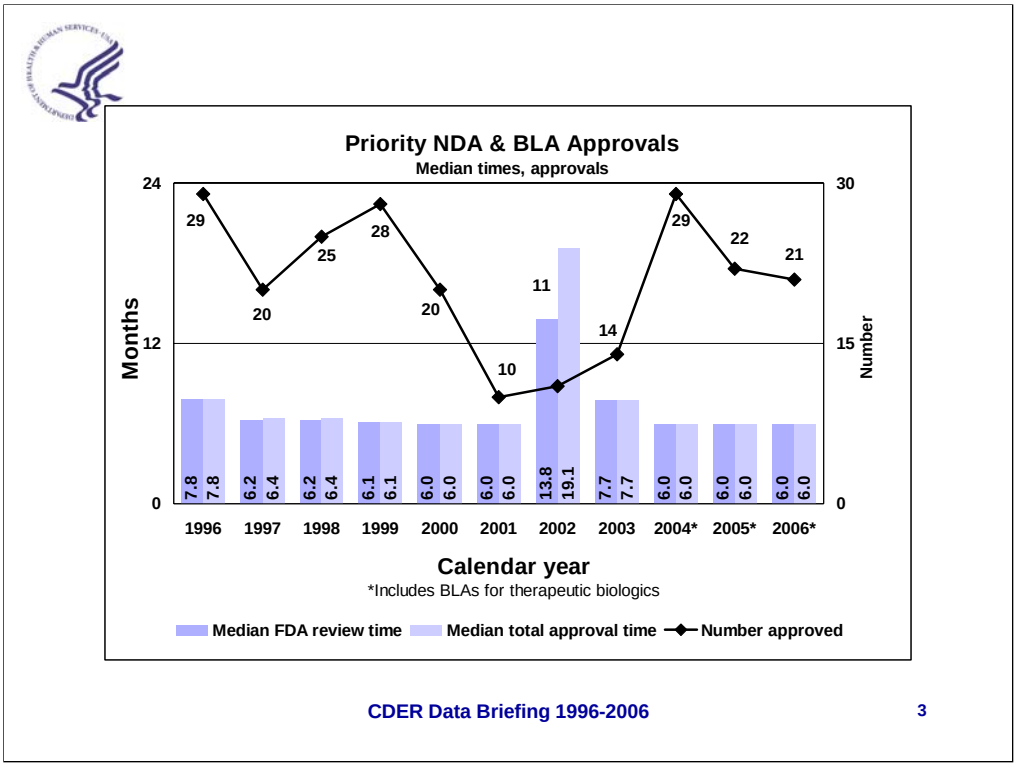
What we do

Review drugs before marketing. A drug company seeking to sell a drug in the United States must first test it. The company then sends us the evidence from these tests to prove the drug is safe and effective for its intended use. If the drug is effective and we are convinced its health benefits outweigh its risks, we approve it for sale.

Watch for drug problems. Once a drug is approved for sale in the United States, our consumer protection mission continues. We monitor the use of marketed drugs for unexpected health risks. If new, unanticipated risks are detected after approval, we take steps to inform the public and change how a drug is used or even remove it from the market. We evaluate reports about suspected problems from manufacturers, health-care professionals and consumers.

Monitor drug information and advertising. Accurate and complete information is vital to the safe use of drugs. We regulate information that accompanies or is displayed with an over-the-counter drug. In the past, drug companies promoted their products almost entirely to physicians.

Protect drug quality. In addition to setting standards for safety and effectiveness testing, we also set standards for drug quality and manufacturing processes. We monitor changes in manufacturing to make sure they won't adversely affect safety or efficacy.



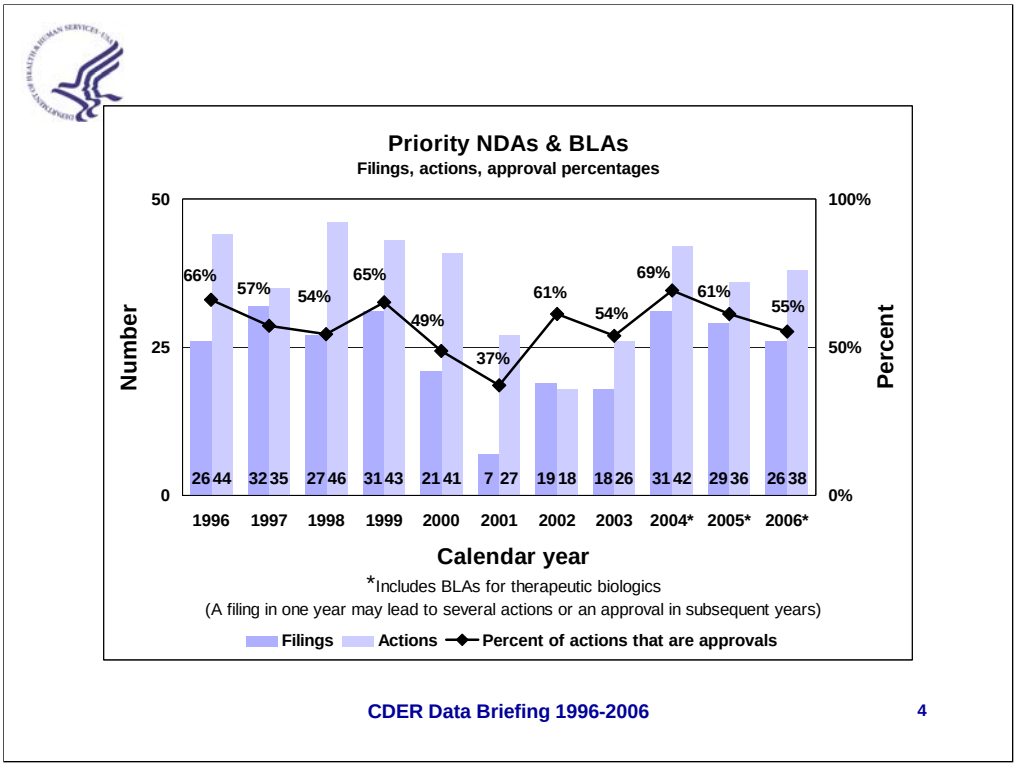
New drug applications. NDAs are the formal submissions of data that sponsors send us when they are seeking approval to market a "new drug" in the United States. Some NDAs are NMEs; however, "new drugs" can also include an active substance previously sold in a different form.

Biologic license applications. BLAs are the formal submissions of data that sponsors send us when they are seeking approval to market a biologic in the United States. A "new BLA" is a biologic that has never been approved for marketing in the United States.

Review and approval times. Review time represents the time that we spend examining the application. Approval time represents our review time plus industry's response time to our requests for additional information.

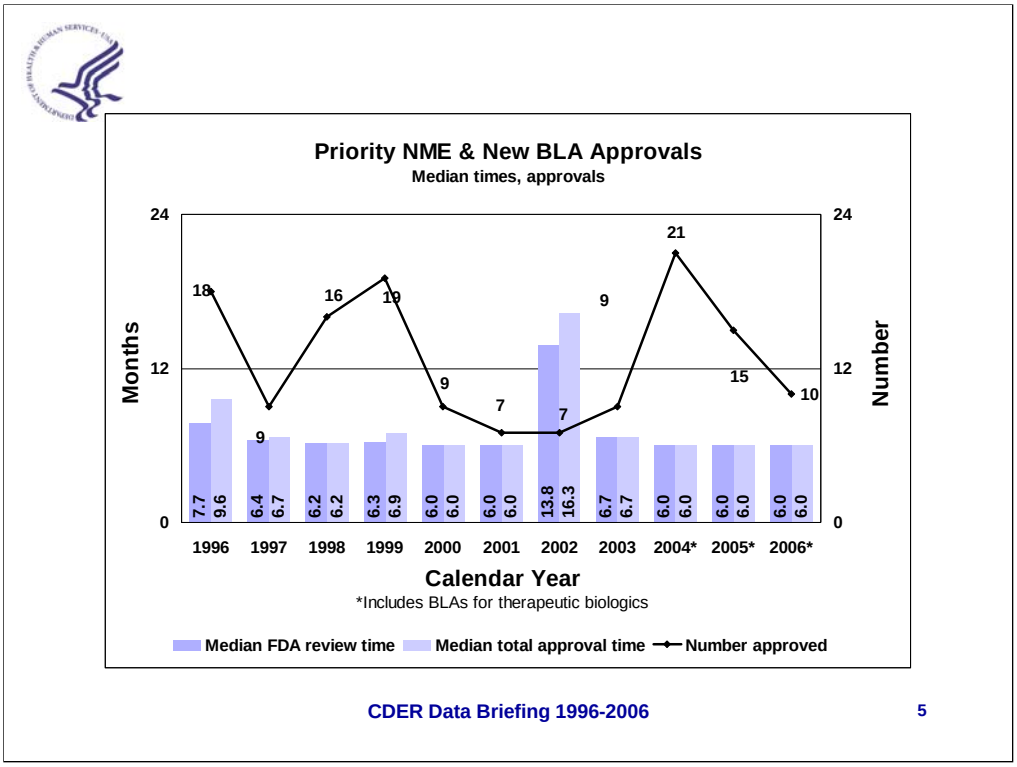
Priority approvals. These products represent significant improvements compared with marketed products. We have a goal of reviewing 90 percent of these applications within six months.

Median times. Our charts show review and approval times as "medians." The value for the median time is the number that falls in the middle of the group after the numbers are ranked in order. It provides a truer picture of our performance than average time, which can be unduly influenced by a few very long or short times.



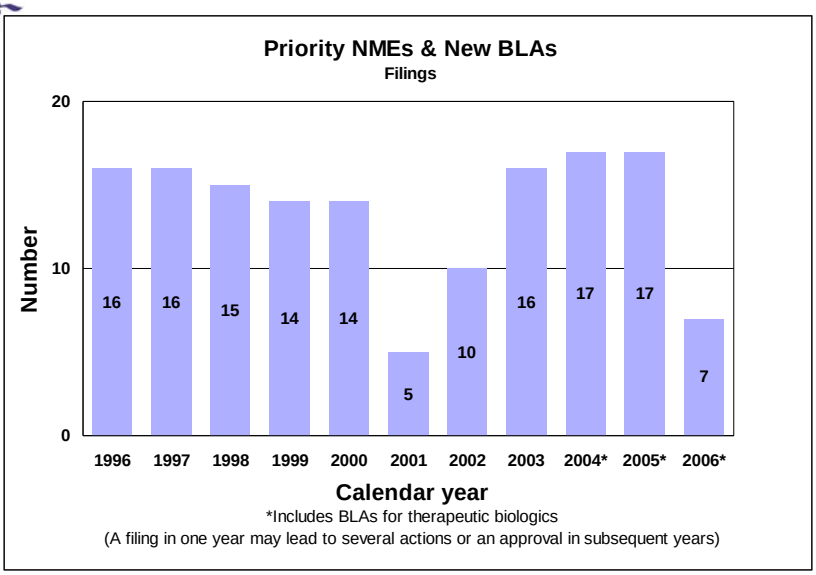
Actions and filings. An application is "filed" when we determine it is complete and accept it for review. We make a filing decision within 60 days of receiving an application. Approval is one of the actions that we can take once an application is filed. Other actions include seeking more information from the sponsor.

There is no direct connection between applications filed in one year and actions in the same year.



New molecular entities. NMEs contain an active substance that has never before been approved for marketing in any form in the United States. Because of high interest in truly new medicines, we report approvals of NMEs and "new BLAs."

The charts for all NDAs and all BLAs include NMEs and new BLAs.



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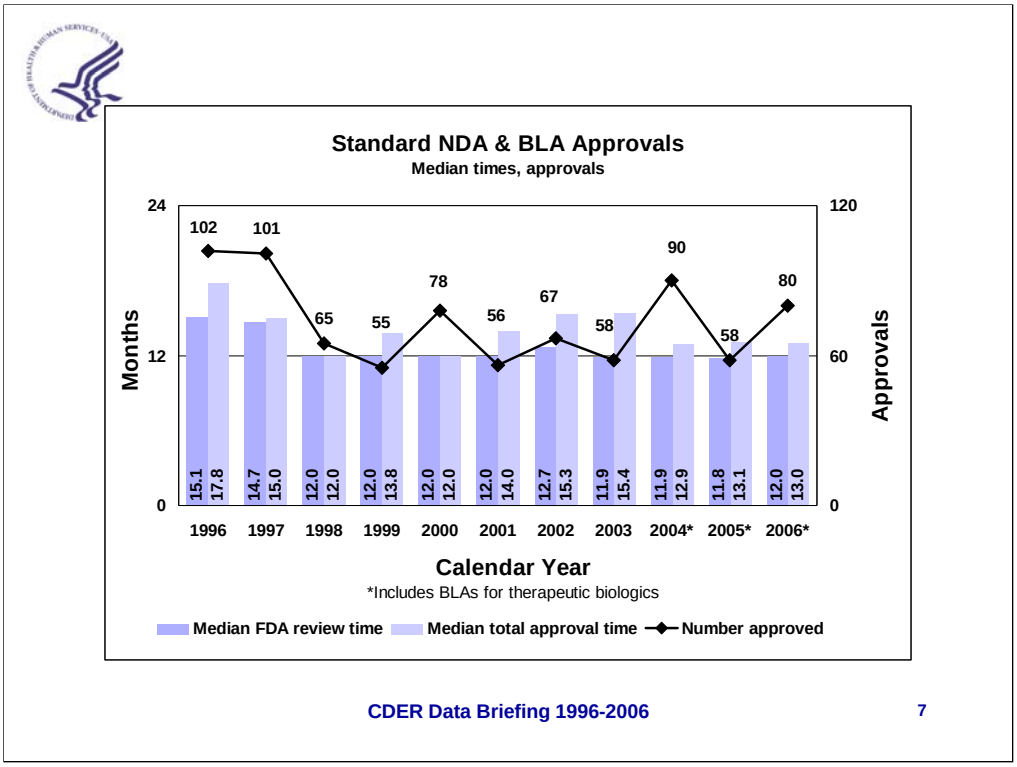
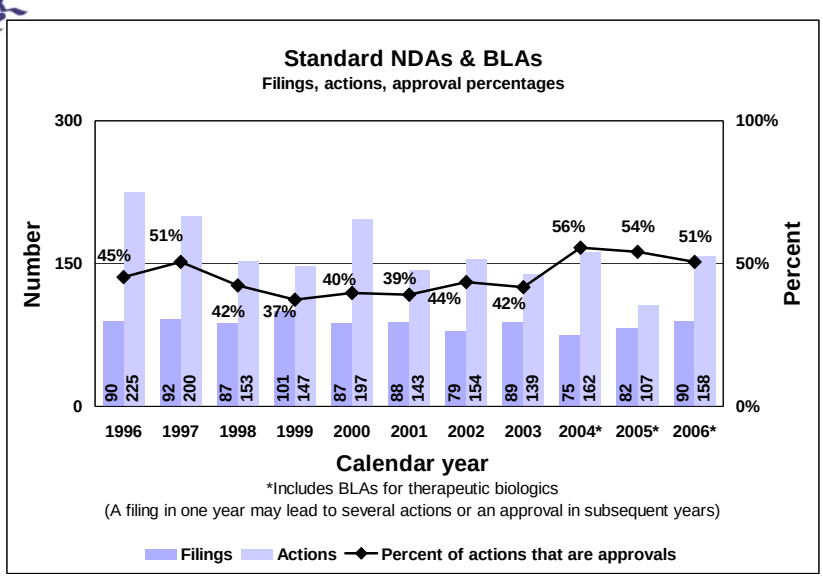
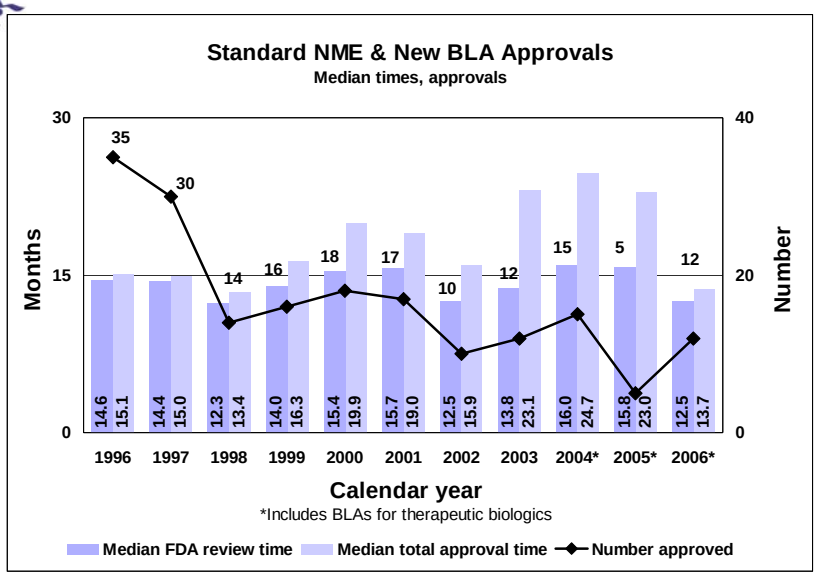
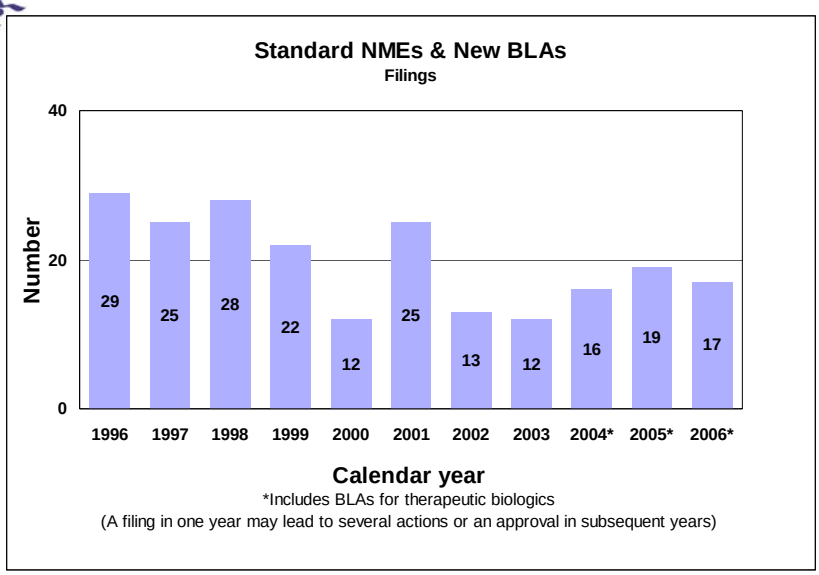


Standard approvals. These products have therapeutic qualities similar to those of already marketed products. We have a goal of reviewing 90 percent of these applications within 10 months.


Standard NDAs & BLAs
Filings, actions, approval percentages
300
150
0
100%
50%
0%
Number
Percent
45%
51%
42%
37%
40%
39%
44%
42%
56%
54%
51%
90 225
92 200
87 153
101 147
87 197
88 143
79 154
89 139
75 162
82 107
90 158
1996 1997 1998 1999 2000 2001 2002 2003 2004* 2005* 2006*
Calendar year
*Includes BLAs for therapeutic biologics
(A filing in one year may lead to several actions or an approval in subsequent years)
Filings
Actions
Percent of actions that are approvals


Standard NME & New BLA Approvals
Median times, approvals
Months
Number
30
15
0
40
20
0
35
30
14
16
18
17
10
12
15
5
12
14.6 15.1
14.4 15.0
12.3 13.4
14.0 16.3
15.4 19.9
15.7 19.0
12.5 15.9
13.8 23.1
16.0 24.7
15.8 23.0
12.5 13.7
1996
1997
1998
1999
2000
2001
2002
2003
2004*
2005*
2006*
Calendar year
*Includes BLAs for therapeutic biologics
Median FDA review time
Median total approval time
Number approved



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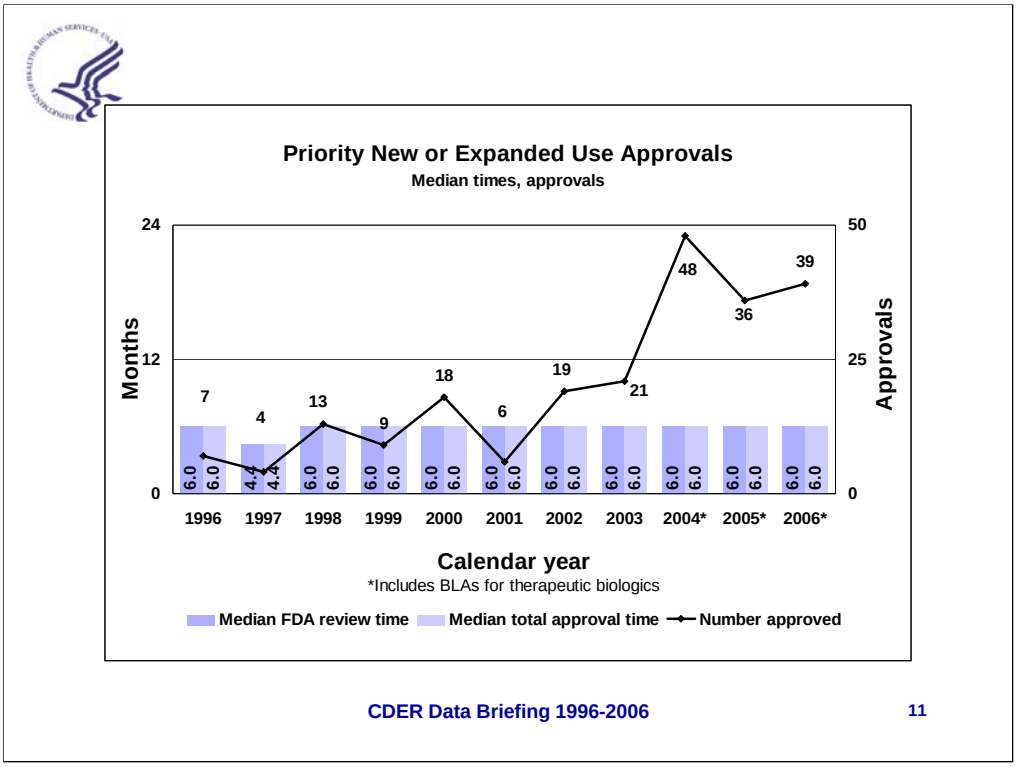
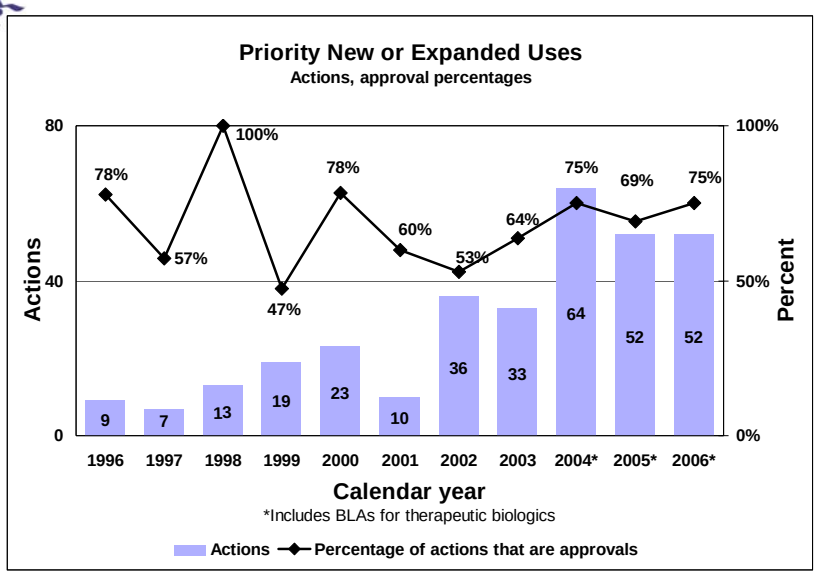
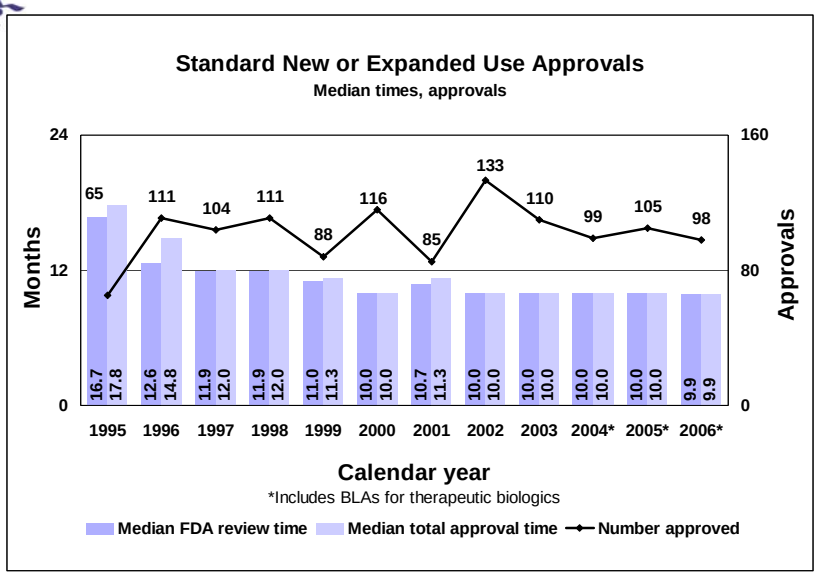
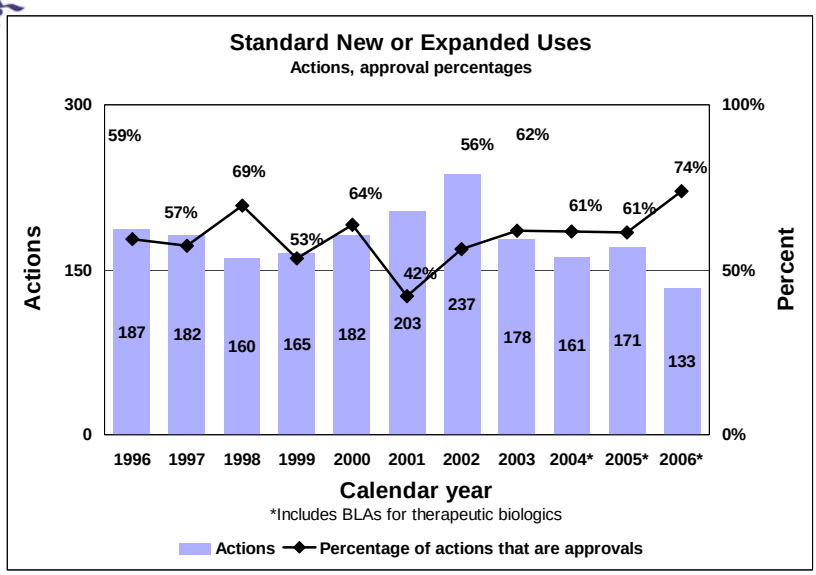


Applications for a new or expanded use, often representing important new treatment options, are formally called “efficacy supplements” to the original new drug application biologics license application.

We have a goal of reviewing standard supplements in 10 months and priority supplements in six months.


Priority New or Expanded Uses
Actions, approval percentages
80
40
0
100%
50%
0%
Actions
Percent
78%
57%
100%
47%
78%
60%
53%
64%
75%
69%
75%
9
7
13
19
23
10
36
33
64
52
52
1996
1997
1998
1999
2000
2001
2002
2003
2004*
2005*
2006*
Calendar year
*Includes BLAs for therapeutic biologics
Actions
Percentage of actions that are approvals


Standard New or Expanded Use Approvals
Median times, approvals
Months
Approvals
24
12
0
160
80
0
65
111
104
111
88
116
85
133
110
99
105
98
16.7
17.8
12.6
14.8
11.9
12.0
11.9
12.0
11.0
11.3
10.0
10.0
10.7
11.3
10.0
10.0
10.0
10.0
10.0
10.0
10.0
10.0
9.9
9.9
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004*
2005*
2006*
Calendar year
*Includes BLAs for therapeutic biologics
Median FDA review time
Median total approval time
Number approved



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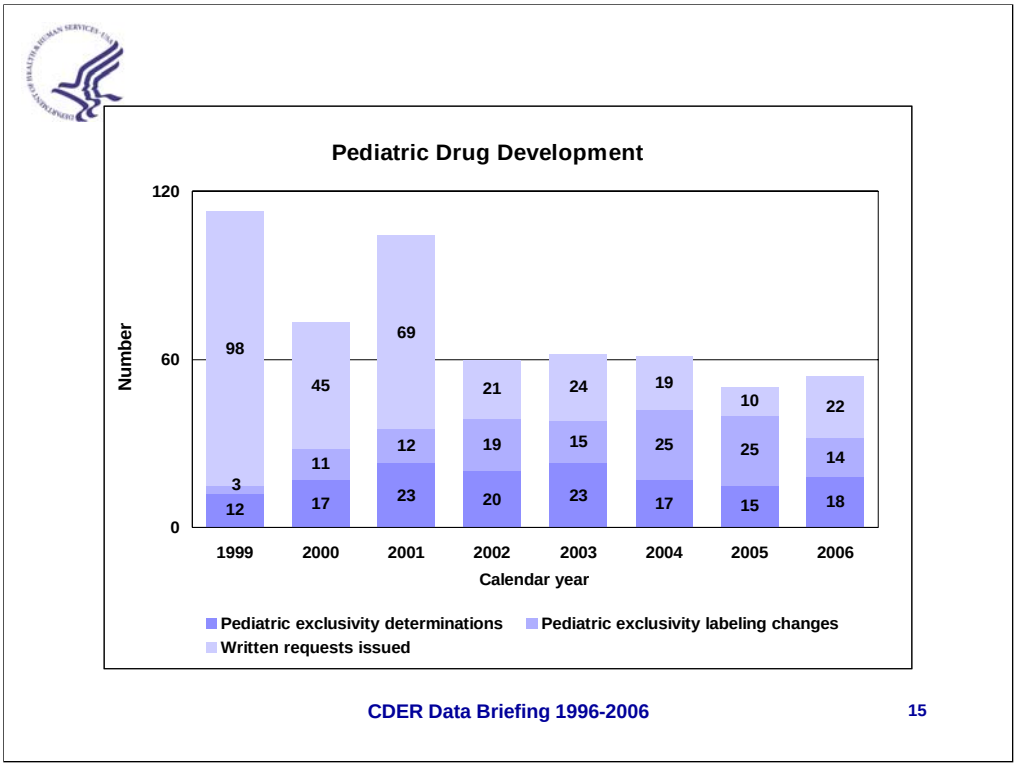
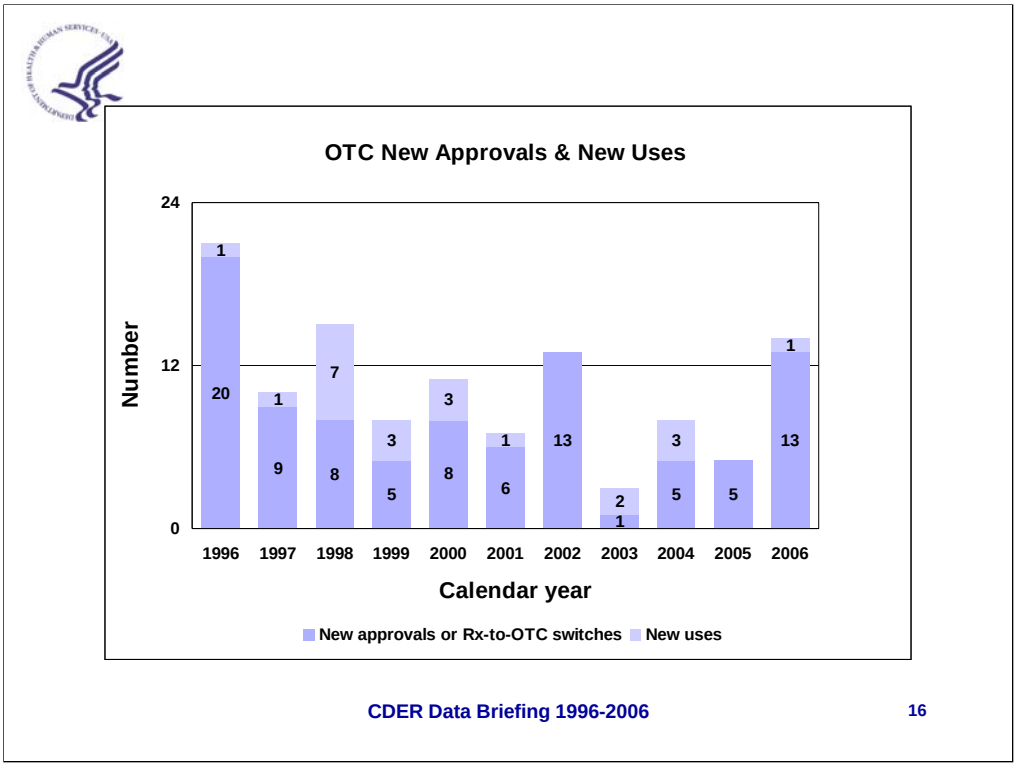


The Best Pharmaceuticals for Children Act of 2002 renewed our authority to grant six months of additional marketing exclusivity to manufacturers who conduct and submit pediatric studies in response to our written requests.

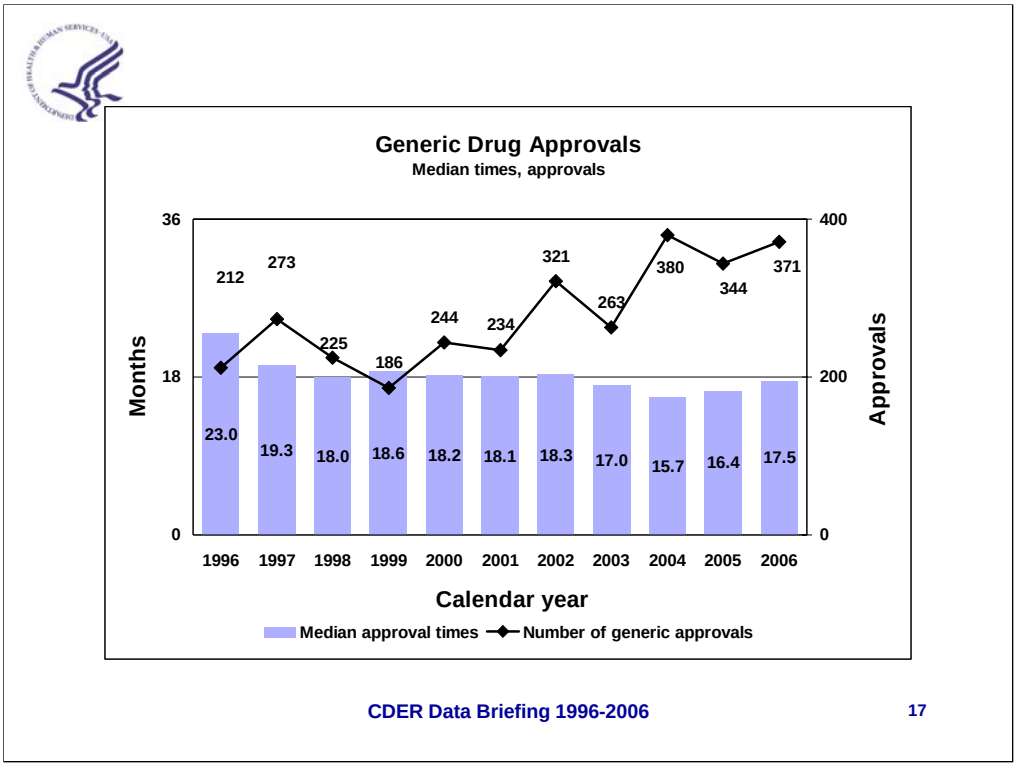
As of April 30, 2007, we had received 504 proposed pediatric study requests from manufacturers, issued 341 written requests, made 149 exclusivity determinations, granted exclusivity to 136 drugs and added new pediatric information to 127 labels.



Over-the-counter drugs are available for purchase without a prescription. They are available to treat common ailments that people can diagnose and treat themselves.

We regulate OTC drugs to ensure they are safe, effective and properly labeled. We publish monographs that establish acceptable ingredients, doses, formulations and consumer labeling for OTC drugs. Products that conform to a final monograph may be marketed without prior FDA clearance.

Drugs also can be approved for OTC sale through the new drug review process.

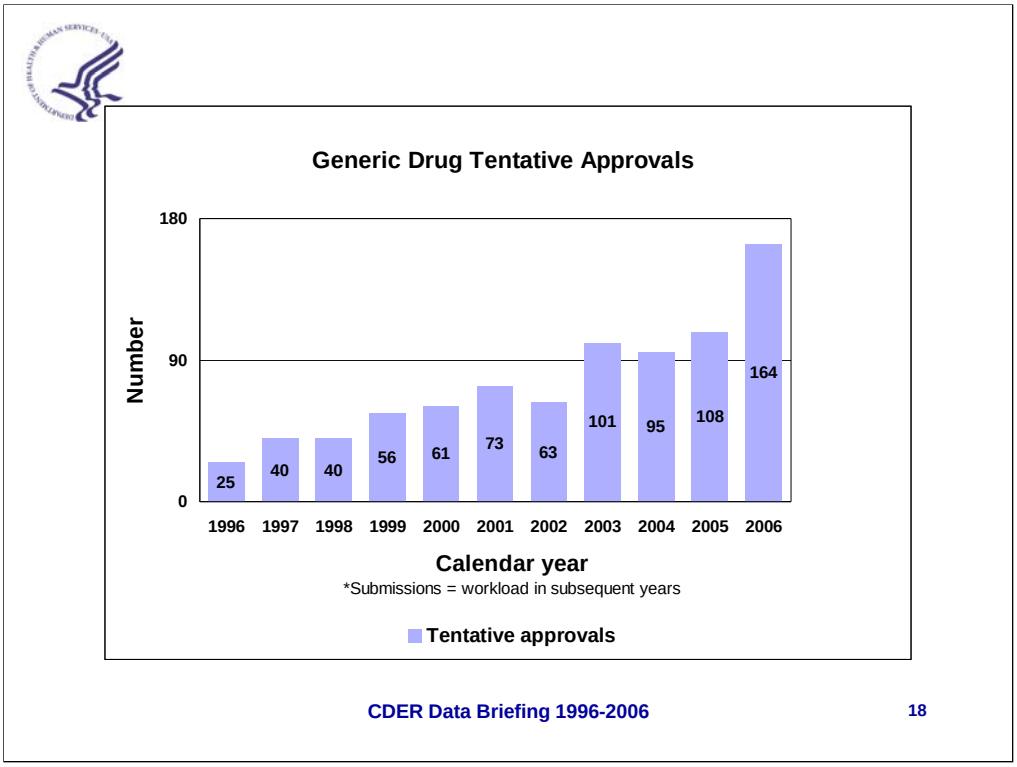


A generic drug is a chemical copy of a brand-name drug. There are generic versions of prescription and over-the-counter drugs.

Generics are not required to repeat the extensive clinical trials used in the development of the original, brand-name drug. For many products such as tablets and capsules, the generics must show *bioequivalence* to the brand-name reference listed drug.

This means that the generic version must deliver the same amount of active ingredient into a patient's bloodstream and in the same time as the brand-name reference listed drug. The rate and extent of absorption is called *bioavailability*. The bioavailability of the generic drug is then compared to that of the brand-name. This comparison is bioequivalence.

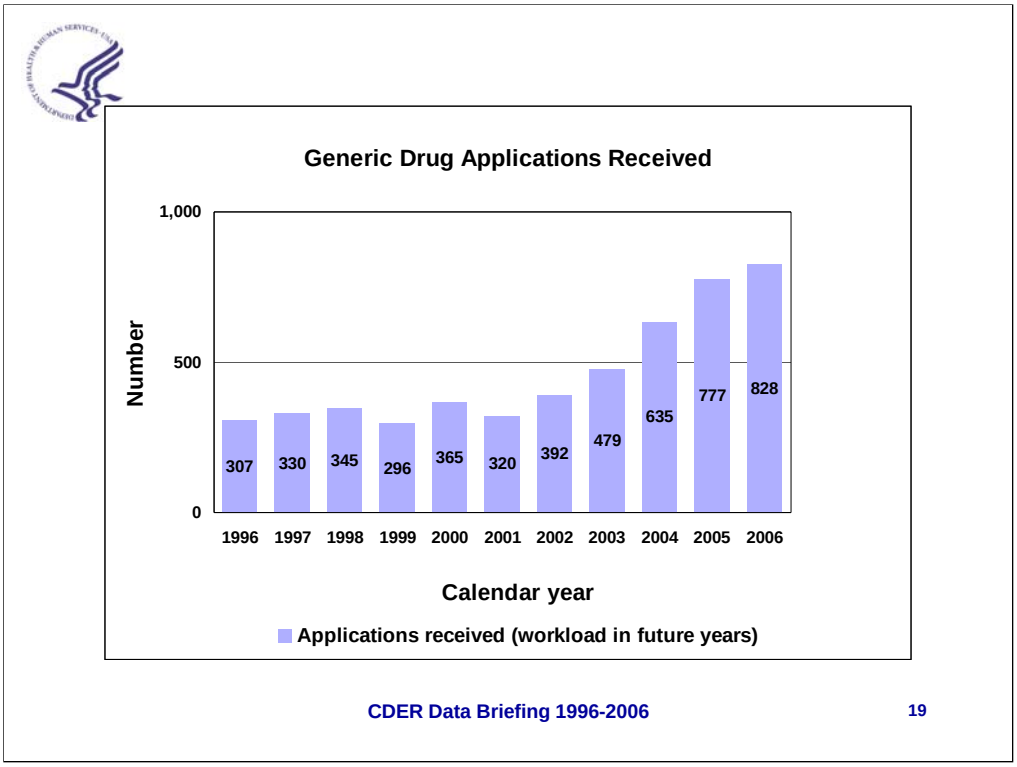
Brand-name drugs are subject to the same bioequivalency tests as generics when their manufacturers reformulate them.



The only difference between a full approval and a tentative approval is that the final approval of these applications is delayed due to an existing patent or exclusivity on the innovator drug product.

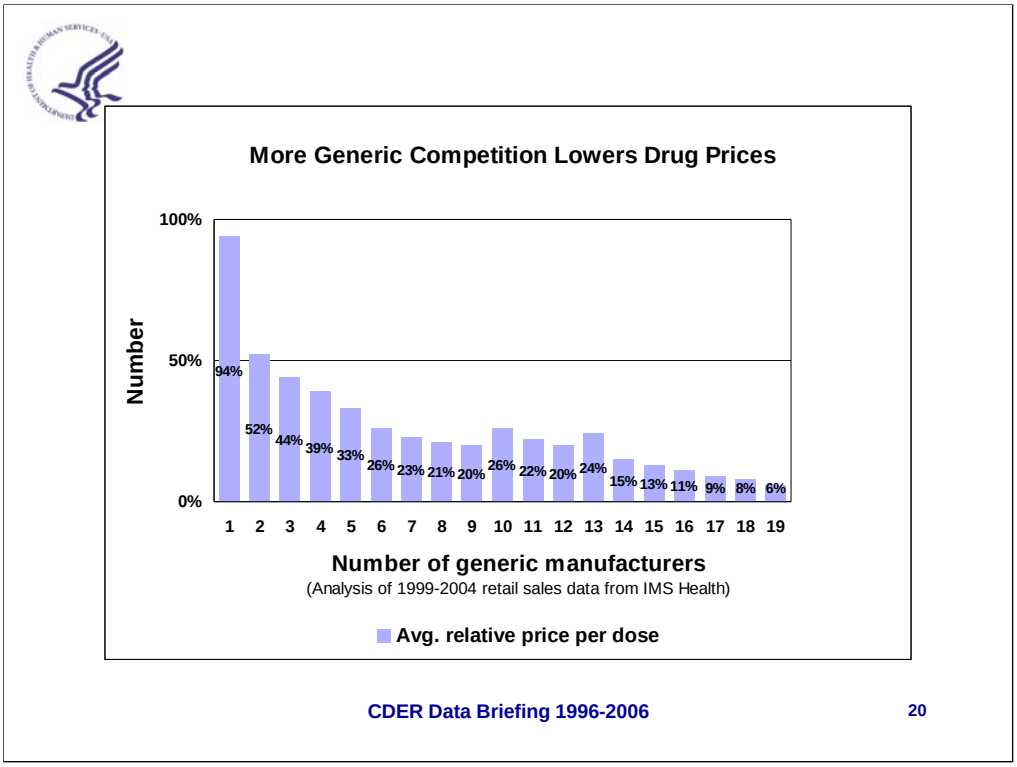
While tentative approvals represent a full workload for us, they are only displayed in our approvals chart once they are converted to full approvals. For example, some of the approvals in 2005 represent conversions of tentative approvals granted in 2004 or previous years.

Tentative approval is a key regulatory mechanism to support the availability of drugs for the President's Emergency Plan for AIDS Relief.

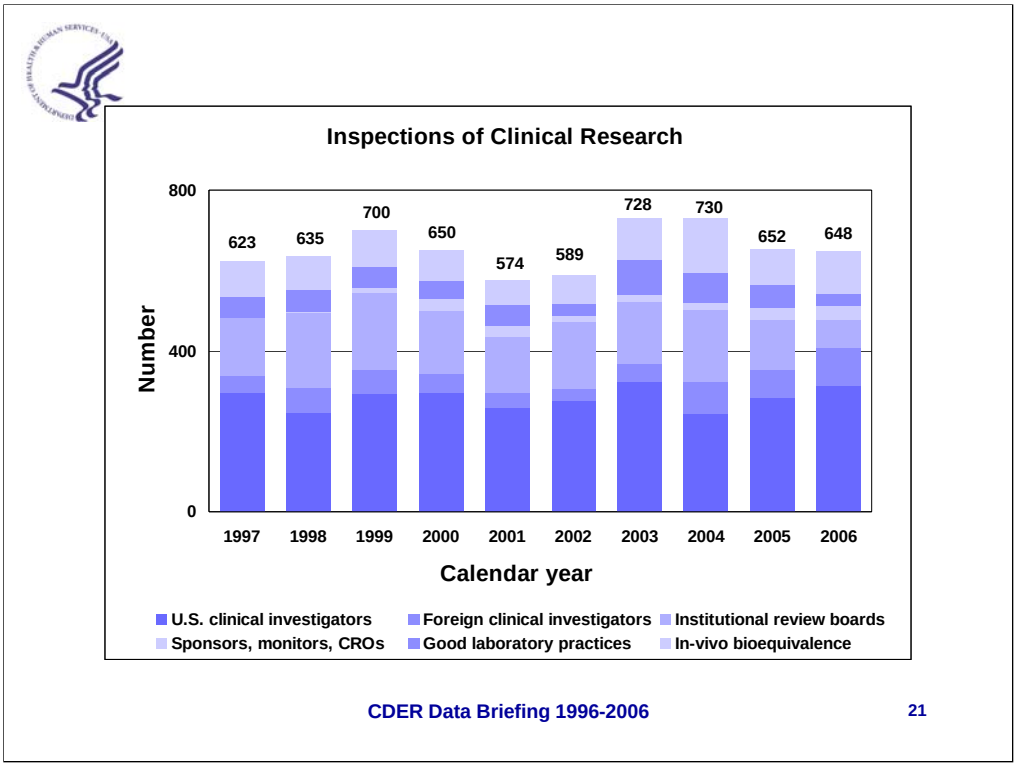


The dramatic increase in receipts of generic drug applications makes it imperative that we process generic drug applications more efficiently.

We are taking steps aimed at improving the content and completeness of generic drug applications and assuring that the applications contain the needed information to be evaluated successfully in one cycle.

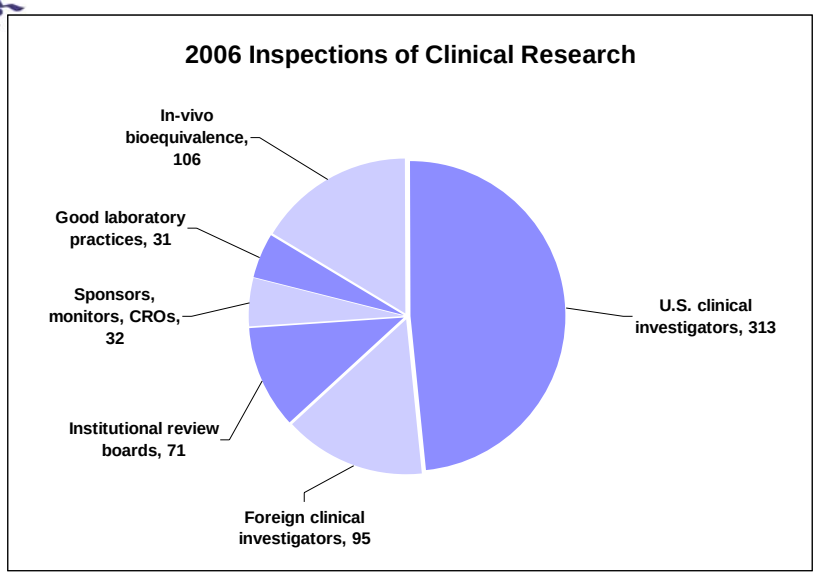


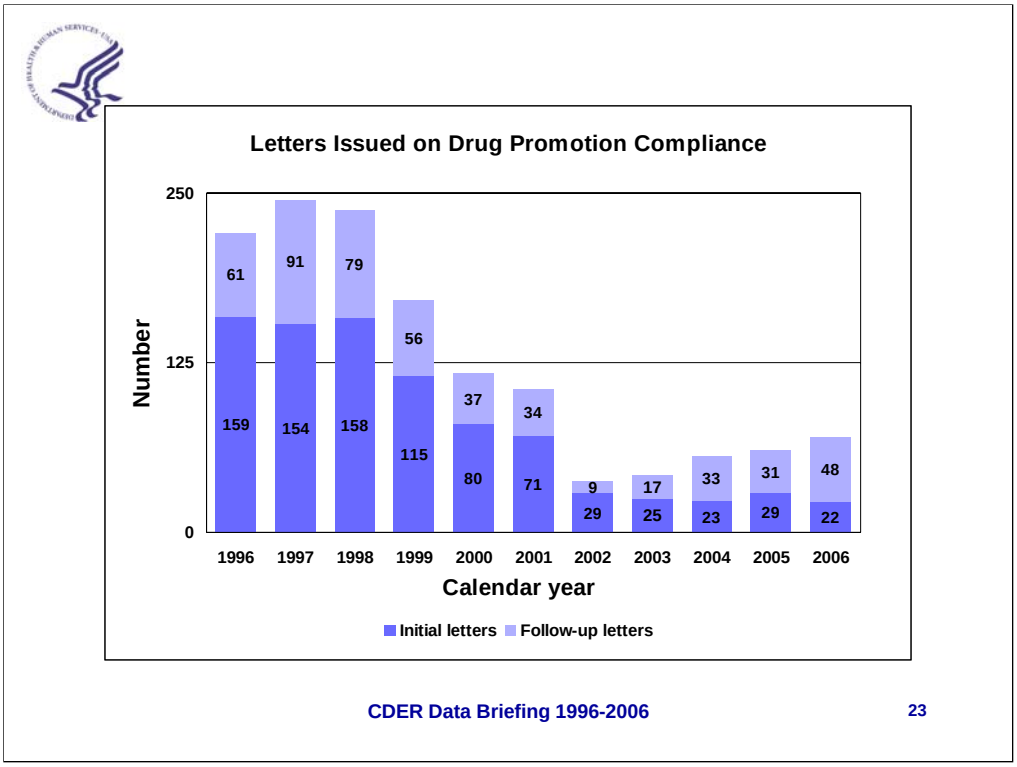
The entry of a second generic competitor brings about the largest price reduction. We concluded this from our analysis of IMS retail sales data for single-ingredient brand-name and generic drug products sold from 1999 through 2004.



When obtaining data about the safety and effectiveness of drugs, sponsors rely on high quality laboratory studies and human volunteers to take part in clinical studies. Protecting volunteers from research risks is a critical responsibility for us and all involved in clinical trials.

We perform on-site inspections to protect the rights and welfare of volunteers and verify the quality and integrity of data submitted for our review. We inspect domestic and foreign clinical trial study sites; institutional review boards; sponsors, monitors and organizations conducting research; laboratories that obtain data; and sites performing bioequivalence studies in humans and preclinical studies in animals.

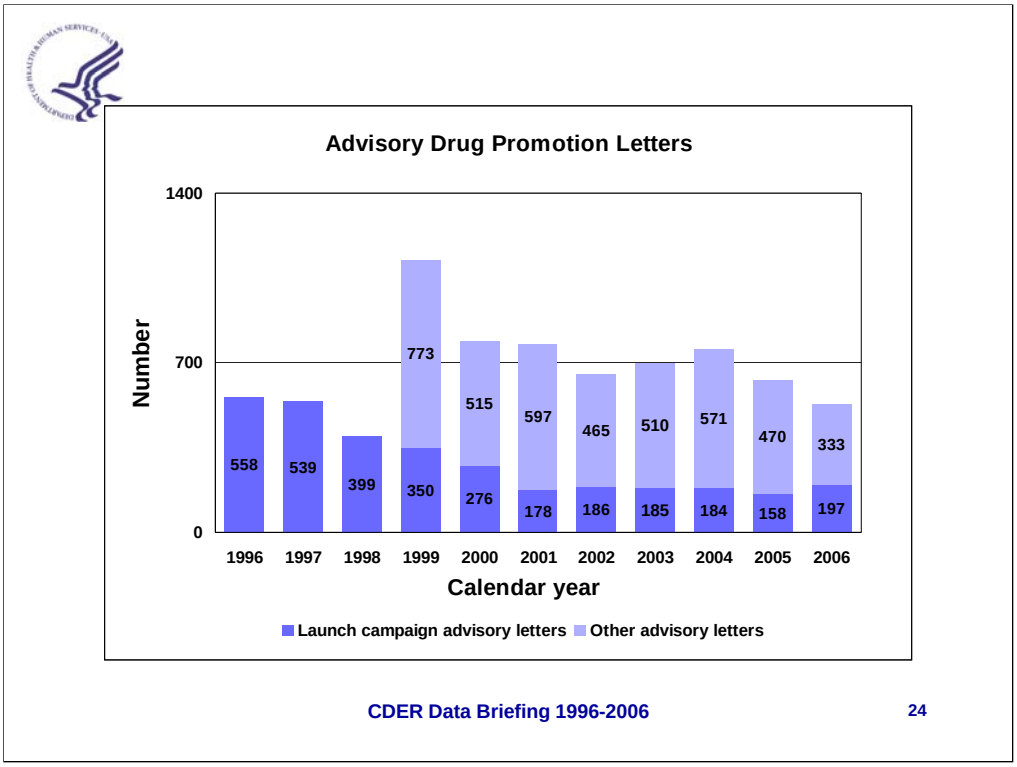

2006 Inspections of Clinical Research
In-vivo bioequivalence, 106
Good laboratory practices, 31
Sponsors, monitors, CROs, 32
Institutional review boards, 71
Foreign clinical investigators, 95
U.S. clinical investigators, 313



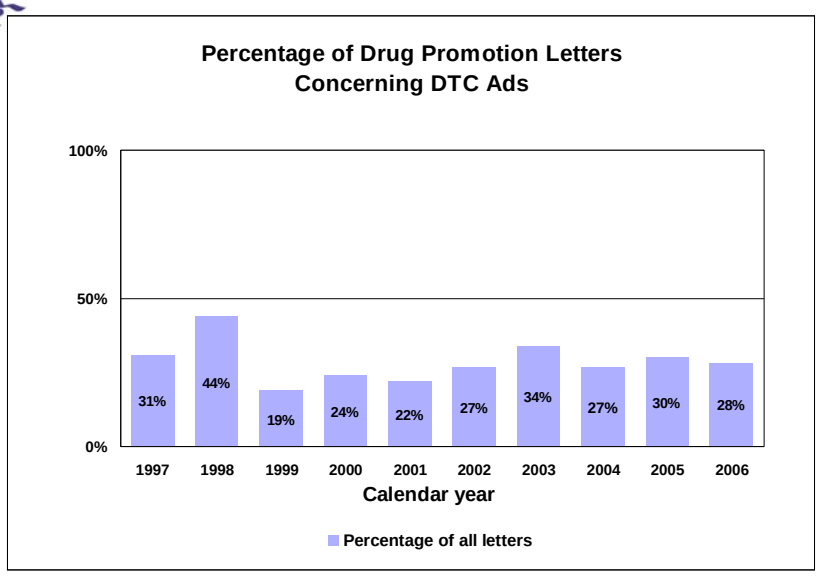
We oversee advertising of prescription drugs, whether to physicians or consumers. We pay particular attention to broadcast ads that can be seen by a great many consumers. The Federal Trade Commission regulates advertising of over-the-counter drugs. Advertisements for a drug must contain a truthful summary of information about its effectiveness, side effects and circumstances when its use should be avoided.

Drug advertising and promotion must be truthful, fair, balanced and not misleading. We issue letters to ensure compliance with our regulations when asked or as a result of our own surveillance.

We issue regulatory action letters to companies for prescription drug promotions determined to be false, misleading, lacking in fair balance of risks and benefits or that promoted a product or indication before approval. These were either “untitled” letters for violations or “warning” letters for more serious or repeat violations. Examples of violative promotions include exhibit hall displays, oral representations, Internet sites, plus traditional materials such as journal advertisements, sales brochures and TV ads.



When requested, we review advertisements and other promotional materials before drug companies launch marketing campaigns that introduce either new drugs or new indications or dosages for approved drugs.



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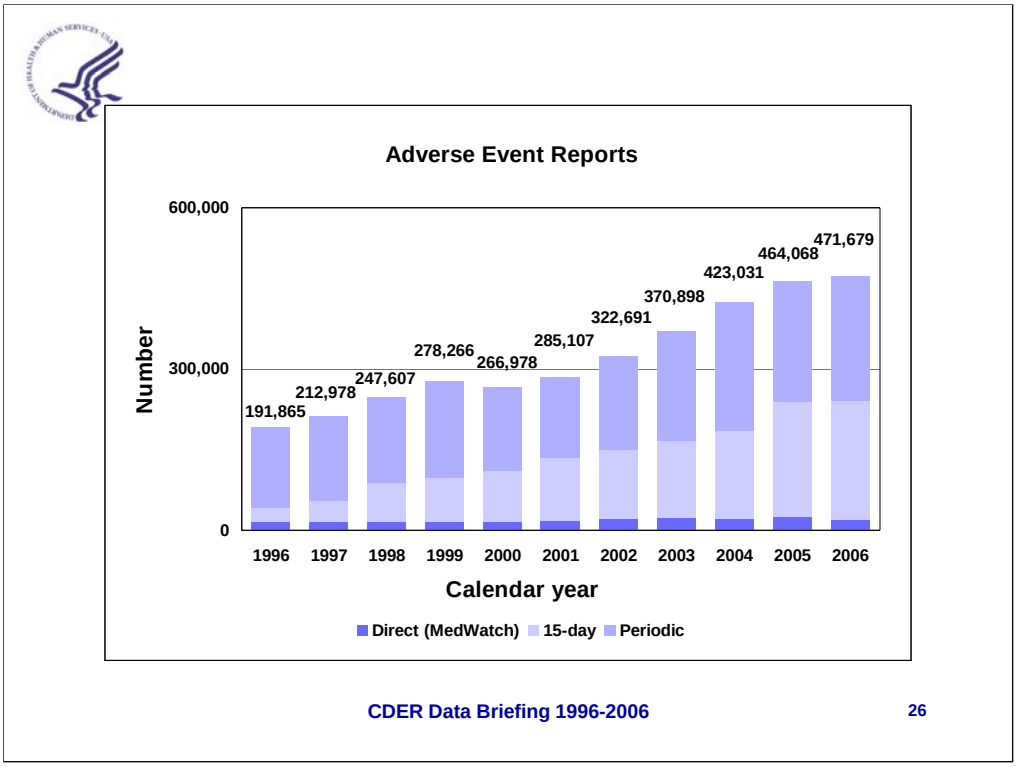


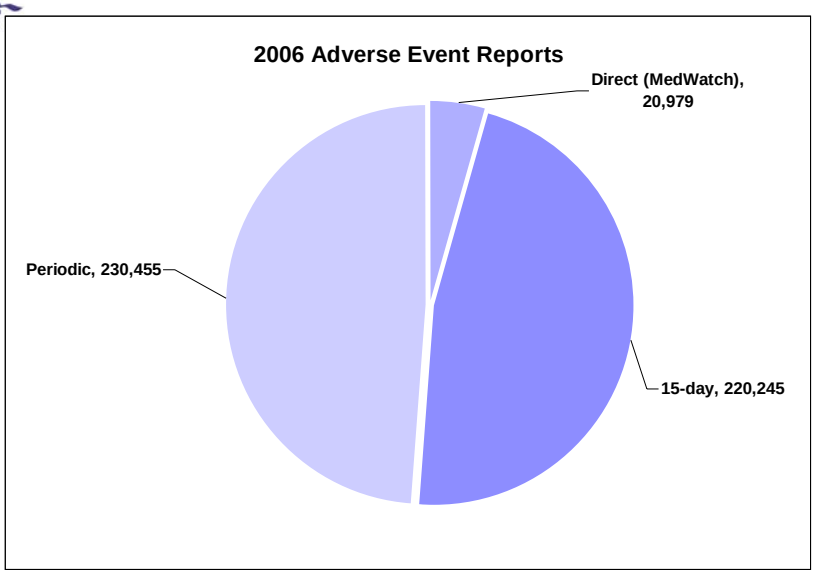
A powerful drug safety tool is the Adverse Event Reporting System, known as AERS. This computerized system combines the voluntary adverse drug reaction reports from MedWatch and the required reports from manufacturers. These reports often form the basis of "signals" that there may be a potential for serious and unrecognized drug-associated events. When a signal is detected, further testing of the hypothesis is undertaken using various epidemiological and analytic databases, previously published studies or other instruments and resources.

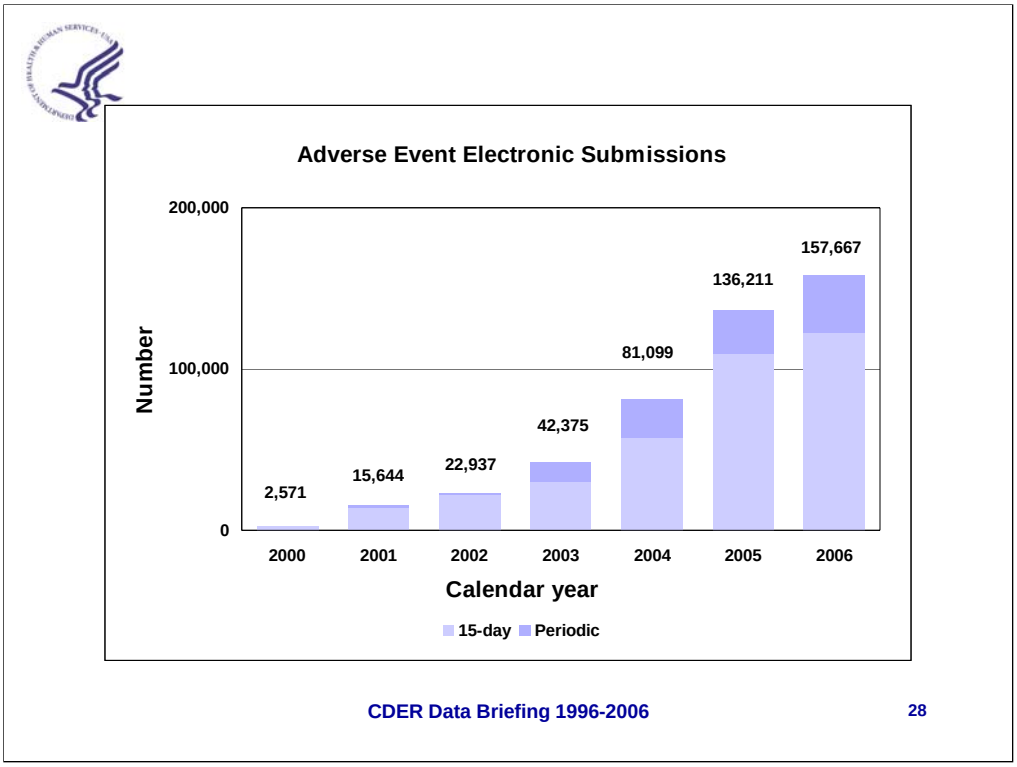
Report types

Direct reports from MedWatch. An individual, usually a health-care practitioner, notifies us directly of a suspected serious adverse event.

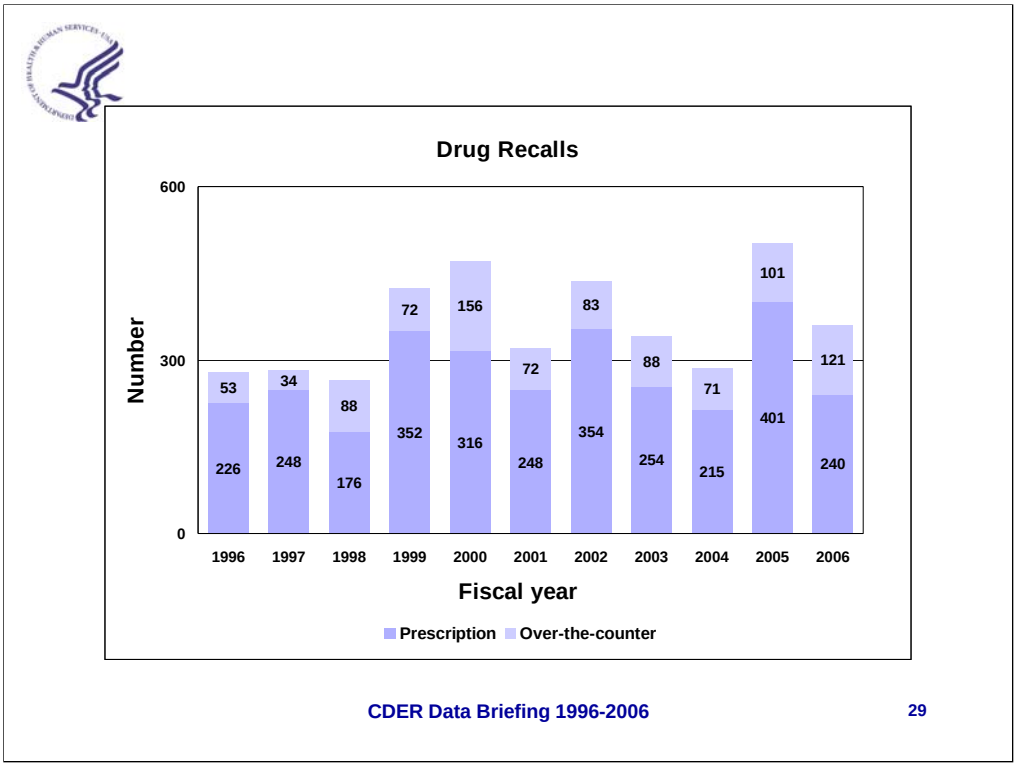
15-day (expedited) reports. Manufacturers report serious and unexpected adverse events to us as soon as possible but within 15 days of discovering the problem.

Manufacturer periodic reports. These report all other adverse events, such as those less than serious or described in the labeling. These are submitted quarterly for the first three years of marketing and annually after that. Nonserious reports are displayed separately starting with 1998.

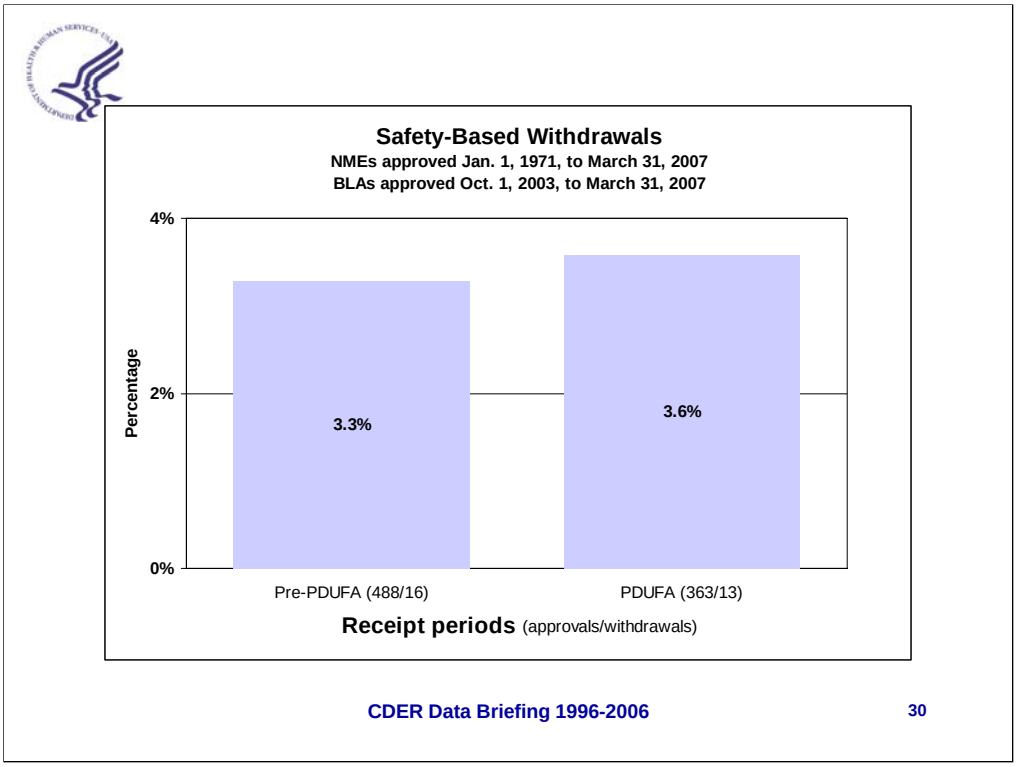

2006 Adverse Event Reports
Direct (MedWatch), 20,979
Periodic, 230,455
15-day, 220,245



Electronic submission of adverse event reports permits more timely receipt and evaluation at a considerable cost savings for both the FDA and industry. As of the end of 2006, 38 sponsors were submitting their 15-day reports electronically, and seven were submitting their periodic adverse event reports electronically.



In some cases, a drug product must be recalled due to a problem occurring in the manufacture or distribution of the product that may present a significant risk to public health. These problems usually, but not always, occur in one or a small number of batches of the drug. Manufacturers or distributors usually implement voluntary recalls in order to carry out their responsibilities to protect the public health when they need to remove a marketed drug product that presents a risk of injury to consumers or to correct a defective drug product. A voluntary recall of a drug product is more efficient and effective in assuring timely consumer protection than an FDA-initiated court action or seizure of the product.



In some cases, there is an intrinsic property of a drug that makes it necessary to withdraw the drug from the market for safety reasons. The rates of safety-based withdrawals of new molecular entities are similar for an earlier period before we collected user fees and for the period, beginning Oct. 1, 1992, when we collected user fees. Our time periods are based on when we received an application rather than when we approved it.

Domestic drug plant inspections

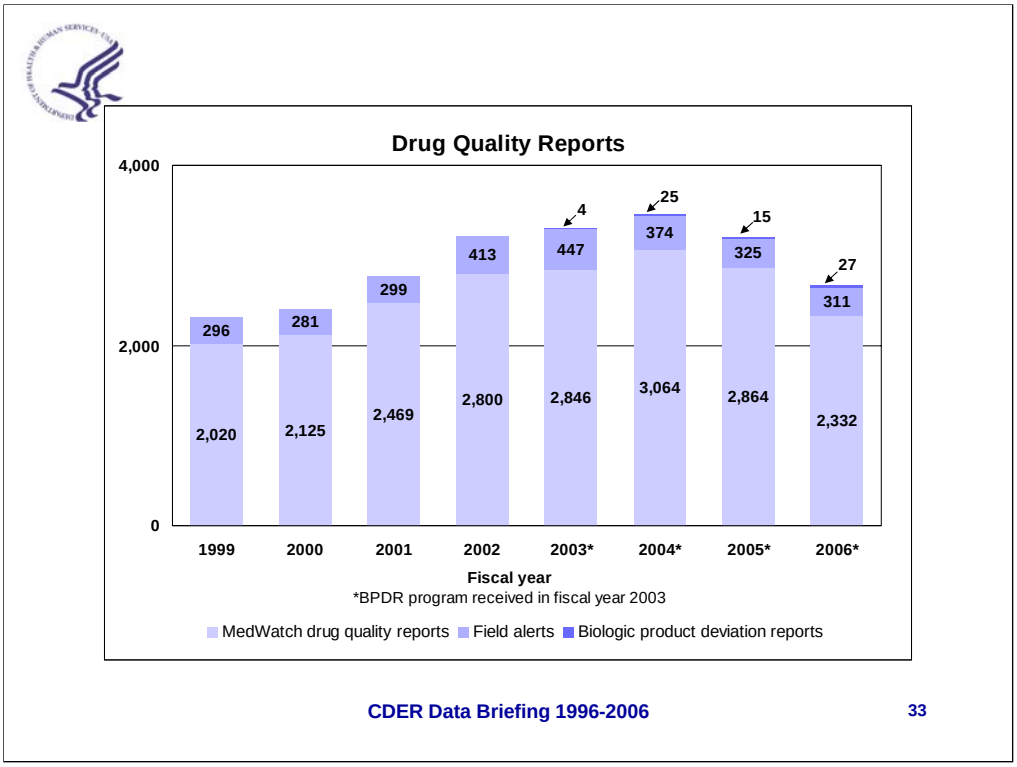
In FY 2006, FDA field offices conducted:

- 184 preapproval inspections in support of:
  - 81 new drug applications
  - 109 generic drug applications
- 1,329 current good manufacturing practice inspections

Biologics license inspections

In fiscal year 2006, we conducted:

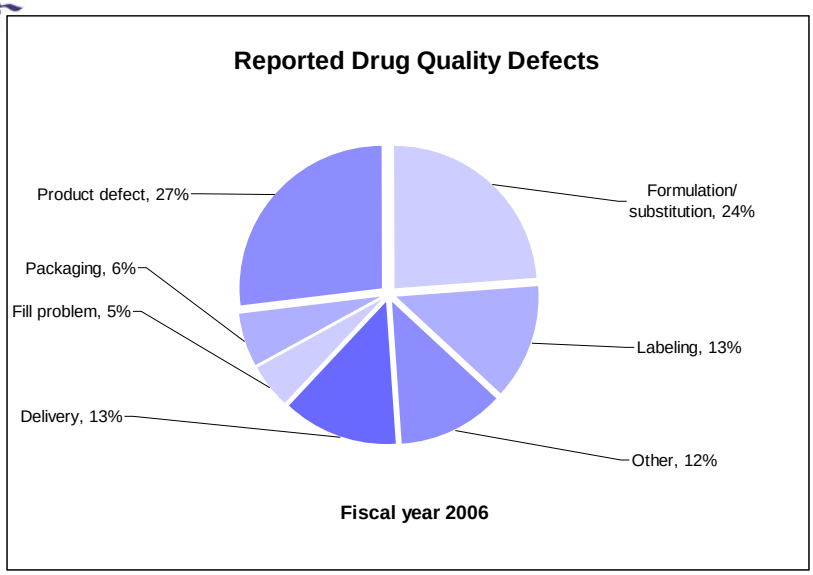
- 7 domestic inspections
- 4 foreign inspections

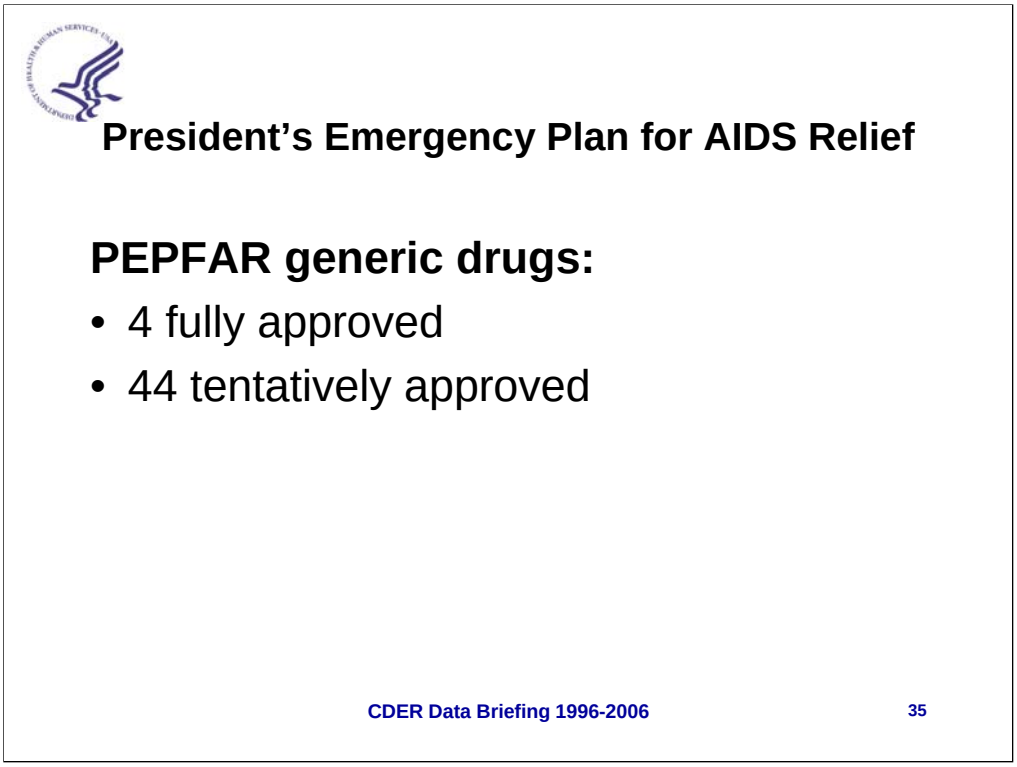


Drug Quality Surveillance Systems

Our reporting tools help us rapidly identify significant health hazards and quality problems associated with the manufacturing and packaging of medicines. Problems that may affect a medicine's safety, purity or potency may occur during manufacturing, processing, packing, labeling, storage or distribution.

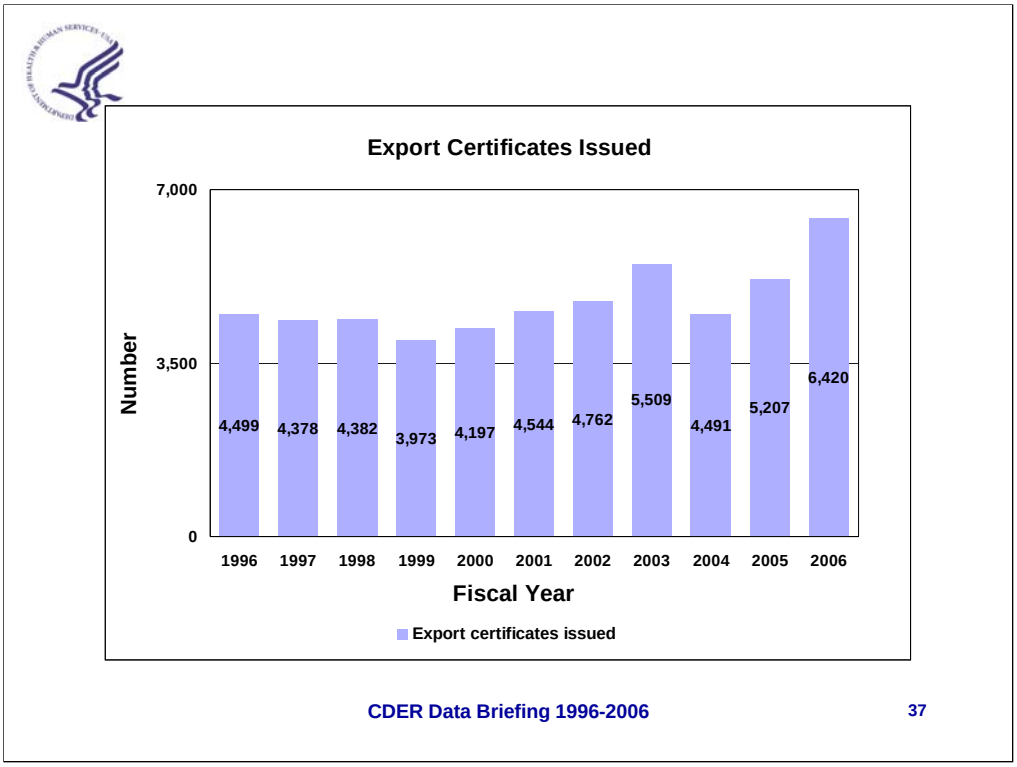
We evaluate reports and FDA field inspections to identify specific firms with manufacturing quality problems with the most potential impact on public health. We target these candidates for inspection and further product sampling and laboratory analysis. We recommend appropriate corrective actions based upon our analysis of the findings. We may take enforcement action in some cases.


Reported Drug Quality Defects
Product defect, 27%
Formulation/ substitution, 24%
Packaging, 6%
Fill problem, 5%
Labeling, 13%
Delivery, 13%
Other, 12%
Fiscal year 2006



Through guidance and an active outreach program to the pharmaceutical industry, we actively encourage any sponsors worldwide to submit U.S. marketing applications for single entity, fixed dose combination and co-packaged versions of previously approved antiretroviral therapies--even if there are still patent or exclusivity market protections for the product in the United States.

Because of enhanced cooperation among regulators around the world, FDA has entered into international agreements in which we play a critical implementation role. We have a growing number of regulatory partners worldwide with whom we can pursue more open dialogue on emerging issues as well as exchange routine information on scientific review, policy development and enforcement.



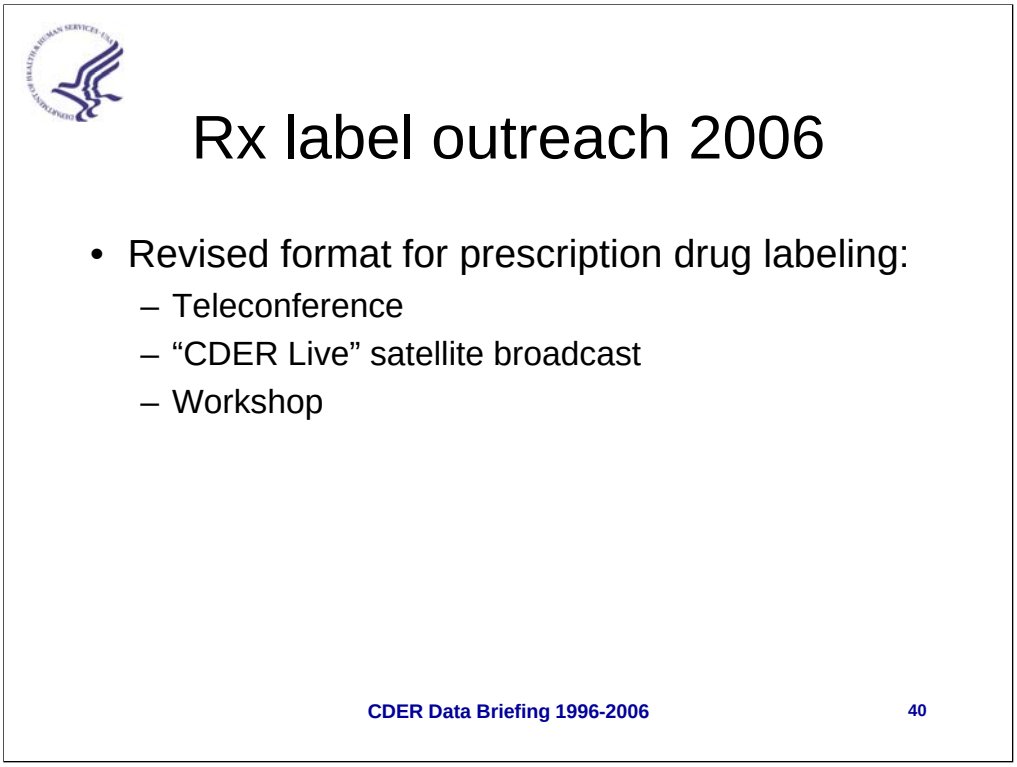
Export certificates attest that U.S. drug products are subject to inspection by FDA and are manufactured in compliance with current good manufacturing practices. These certificates enable American manufacturers to export their products to foreign customers and foreign governments. The demand for certificates remains high due to expanding world trade, ongoing international harmonization initiatives and international development agreements.

Public Meetings & Workshops 2006

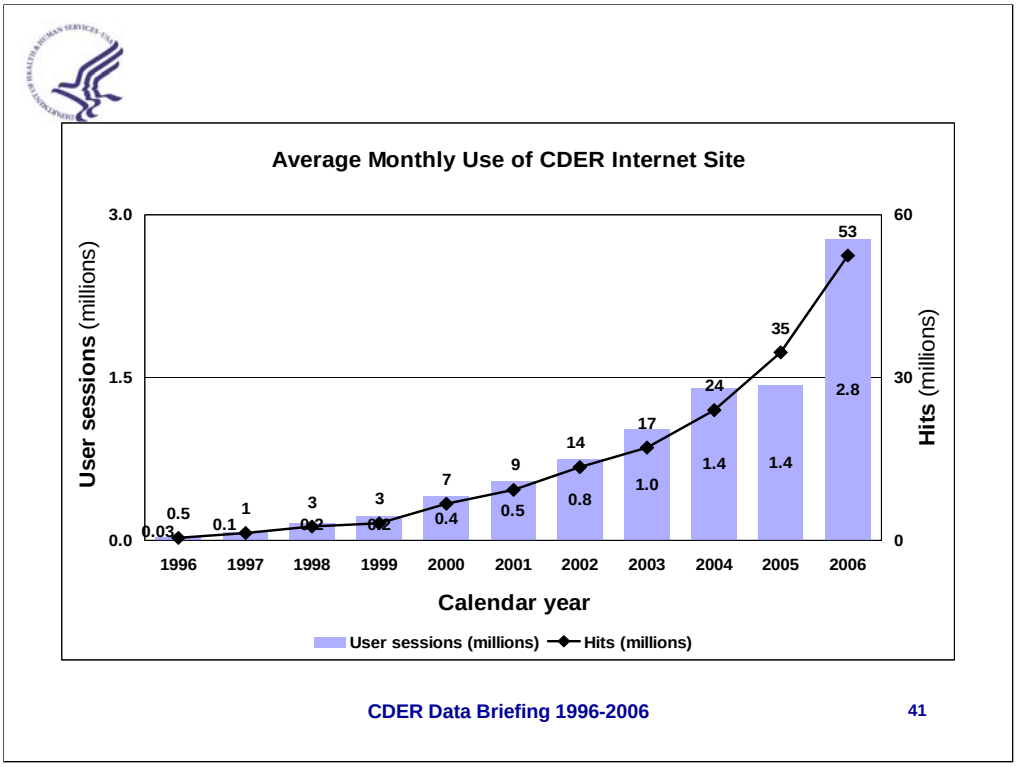
- 22 Advisory Committee Meetings
- 3 public workshops
- 5 public meetings
- 1 teleconference
- 1 satellite TV broadcast
- 2 forums for international regulators

Communications outreach 2006

- General information inquires:
  - ~30,000 phone calls
  - 618 letters
  - ~67,000 e-mails
- Trade press: >2,200
- Compliance information requests: >6,400
- Videoconferences: 348
- Contacts with FDA field offices: >1,800



Our 2006 requirement provides that labels for new and recently approved prescription drugs and new uses be presented in a format that is better understood, more easily accessible and more memorable for physicians.



User sessions on our Web site in 2006 accounted for 43 percent of the total FDA user sessions, and hits on our Web site accounts for 33 percent of total FDA hits.

Where to find more information

- Web site: www.fda.gov/cder
- E-mail: druginfo@fda.hhs.gov
- Phone: 1-888-INFO FDA
- E-mail alerts: www.fda.gov/cder/cdernew/listserv.html
- RSS feed: http://www.fda.gov/cder/whatsnew.xml