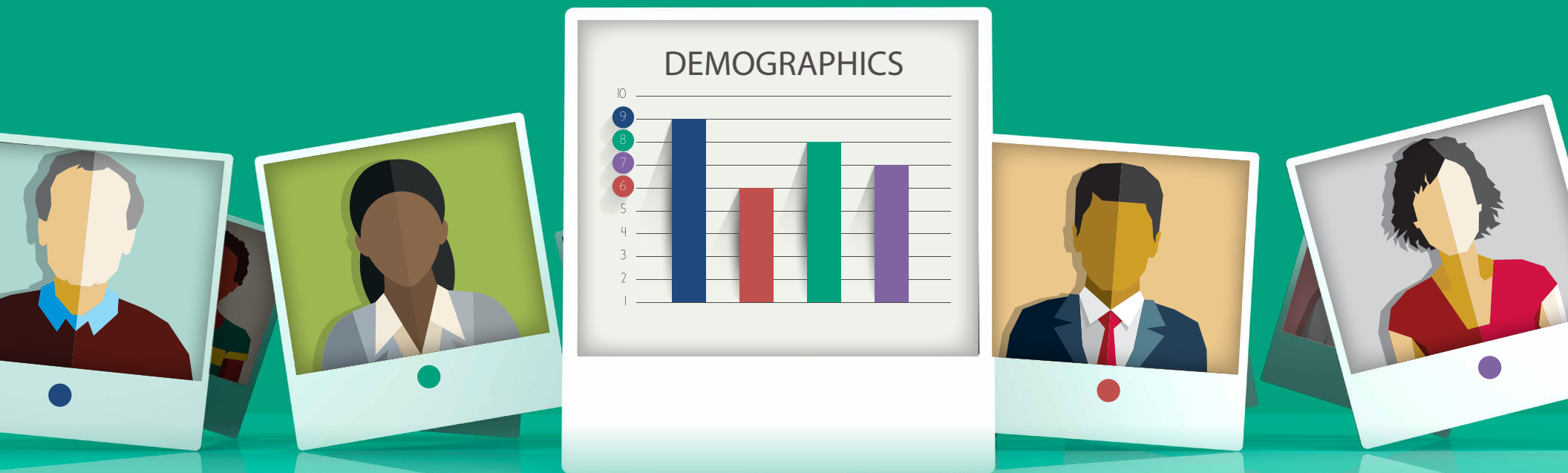


2015-2016

DRUG TRIALS SNAPSHOTS SUMMARY REPORT



Introduction

Welcome to the FDA's Center for Drug Evaluation and Research's (CDER's) Drug Trials Snapshots Summary Report

Every year, CDER approves a number of novel drugs based upon review of safety and efficiency measures from sponsor submitted clinical trial data. Participation in these clinical trials has varied greatly, with some trials having fewer than ten patients to others including several thousand. In recent years, the representation of certain subgroups such as women and people of racial minority groups, has become of greater interest to the general public. As part of the 2012 Food and Drug Administration Safety and Innovation Act (FDASIA 907), the U.S. Congress required the U.S. Food and Drug Administration (FDA) to report on the diversity of participants in clinical trials and the extent to which safety and effectiveness data is based on demographic factors such as sex, age, and race. Recognizing the lack of easily accessible information about participation in drug trials, CDER piloted a new transparency initiative called the Drug Trials Snapshots.

Snapshots are data posted online in a standardized format after approval of a novel drug that is either a New Molecular Entity (NME) or original biologic (BLA) product. They show who participated in the pivotal clinical trials used to approve the drug and stratify the data by sex, race, and age subgroups. Further, the Snapshots provide statements on whether there were any observed differences in safety and efficacy by demographic subgroups at the time of approval. Since January 2015, CDER has been publishing a Drug Trials Snapshot for each novel drug approved within a month of the official approval date.

Our Summary Reports are another commitment to enhancing transparency and better understanding of the drug development process. The report summarizes the first two years of the Drug Trials Snapshot program and is broken down by calendar years 2016 and 2015. Each calendar year provides an overall average of each demographic group followed by a more detailed summary table of the percent representation of sex, race, and age per clinical trial. Since the launch of the Drug Trials Snapshots, over a quarter million people have visited the website.

We hope this information is helpful to promote dialogue on the appropriate representation of different subgroups in clinical trials and welcome your feedback.



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2016 Summary Statistics

(Jan 1, 2016 - Dec 31, 2016)

In 2016, CDER approved **22**¹ novel drugs, either as new molecular entities (NMEs) under New Drug Applications (NDAs) or as new therapeutic biologics under Biologics License Applications (BLAs). Overall, **31,468** patients participated in these trials. Subpopulation demographics are presented below:

Figure 1. Demographic Subgroups in 2016

DEMOGRAPHIC SUBGROUPS	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER*	AGE 65 and OLDER
PARTICIPANT AVERAGE	48%	7%	11%	76%	7%	21%

*The percentages of the categories “American Indian or Alaska Native (AI/AN),” “Native Hawaiian or Other Pacific Islander (NH/OPI),” and “Unknown/Unreported” were small enough that we combined them into the “Other” category for the purposes of this report.

Therapeutic Areas 2016

More insight into demographics for all 22 CDER-approved novel drugs are provided below in Table 1.

Table 1. All Approvals (2016)

BRAND NAME	INDICATION	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER	AGE 65 and OLDER
ADLYXINS	Treatment of type 2 diabetes mellitus	52%	3%	32%	64%	2%	19%
ADLYXIN§§	Treatment of type 2 diabetes mellitus	31%	4%	13%	75%	8%	34%
ANTHIM	For the treatment of inhalational anthrax	46%	28%	1%	69%	2%	9%

§ Clinical Trial of Type 2 DM patients

§§ Clinical Trial of Type 2 DM patients who recently had a heart attack

1. <http://www.fda.gov/Drugs/DevelopmentApprovalProcess/DrugInnovation/ucm483775.htm>

BRAND NAME	INDICATION	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER	AGE 65 and OLDER
AXUMIN	Detection of prostate cancer recurrence	0%	4%	<1%	31%	64%	66%
BRIVIACT	Treatment of partial-onset seizures	49%	3%	12%	74%	11%	2%
CINQUAIR	For the treatment of a specific type of severe asthma (called eosinophilic phenotype asthma)	62%	12%	8%	73%	8%	6%
DEFITELIO	Treatment of hepatic veno-occlusive disease (VOD)	45%	6%	4%	71%	19%	0%
EPCLUSA	Treatment of chronic Hepatitis C virus genotypes 1, 2, 3, 4, 5 or 6 infection.	38%	6%	7%	85%	2%	11%
EUCRISA	To treat mild to moderate eczema (atopic dermatitis) in patients two years of age and older	56%	28%	5%	61%	6%	0%
EXONDYS 51#	Treatment of Duchenne muscular dystrophy (DMD) in patients who have a confirmed mutation of the DMD gene that is amenable to exon 51 skipping	0%	0%	8%	92%	0%	0%
EXONDYS 51##	Treatment of Duchenne muscular dystrophy (DMD) in patients who have a confirmed mutation of the DMD gene that is amenable to exon 51 skipping	0%	0%	0%	100%	0%	0%
LARTRUVO	Treatment of soft tissue sarcoma	56%	8%	3%	86%	2%	32%
NETSPOT	For detection of a specific type of tumors called somatostatin receptor positive neuro-endocrine tumors (NETs)	52%	N/A	N/A	N/A	100%	N/A
NUPLAZID	Treatment of hallucinations and delusions in patients with Parkinson's disease	36%	1%	5%	91%	3%	82%

Baseline Demographics of Trials 1 and 2

Baseline Demographics of Trial 3

BRAND NAME	INDICATION	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER	AGE 65 and OLDER
OCALIVA	Treatment of primary biliary cholangitis in adults	91%	1%	1%	94%	3%	19%
RUBRACA	Treatment of women with certain type of advanced ovarian cancer	100%	2%	6%	80%	12%	42%
SPINRAZA	Spinal muscular atrophy (SMA)	55%	2%	6%	86%	6%	0%
TALTZ	Treatment of moderate to severe plaque psoriasis in adults	32%	2%	4%	93%	1%	7%
TECENTRIQ	Treatment of a type of bladder cancer called urothelial carcinoma	78%	2%	2%	91%	5%	59%
VENCLEXTA	Treatment of chronic lymphocytic leukemia (CLL)	31%	3%	<1%	94%	3%	58%
XIIDRA	Treatment of the signs and symptoms of dry eye disease	76%	9%	4%	85%	2%	37%
ZEPATIER	Treatment of chronic Hepatis C genotypes 1 or 4 infection	39%	15%	9%	75%	1%	11%
ZINBRYTA	Treatment of relapsing forms of multiple sclerosis (MS)	67%	1%	3%	91%	5%	0%
ZINPLAVA	Decreasing the risk of Clostridium difficile infection recurrence	57%	5%	8%	85%	2%	62%

2015 Summary Statistics

(Jan 1, 2015 - Dec 31, 2015)

In calendar year 2015, CDER approved **45²** novel drugs, either as new molecular entities (NMEs) under New Drug Applications (NDAs) or as new therapeutic biologics under Biologics License Applications (BLAs). Overall, **105,826** patients participated in these trials. Subpopulation demographics are presented below:

Figure 2. Demographic Subgroups in 2015

DEMOGRAPHIC SUBGROUPS	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER*	AGE 65 and OLDER	AGE 75 and OLDER**	AGE 80 and OLDER**
PARTICIPANT AVERAGE	40%	5%	12%	79%	4%	37%	15%	6%

* The percentages of the categories “American Indian or Alaska Native (AI/AN),” “Native Hawaiian or Other Pacific Islander (NH/OPI),” and “Unknown/Unreported” were small enough that we combined them into the “Other” category for the purposes of this report.

**These particular subgroups were calculated as part of a Geriatrics Report and are not a regular feature of the Drug Trials Snapshots

All Approvals 2015

More insight into demographics for all 45 CDER-approved novel drugs are provided below in Table 2.

Table 2. All Drug Approvals (2015)

BRAND NAME	INDICATION	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER	AGE 65 and OLDER	AGE 75 and OLDER	AGE 80 and OLDER
ADDYI	Treatment of acquired, generalized hypoactive sexual desire disorder (HSDD) in premenopausal women	100%	8%	1%	89%	2%	0%	0%	0%

2. To be consistent with the 2015 CDER Novel Drugs Report, three Drug Trials Snapshots were removed: Stiolto Respimat, Ryzodeg and Vistogard. <http://www.fda.gov/Drugs/DevelopmentApprovalProcess/DrugInnovation/ucm430302.htm>

Table 2. All Drug Approvals (2015) *continued*

BRAND NAME	INDICATION	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER	AGE 65 and OLDER	AGE 75 and OLDER	AGE 80 and OLDER
ALECENSA	For the treatment of metastatic non-small cell lung cancer	55%	2%	18%	74%	7%	14%	4%	<1%
ARISTADA	Treatment of schizophrenia	32%	40%	13%	47%	<1%	0%	0%	0%
AVYCAZ	Treatment of complicated intra-abdominal infection (abbreviated as cIAI)	26%	<1%	27%	60%	12%	11%	8%	4%
AVYCAZ	Treatment of complicated urinary tract infection (abbreviated as cUTI)	74%	5%	10%	60%	25%	17%	4%	3%
BRIDION	For the reversal of the effects of certain neuromuscular blocking agents	52%	3%	12%	84%	<1%	29%	<1%	<1%
CHOLBAM	For treatment of bile acid synthesis disorders due to single enzyme defects	43%	11%	7%	61%	20%	N/A	N/A	N/A
CHOLBAM	For treatment of peroxisomal disorders, including Zellweger spectrum disorders	33%	0%	0%	83%	17%	N/A	N/A	N/A
CORLANOR	To reduce hospitalization from worsening heart failure.	24%	1%	8%	89%	2%	38%	11%	3%
COSENTYX	Treatment of moderate to severe plaque psoriasis in adults who do not respond well to medication applied directly to the skin	30%	1%	22%	68%	9%	8%	1%	<1%
COTELLIC	Part of combination treatment melanoma	42%	N/A	N/A	93%	7%	27%	9%	3%
CRESEMBA	Treatment of invasive aspergillosis	40%	<1%	21%	78%	<1%	24%	5%	<1%
CRESEMBA	Treatment of invasive mucormycosis	19%	11%	22%	68%	0%	14%	8%	0%

Table 2. All Drug Approvals (2015) *continued*

BRAND NAME	INDICATION	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER	AGE 65 and OLDER	AGE 75 and OLDER	AGE 80 and OLDER
DAKLINZA	Treatment of chronic Hepatitis C genotype 3 infection	41%	4%	5%	90%	1%	7%	0%	0%
DARZALEX	Treatment of multiple myeloma	46%	10%	6%	76%	8%	45%	10%	3%
EMPLICITI	Treatment of multiple myeloma	40%	4%	10%	84%	2%	57%	20%	7%
ENTRESTO	Treatment of heart failure	22%	5%	18%	66%	11%	49%	19%	7%
FARYDAK	Treatment of multiple myeloma	48%	3%	33%	63%	1%	35%	5%	0%
GENVOYA†	Complete regimen for the treatment of HIV-1 in adults and children 12 years of age and older.	48%	83%	17%	0%	0%	0%	0%	0%
GENVOYA‡	Complete regimen for the treatment of HIV-1 in adults and children 12 years of age and older.	13%	23%	9%	61%	7%	3%	<1%	<1%
IBRANCE	Treatment of a specific form of advanced breast cancer called ER-positive, HER2-negative (ER+/HER-) breast cancer in women who have gone through menopause (post-menopausal)	100%	1%	6%	90%	3%	46%	9%	3%
KANUMA(i)	Treatment of Lysosomal Acid Lipase (LAL) deficiency	44%	11%	11%	44%	33%	0%	0%	0%
KANUMA(ii)	Treatment of Lysosomal Acid Lipase (LAL) deficiency	50%	2%	5%	83%	11%	0%	0%	0%
KENGREAL	For prevention of coronary artery blood clot formation in patients undergoing PCI	28%	3%	3%	94%	<1%	48%	18%	8%

† Clinical Trial of Children Only

‡ Clinical Trial of Adults Only

(i) Clinical Trial of Infants Only

(ii) Clinical Trial of Children and Adults

Table 2. All Drug Approvals (2015) *continued*

BRAND NAME	INDICATION	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER	AGE 65 and OLDER	AGE 75 and OLDER	AGE 80 and OLDER
KYBELLA	Treatment for double chin	85%	8%	2%	87%	3%	1%	0%	0%
LENVIMA	Treatment of progressive, differentiated thyroid cancer (DTC) that can no longer be treated with radioactive iodine	49%	2%	18%	79%	<1%	40%	10%	4%
LONSURF	Treatment of advanced colorectal cancer	39%	1%	35%	58%	7%	44%	8%	1%
NATPARA	For control of hypocalcemia along with calcium and vitamin D in adults with hypoparathyroidism	79%	<1%	2%	96%	2%	6%	<1%	<1%
NINLARO	Treatment of multiple myeloma	43%	2%	9%	85%	5%	58%	2%	<1%
NUCALA	For the treatment of a specific type of severe asthma (called eosinophilic phenotype asthma)	59%	3%	11%	85%	<1%	9%	10%	3%
ODOMZO	Treatment of locally advanced basal cell carcinoma	37%	<1%	0%	94%	6%	54%	34%	23%
ORKAMBI	Treatment of cystic fibrosis	49%	0%	0%	99%	1%	0%	0%	0%
PORTRAZZA	For the treatment of metastatic squamous non-small cell lung cancer	17%	1%	8%	84%	8%	39%	4%	1%
PRALUENT	Treatment of certain patients with high cholesterol	40%	4%	3%	90%	3%	32%	6%	<1%
PRAXBIND	Reversal of the anticoagulant effects of Pradaxa during emergency situations or when there is a need to reverse its blood-thinning effects.	47%	<1%	7%	85%	7%	90%	60%	44%

Table 2. All Drug Approvals (2015) *continued*

BRAND NAME	INDICATION	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER	AGE 65 and OLDER	AGE 75 and OLDER	AGE 80 and OLDER
REPATHA††	Treatment of certain patients with high cholesterol	50%	5%	9%	84%	2%	28%	3%	<1%
REPATHA‡‡	Treatment of certain patients with high cholesterol	49%	0%	4%	90%	6%	0%	0%	0%
REXULTI	Treatment of schizophrenia	37%	24%	7%	63%	6%	<1%	0%	0%
REXULTI	Treatment of major depressive disorder	69%	12%	<1%	85%	2%	<1%	0%	0%
SAVAYSA	Reduction of risk of venous thromboembolism (VTE) in patients with previous VTE	43%	4%	21%	70%	5%	33%	13%	6%
SAVAYSA	Prevention of stroke in patients with atrial fibrillation	38%	1%	14%	81%	4%	74%	40%	17%
STRENSIQ(^)	Treatment of perinatal, infantile and juvenile-onset hypophosphatasia (HPP)	52%	0%	9%	81%	10%	0%	0%	0%
STRENSIQ(^ ^)	Treatment of perinatal, infantile and juvenile-onset hypophosphatasia (HPP)	50%	0%	0%	95%	5%	0%	0%	0%
TAGRISO	Treatment of patients with advanced non-small cell lung cancer (NSCLC)	68%	<1%	60%	36%	3%	45%	13%	4%
TRESIBA*	To improve glucose control in adults with diabetes mellitus	44%	1%	16%	80%	2%	7%	<1%	<1%
TRESIBA**	To improve glucose control in adults with diabetes mellitus	44%	7%	21%	70%	2%	24%	3%	<1%

†† Clinical Trial of heterozygous familial hypercholesterolemia (HeFH) Patients

‡‡ Clinical Trial of homozygous familial hypercholesterolemia (HoFH) Patients

(^) Clinical Trial of Perinatal/Infantile-Onset HPP patients only

(^ ^) Clinical Trial of Juvenile-Onset HPP patients only

*Clinical Trial of Type 1 DM patients only

**Clinical Trial of Type 2 DM patients only

Table 2. All Drug Approvals (2015) *continued*

BRAND NAME	INDICATION	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER	AGE 65 and OLDER	AGE 75 and OLDER	AGE 80 and OLDER
UNITUXIN	Treatment of children with high-risk neuroblastoma	40%	7%	3%	82%	8%	N/A	N/A	N/A
UPTRAVI	For the treatment of adults with pulmonary artery hypertension	80%	2%	21%	75%	2%	18%	1%	<1%
VARUBI	To prevent delayed phase chemotherapy-induced nausea and vomiting	60%	2%	14%	75%	9%	26%	5%	1%
VELTASSA	Treatment of hyperkalemia	39%	<1%	<1%	99%	<1%	61%	21%	4%
VIBERZI	Treatment of irritable bowel syndrome with diarrhea	66%	12%	1%	86%	2%	10%	6%	<1%
VRAYLAR	Treatment of schizophrenia	28%	34%	17%	43%	6%	<1%	0%	0%
VRAYLAR	Treatment of bipolar disorder	41%	25%	24%	49%	2%	<1%	0%	0%
XURIDEN	Treatment of patients with hereditary otrotic aciduria	25%	0%	0%	100%	0%	N/A	N/A	N/A
YONDELIS	Treatment of certain types of advanced tissue sarcoma	70%	12%	4%	76%	8%	22%	3%	<1%
ZURAMPIC	For lowering uric acid levels in the blood of adult patients with gout	4%	12%	6%	78%	5%	13%	3%	<1%

Therapeutic Areas 2015

For three groups of diseases (mental health, oncology, and cardiovascular health) there were multiple drugs approved in 2015. More insight in demographics for these approvals is provided below in Tables 3, 4, and 5.

Table 3. Mental Health Drug Approvals (2015)

BRAND NAME	INDICATION	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER	AGE 65 and OLDER	AGE 75 and OLDER	AGE 80 and OLDER
ARISTADA	Schizophrenia	32%	40%	13%	47%	<1%	0%	0%	0%
REXULTI	Schizophrenia	37%	24%	7%	63%	6%	<1%	0%	0%
REXULTI	Major Depressive Disorder	69%	12%	<1%	85%	2%	<1%	0%	0%
VRAYLAR	Schizophrenia	28%	34%	17%	43%	6%	<1%	0%	0%
VRAYLAR	Bipolar disorder	41%	25%	24%	49%	2%	<1%	0%	0%

Table 4. Oncology Drug Approvals (2015)

BRAND NAME	INDICATION	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER	AGE 65 and OLDER	AGE 75 and OLDER	AGE 80 and OLDER
IBRANCE	Breast cancer	100%	1%	6%	90%	3%	46%	9%	3%
YONDELIS	Advanced soft tissue sarcoma	70%	12%	4%	76%	8%	22%	3%	<1%

Table 4. Oncology Drug Approvals (2015) *continued*

BRAND NAME	INDICATION	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER	AGE 65 and OLDER	AGE 75 and OLDER	AGE 80 and OLDER
TAGRISSO	Lung Cancer (T790M+, NSCLC)	68%	<1%	60%	36%	3%	45%	13%	4%
ALECENSA	Metastatic NSCLC	55%	2%	18%	74%	7%	14%	4%	<1%
LENVIMA	Thyroid cancer	49%	2%	18%	79%	<1%	40%	10%	4%
FARYDAK	Multiple Myeloma & other cancers	48%	3%	33%	63%	1%	35%	5%	0%
DARZALEX	Multiple Myeloma	46%	10%	6%	76%	8%	45%	10%	3%
NINLARO	Multiple Myeloma	43%	2%	9%	85%	5%	58%	2%	<1%
COTELLIC	Melanoma	42%	N/A	N/A	93%	7%	27%	9%	3%
EMPLICITI	Multiple Myeloma	40%	4%	10%	84%	2%	57%	20%	7%
UNITUXIN	Neuroblastoma	40%	7%	3%	82%	8%	N/A	N/A	N/A
LONSURF	Advanced metastatic colorectal cancer	39%	1%	35%	58%	7%	44%	8%	1%
ODOMZO	Advanced basal cell carcinoma (BCC)	37%	<1%	0%	94%	6%	54%	34%	23%
PORTRAZZA	Metastatic squamous non-small cell lung cancer (NSCLC)	17%	1%	8%	84%	8%	39%	4%	1%

Table 5. Cardiovascular Drug Approvals (2015)

BRAND NAME	INDICATION	WOMEN	AFRICAN AMERICAN	ASIAN	WHITE	OTHER	AGE 65 and OLDER	AGE 75 and OLDER	AGE 80 and OLDER
UPTRAVI	Pulmonary arterial hypertension	80%	2%	21%	75%	2%	18%	1%	<1%
REPATHA*	Hypercholesterolemia	50%	5%	9%	84%	2%	28%	3%	<1%
REPATHA**	Hypercholesterolemia	49%	0%	4%	90%	6%	0%	0%	0%
PRAXBIND	Reversal of the anticoagulant effects of Pradaxa during emergency situations or when there is a need to reverse its blood-thinning effects.	47%	<1%	7%	85%	7%	90%	60%	44%
SAVAYSA	Reduce risk of pulmonary embolism in VTE patients	43%	4%	21%	70%	5%	33%	13%	6%
PRALUENT	Hyperlipidemia	40%	4%	3%	90%	3%	32%	6%	<1%
SAVAYSA	Reduce the risk of stroke in a Afib patients	38%	1%	14%	81%	4%	74%	40%	17%
KENGREAL	Blood thinner following heart procedure	28%	3%	3%	94%	<1%	48%	18%	8%
CORLANOR	Heart failure	24%	1%	8%	89%	2%	38%	11%	3%
ENTRESTO	Heart failure	22%	5%	18%	66%	11%	49%	19%	7%

* Clinical Trial of HeFH Patients

** Clinical Trial of HoFH Patients

DRUG TRIALS SNAPSHOTS



The data below were calculated from Google Analytics and highlights the total number of page views, unique visitors, and average time spent on all Drug Trials Snapshots pages.

Snapshots Website Highlights:

- Over **235,946** people visited the site since launch of the website
- These people generated **277,555** visits to the site (some came more than once)
- Average of **10,000** visits per month
- The average visit lasted **2:13 minutes**
- The top 5 Snapshots visited were **Jublia, Lonsurf, Savaysa, Kybella, and Cosentyx**

Visitors by Geographic Location:

The data below was calculated from Google Analytics, measuring Geographic Locations of visitors coming to the Drug Trials Snapshots.³

- Almost **70%** of visitors (115,407 sessions) are from the **United States**:
 - Top 5 Cities in the United States:
 - Silver Spring, MD (8%)
 - Seattle, WA (4%)
 - Denver, CO (2%)
 - Washington, DC (2%)
 - New York, NY (2%)

3. These data are based on a 0.15% subset of the entire traffic and reporting data of users coming to the Drug Trials Snapshots. It is measured in sessions, a group of interactions that take place on your website within a given time frame. For example a single session can contain multiple screen or page views, events, social interactions, and ecommerce transactions. By default, a session lasts until there's 30 minutes of inactivity.



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