TRENDS-in-MEDICINE

December 4, 2011

by Lynne Peterson

Quick Takes

…Highlights from this week's news relating to drugs and devices in development that are not covered in other *Trends-in-Medicine* reports…

Trends-in-Medicine
Stephen Snyder, *Publisher*
2731 N.E. Pinecrest Lakes Blvd.
Jensen Beach, FL 34957
772-334-7409
Fax 772-334-0856
www.trends-in-medicine.com
TrendsInMedicine@aol.com

SHORT TAKES

- **AFFYMETRIX** is buying **eBioscience**.
- **AMARIN's AMR-101 (omega-3 fish oil EPA) –** The FDA is reviewing this fish oil competitor to **GlaxoSmithKline's Lovaza** (omega-3 fish oil DHA/EPA), which is sold by **Abbott** outside the U.S. except in Japan, where it is marketed by **Takeda**. The PDUFA date is July 26, 2012.
- **AMGEN's Enbrel (etanercept) –** This rheumatoid arthritis therapy was due to go off patent in October 2012, but the Patent Office issued a new patent that could delay a biosimilar for another 17 years – until November 22, 2028.
- **BIOMARIN PHARMACEUTICAL –** The FDA approved the expansion of the Novato CA manufacturing facility where the company makes several of its drugs as well as BMN-110, a drug in development to treat Morquio A Syndrome, a genetic disease that causes shortness and skeletal and joint problems.
- **BOEHRINGER INGELHEIM's Pradaxa (dabigatran) –** In a letter to the editor of the ***New England Journal of Medicine***, Bryan Cotton, MD, and colleagues urged the FDA to encourage more trials of this anticoagulant to assess its effects. They complained, "There's no real way to reverse the anti-clotting effect of the drug, unlike older agents such as warfarin…[And dabigatran] has other problems in addition to the irreversibility…namely that there are no readily available tests to assess how well it's working or not working."
- **Breast cancer –** Researchers at Methodist Cancer Center are studying whether adding a generic antimalarial drug, chloroquine, to standard chemotherapy will stop the spread of metastatic breast cancer. They plan to enroll 47 patients in a 6-month trial.
- **BRISTOL-MYERS SQUIBB's Eliquis (apixaban)** was given priority review by the FDA to prevent strokes in atrial fibrillation patients. The PDUFA date is March 28, 2012.
- **Buprenorphine –** A 110-patient study by Iranian researchers, published in the ***Annals of Emergency Medicine***, found emergency room patients with a fracture who were given sublingual buprenorphine had similar pain relief as patients receiving IV morphine, and safety was similar. At both 30 and 60 minutes, pain scores were exactly the same.
- **CYTOKINETICS' CK-2017357 –** The company reported that this investigational therapy for amyotrophic lateral sclerosis (ALS) didn't cause serious side effects in a Phase II trial, though there was mild dizziness in some of the 24 patients in the trial.

- **EDWARDS LIFESCIENCES' Sapien** – The results of the transapical continued access protocol (CAP) for this transcatheter aortic valve will be presented as a late-breaking trial at the Society of Thoracic Surgery meeting in January 2012.

- **Electronic health records (EHRs)** – The percentage of physicians who have adopted an EHR has doubled over the past three years, according to a new report from the Centers for Disease Control and Prevention's National Center for Health Statistics, from 17% in 2008 to 33% in 2011. *But that's still a minority of doctors.*

- **EXELIXIS' cabozantinib** – The company signed a Cooperative Research and Development Agreement (CRADA) with the National Cancer Institute's Cancer Therapy Evaluation Program (CTEP) for further evaluation of cabozantinib in a variety of solid tumors, comparing the efficacy to other VEGFR inhibitors and studying the mechanism of action, in adults and children. Exelixis will continue to pursue prostate and medullary thyroid cancer.

- **GILEAD's Viread (tenofovir)** – A trial in Uganda and Zimbabwe of a gel preparation of tenofovir as an HIV preventive therapy for women was stopped after researchers said it did not work. A previous trial in South Africa had been positive.

- **GRACEWAY PHARMACEUTICALS**, which makes skin treatments and asthma medications, is selling its assets to **Medicis Pharmaceutical**, which in turn is being bought by **Solta Medical**.

- **Hip implants** – A retrospective study of 3,139 hip implant patients from 18 trials, published in the ***British Medical Journal*** (BMJ), found newer metal-on-metal or ceramic-on-ceramic hip implants do not improve functioning, quality of life, or the revision rate vs. traditional polyethylene implants. The study was conducted by researchers at Weill Cornell Medical College and was funded by the FDA's Center for Devices and Radiological Health (CDRH).

- **HORIZON PHARMA's Lodotra (low dose prednisone)** – The company said the FDA accepted the application for this rheumatoid arthritis treatment. The PDUFA date is July 26, 2012.

- **JOHNSON & JOHNSON/TIBOTEC** and **BRISTOL-MYERS SQUIBB** are collaborating on interferon-free combinations to treat hepatitis C virus (HCV). The collaboration includes a 12- and 24-week Phase II study scheduled to start in 1H12 of the combination of TMC-435 and daclatasvir (BMS-790052), an NS5A replication complex inhibitor, plus ribavirin with/without pegylated interferon in genotype 1 patients.

- **MACROGENICS' MGA-271** – **Servier** signed a deal that gives it an option to license (for sales outside the U.S., Japan, Canada, Mexico, Korea, and India) this antibody, which is in Phase I development in cancer.

- **MERCK and SANOFI's Gardasil** – The U.K. government is abandoning **GlaxoSmithKline's Cervarix** HPV vaccine and switching to Gardasil because it protects against more strains of HPV.

- **NEUROS MEDICAL's Electrical Nerve Block** – The company got FDA approval to begin an ~3-month pilot trial in up to 20 patients of this neurostimulation device to sensitize nerves and prevent pain from amputations without the need for drugs.

- **ONYX PHARMACEUTICALS' carfilzomib** – The FDA accepted the application for this multiple myeloma treatment, but the length of the review is not yet known, so the PDUFA date is not yet set. In addition, Onyx reportedly is considering a possible sale of the company.

- **Opioids** – The ***St. Petersburg Times*** reported CVS pharmacies have told "a small number" of Florida doctors that the pharmacy no longer will fill their opioid prescriptions. In a letter sent to a Florida pain specialist, CVS said it "has become increasingly concerned with escalating reports of prescription drug abuse in Florida, especially oxycodone abuse" and "regrets any inconvenience that this action may cause."

- **ORASURE TECHNOLOGIES' OraQuick HCV Rapid Antibody Test**, a fingerstick test for hepatitis C, was granted a CLIA waiver. This is the first FDA-approved rapid HCV test. Under a collaboration agreement, **Merck** will market the test to physician offices.

- **ROCHE/GENENTECH's Avastin (bevacizumab)** – Health Canada revoked approval of Avastin for metastatic breast cancer, following the FDA's lead.

- **SELECTA BIOSCIENCES' SEL-068** – A Phase I trial is beginning in healthy, non-smoking and smoking volunteers of this nanoparticle nicotine vaccine that works by training the immune system to capture nicotine molecules in the bloodstream and prevent them from entering the brain.

- **SIGA TECHNOLOGIES** – Sen. Claire McCaskill (D-MO) asked the Department of Health and Human Services' inspector general to investigate the sole-source contract given to Siga to supply the strategic national stockpile with 1.7 million doses of smallpox vaccine over five years. Sen. McCaskill is questioning both the cost and the propriety of the sole-source agreement.

- **SUMMIT's SMT C1100**, a small-molecule drug for Duchenne muscular dystrophy, was granted orphan drug status by the FDA.
- **SYNTHES** – Three former executives were sentenced to jail over the promotion of unapproved uses of the company's bone cement. The former president and the chief operating officer of its spine unit were each ordered to serve nine months, and the company's former head of regulatory and clinical affairs was given five months behind bars.
- **TRANSCEPT PHARMACEUTICALS' Intermezzo (zolpidem) – Purdue Pharma** exercised its option for the U.S. rights to this middle-of-the-night insomnia drug.
- **WALGREENS** has acquired and closed three pharmacies in St. Louis MO from Williams Community Pharmacies, with no advance notice to customers. The company has said it has no plans to operate stores in those locations. Customers' electronic prescription records have been transferred to the Walgreens database, and customers are being referred to nearby locations.

NEWS IN BRIEF

AMGEN's Xgeva (denosumab) – ONJ risk higher in some cancers

A retrospective analysis of 5,700 patients, reported at the International Conference on Cancer-Induced Bone Disease, found that the incidence of osteonecrosis of the jaw (ONJ) is infrequent in cancer patients who take Xgeva to prevent bone metastases – 2% vs. 1.4% with Novartis' Zometa (zoledronic acid). However, the ONJ rate with Xgeva appeared to increase over time in some subgroups, particularly breast and prostate cancer patients, but remained constant with Zometa. Overall, breast and prostate cancer patients had a 60% greater risk of ONJ with Xgeva than Zometa (p=0.04).

The increased potency of zoledronic acid vs. other bisphosphonates has been suggested as a potential contributor to a higher osteonecrosis of the jaw risk, as has the duration of bisphosphonate exposure or cumulative dose, they added. The researchers urged international prospective registries for patients treated with either Zometa or Xgeva to document exposure, risk factors, and treatment.

BIOGEN IDEC's Zenapax (daclizumab) – positive MS data

A study published in the journal ***Neurology*** found multiple sclerosis patients treated with this monoclonal antibody had a statistically significant 87.6% reduction in GD+ brain lesions at 54 weeks. Researchers from the National Institute of Neurological Disorders and Stroke concluded that large studies will be needed to evaluate the long-term efficacy and safety and to compare it to other MS drugs.

GILEAD's Viread (tenofovir) – kidney risk

A retrospective study of 10,814 HIV-positive veterans, presented at the American Society of Nephrology's Kidney Week, found this HIV treatment increases the risk of kidney disease, and the risk does not go away when the drug is discontinued. The researchers found each year of exposure to Viread is associated with a 34% increased risk of proteinuria, an 11% increased risk of rapid decline, and a 23% risk of chronic kidney disease.

Interleukin-2 – may work in HCV and GVHD

Two studies published in the ***New England Journal of Medicine*** suggested this immunotherapy may have utility:

- A 10-patient study found this immunotherapy appeared safe and increased the proportion of regulatory T cells (Tregs) in all patients with HCV-induced vasculitis and improved the vasculitis symptoms in eight of the patients, with few side effects.
- Another study found daily low-dose injections of IL-2 appeared to help some patients by treating graft-versus-host disease (GVHD). In this study, 12 of 23 patients taking the drug for eight weeks showed improvement in symptoms related to GVHD, including skin rash and other skin problems, hepatitis, and lung inflammation.

JOHNSON & JOHNSON/ETHICON ENDO-SURGERY's Sedasys – the company makes peace with the FDA

J&J settled its dispute with the FDA, which refused to approve this sedation device for delivering propofol during colonoscopies and endoscopies, and withdrew its request for a dispute resolution panel, which had been scheduled for December 14, 2011.

The FDA's Anesthesiology and Respiratory Therapy Devices Advisory Committee recommended approval in 2009 but rejected it in 2010. J&J appealed to FDA Commissioner Margaret Hamburg, MD, who granted the hearing before the dispute resolution panel.

The FDA's CDRH agreed to reopen the premarket approval (PMA) application and "review it expeditiously." The company said it is optimistic that it now has "a path forward that will allow us to bring this important innovation to market."

NOVARTIS

- **Afinitor (everolimus).** A Phase III trial published in the ***Lancet*** found adding everolimus to a somatostatin analog improved progression-free survival (PFS) in patients with advanced neuroendocrine tumors. Researchers found a 23% decrease in PFS with the combination, but placebo patients' crossovers made an overall survival analysis impossible.
- **Delivery issues.** Stopped deliveries to a second German wholesaler, **Phoenix Pharmahandel GmbH** – Germany's largest drug wholesaler – over a pricing disagreement.

Radiation sickness – hints of an effective therapy

A mouse study, published in the journal ***Science Translational Medicine***, found a combination of an antibiotic and a synthetic version of the human infection-fighting protein BPI prevented death from radiation exposure. Only 20% of the mice given the 2-drug combination (even as long as 24 hours after exposure) died from radiation sickness vs. 95% not given the drugs.

The researchers said the mice that received both drugs not only had higher survival rates than those receiving one or no drugs, but they also began generating new blood cells more quickly.

REGULATORY NEWS

CMS to increase cardiology and orthopedic audits

Local Medicare carriers in 11 states plan to start doing pre-payment audits of 100% of all inpatient hospital stays relating to 15 cardiovascular and orthopedic procedures (DRGs) as of January 1, 2012. This means that all inpatient stays with the affected DRGs will not be paid during the medical record review, which can take 30-60 days. The carriers want to see that there is documentation that the procedures were truly medically necessary. If not, the hospital will not get paid for the procedure.

The 11 states are California, Florida, Illinois, Louisiana, Michigan, Missouri, New York, North Carolina, Ohio, Pennsylvania, and Texas. The targeted DRGs include:

- cardiac pacemakers
- ICDs
- drug-eluting stents
- cardiac caths not done for an acute MI
- spinal fusions
- total joint replacements (hips and knees)
- neurostimulation for the back and neck

The risk of not getting paid should make hospitals nervous and put downward pressure on the volume of these procedures.

FDA seeks input on microbiology devices

The FDA is asking for additional input on its proposed guidelines for reviewing medical countermeasure diagnostic and highly multiplexed microbiology devices. The proposal, which covers areas such as clinical applications, evaluation methods, and reference databases, will be up for comment through December 21, 2011.

FDA issues "flexible" guidelines for artificial pancreas

The FDA issued draft guidance designed to spur development of, and approval for, artificial pancreas device systems – a combination of a continuous glucose monitor (CGM) and an insulin pump – to treat Type 1 diabetes. The guidance is a bit vague and amorphous, but the FDA stressed that this is because it is designed to be flexible with respect to trial endpoints, the number of patients required, and the study length.

Interestingly, the guidance was directed not just at industry but also at academicians. The FDA is asking for public comments on the draft guidance.

Among the other recommendations in the guidance are:

- A three-phase clinical study progression, but the FDA is hopeful that some systems can move quickly from the hospital setting to outpatients.
- Allowing companies to leverage existing safety and effectiveness data.
- Permitting use of studies conducted outside the U.S.
- Showing either comparable or better glycemic control vs. standard therapies.
- Allowing CGM to be a valid endpoint.
- Having at least one CGM in the system.

The FDA said an artificial pancreas could be a **treat-to-range** system that would adjust insulin dosing if a person's glucose level approached a low or high threshold or a **treat-to-target** system that would set target glucose levels and try to achieve these levels at all times.

Charles "Chip" Zimliki, PhD, leader of the FDA's Artificial Pancreas Working Groups and Critical Path Initiative, told reporters that he's been a Type 1 diabetic for 27 years and he

promised a congressional committee that the FDA would deliver draft guidance by December 1, 2011, adding, "I am happy to report that FDA has delivered on that promise…The data we are seeing is very encouraging…and we think this guidance will let people get to the next phase."

Dr. Zimliki said he couldn't estimate how long it will be before an artificial pancreas is approved in the U.S., "That is the million dollar question…The Agency's job is to develop a pathway, and we made this one of the highest priorities…We really don't know the actual time line, but we encourage it to happen as soon as possible."

Asked when clinical trials are likely to reach the outpatient setting, Dr. Zimliki said, "right now, the Agency has approved more than 20 clinical studies for artificial pancreas systems…This guidance provides a clear path forward to go from clinical research center settings to an outpatient setting. It is really dependent on how well academia and industry can outline the concerns in this guidance. I think it is pretty simple to do that."

Asked how many patients will need to be studied, Dr. Zimliki said, "There are no numbers associated with it. It depends on the device design and the justification the company provides that they need to get to the final pivotal study. We want to be open to the number of patients and how long they need to be evaluated…The number will be based on the device design. We will not give an actual number because it is really dependent on how they develop [it]…We don't envision this being [an] enormously large [number]…And we hope hospital information will be able to be translated to outpatients."

Asked about the rather vague nature of the guidance, Dr. Zimliki said, "This is pretty novel guidance. Typically, guidance is after a device is approved. This is one of the few [guidances] that has been written before a device has gone through the regulatory process. This is our best guess of what will be needed. We have recommended endpoints, but…because of the novelty and the fact that they are continually being developed, changed, and modified, we couldn't be proscriptive. We really had to have flexibility. We encourage people to look at them [the recommendations], but if they want to do something else, they need to explain it to us…Here are the recommendations, but if you have other ways, please come talk to us."

Asked if one CGM would be sufficient, Dr. Zimliki said, "We believe there should be at least one CGM, and we leave it to the companies to determine the best approach to deal with errors associated with CGMs. We have to show these are safe and effective and actually work. Because of the novelty, we are going to leave that up to the investigators and academicians. But this guidance does propose at least a single CGM. It doesn't require or recommend two CGMs. We think there is a role for CGM because it is the only device that can continually measure glucose. This is an invaluable tool…We recommend some ways to use CGM to account for the inaccuracies in the CGM."

Asked if CGMs and pumps have to be designed together as a system or if a system can be a mix and match, Dr. Zimliki said, "These are Class III PMAs, and we really need to study these systems. One of the things the guidance encourages is you can make tweaks or changes based on a scientific justification…in accordance with every submission in CDRH. It doesn't necessarily require a new clinical study…We expect these things will evolve iteratively, and we have to allow this innovation to occur, so we developed the guidance to account for that."

Asked why the Agency issued the guidance before the first device, Dr. Zimliki said, "We felt like it was a good idea to give academicians and people not familiar with the regulatory process at least a pathway to develop these systems…We really are trying to get these devices to market as quickly as possible, and we felt this approach could show them the path."

FDA approvals/clearances

- **APPLIED MEDICAL TECHNOLOGY's Low-Profile Transgastric-Jejunal Feeding Tube Kit**, which is used to administer liquid nutrients to the middle part of the small intestine, received 510(k) clearance.
- **BOSTON SCIENTIFIC's Incepta, Energen,** and **Punctua** cardiac resynchronization therapy defibrillators (CRT-Ds) and implantable cardioverter defibrillators (ICDs) were approved.
- **COVIDIEN's SpiderFX**, an embolic protection device for peripheral artery disease procedures, received 510(k) clearance.
- **GE HEALTHCARE's Centricity Radiology Mobile Access 2.0** imaging application received 510(k) clearance. It is designed to work with Apple iOS and Android devices to give users remote access to MRI and CT scans.
- **ROYAL PHILIPS ELECTRONICS' Ingenuity** PET/MRI system received 510(k) clearance.
- **SIEMENS HEALTHCARE's Safire**, an iterative image reconstruction system, was granted 510(k) clearance.
- **ST. JUDE MEDICAL's Unify Quadra CRT-D device** and **Quartet quadripolar** (Quad-Pole) left ventricular pacing lead were approved.

Asian regulatory actions

- **CYNOSURE's Cellulaze** laser work station for cellulite reduction was approved in Korea.
- **STAAR SURGICAL's Visian Toric** implantable collamer lens was approved in Japan.

European regulatory actions

- **ALEXION PHARMACEUTICALS' Soliris (eculizumab)** was approved for both children and adults as a treatment for atypical hemolytic uremic syndrome (aHUS).
- **BIOTRONIK's Lumax 740**, an advanced cardiac defibrillator with a feature to allow patients implanted with the device to undergo MRI scans, received a CE Mark.
- **BRISTOL-MYERS SQUIBB** and **ASTRAZENECA's Kombo-glyze (saxagliptin + metformin)** was approved.
- **GILEAD's Eviplera**, a combination of **Truvada** (emtricitabine + tenofovir) and **JOHNSON & JOHNSON/ TIBOTEC's Edurant** (rilpivirine), was approved for the treatment of HIV. The FDA approved it in August 2011 as Complera.
- **MINVASYS' Danubio**, a drug-coated balloon for coronary artery disease, received a CE Mark.
- **NOVARTIS' Rasitrio (aliskiren, hydrochlorothiazide, and amlodipine)**, a 3-in-1 pill for high blood pressure (Amturnide in the U.S.), was approved.
- **ROCHE's cobas EGFR Mutation Test** for personalized treatment of non-small cell lung cancer received a CE Mark.

U.K.'s National Institute for Health and Clinical Excellence (NICE) actions

- **Blacklisting** – The U.K.'s ***Telegraph*** reported general practitioners in that country are being told by primary care trusts (PCTs) not to use at least 14 drugs – already approved by NICE and that have been proven to prevent MIs, stroke, and cancer – in order to save money. The PCTs counter that all of these drugs have alternatives in the same class that are either cheaper or have better effectiveness data.
- **BRISTOL-MYERS SQUIBB's Eliquis (apixaban)** – NICE recommended coverage of this anticoagulant for prevention of venous thromboembolism (VTEs) after joint replacement surgery.
- **CAREFUSION's PleurX** peritoneal catheter drainage device was recommended for coverage.
- **COVIDIEN's Pipeline**, a device for the treatment of complex or large intracranial aneurysms, earned NICE's recommendation.
- **NOVARTIS' Gilenya (fingolimod)**, an oral therapy for MS, failed for a second time to get a recommendation from NICE, which said the company failed to show it would be cost-effective, even with a proposed discount.
- **NOVARTIS' Lucentis (bevacizumab)** – In preliminary guidance, NICE rejected expanding use of this VEGF inhibitor to include patients with macular edema caused by retinal vein occlusion, saying there were "gaps and uncertainties" in the data on its effectiveness.
- Three drugs for second-line advanced colon cancer were rejected as not meeting the "criteria to help people facing the end of their lives":
  - **AMGEN's Vectibix (panitumumab)**
  - **MERCK KGAA's Erbitux (cetuximab)**
  - **ROCHE's Avastin (bevacizumab)**

Upcoming FDA Advisory Committees and Other Regulatory Meetings of Interest (*items in RED are new since last week*)		
Date	**Topic**	**Committee/Event**
	December 2011	
December tba	**Allergan's brimonidine tartrate intravitreal implant** – Phase II trial in dry AMD to be completed	Company announcement or medical conference presentation
December 5	Using scientific research data to support a **pediatric medical device claim**	FDA public workshop
December 7	**Pfizer's Inlyta** (axitinib) for advanced renal cell carcinoma and **Affymax's peginesatide injection** for anemia in chronic renal failure dialysis patients	FDA's Oncologic Drugs Advisory Committee (ODAC)
December 7	Expanding the indication for **Medtronic's CRT-D devices** to symptomatic NYHA Class II patients with LBBB, QRS ≥120 ms, and LVEF ≤30%	FDA's Circulatory System Devices Advisory Committee
December 8	**CardioMEMS' CardioMEMS HF Pressure Measurement System**, a permanently implantable pulmonary arterial pressure measurement system	FDA's Circulatory System Devices Advisory Committee
December 8	**Antares Pharma's Anturol** (transdermal oxybutynin ATD gel) for OAB	PDUFA date
December 8	**Bayer's Yaz, Yasmin, and Beyaz** (drospirenone) blood clot safety review	FDA's Reproductive Health Drugs and Drug Safety and Risk Management Advisory Committees meeting jointly
December 9	**Johnson & Johnson/Janssen's Ortho Evra** (norelgestromin/ethinyl estradiol transdermal system) blood clot safety review	FDA's Reproductive Health Drugs and Drug Safety and Risk Management Advisory Committees meeting jointly
December 12	**Alexza Pharmaceuticals' Adasuve** (loxapine inhalation powder) for the acute treatment of agitation associated with schizophrenia or bipolar I disorder in adults. Pulmonary safety is the key concern.	FDA's Psychopharmacologic Drugs Advisory Committee
December 13	**Endo Pharmaceuticals' Opana** (extended-release oxymorphone) for pain	PDUFA date
	January 2012	
January	**Pfizer's Prevnar 13** (PCV13), a pneumococcal vaccine for adults	PDUFA date
January 3	**Medical device labeling** feedback is sought	FDA deadline for public comment
January 11	**Torax Medical's LINX Reflux Management System** to treat the symptoms associated with gastroesophageal reflux disease (GERD)	FDA's Gastroenterology and Urology Devices Advisory Committee
January 20	Efficacy of **Columbia Laboratories' progesterone gel 8%** to reduce the risk of preterm birth in women with short uterine cervical length	FDA's Reproductive Health Drugs Advisory Committee
January 28	**Bristol-Myers Squibb and AstraZeneca's dapagliflozin**, a first-in-class SGLT2 inhibitor for Type 2 diabetes	PDUFA date
January 28	**Eli Lilly, Amylin Pharmaceuticals and Alkermes' Bydureon** (weekly exenatide XR), an injectable drug for Type 2 diabetes	FDA decision date
	February 2012	
February	**Alcon's tandospirone** for dry AMD – Phase III final data expected	Company announcement or medical conference presentation
February 4	**Alexza Pharmaceuticals' Adasuve** (loxapine inhalation powder) for the acute treatment of agitation associated with schizophrenia/bipolar I disorder	PDUFA date
February 10	Possible reclassification of **cranial electrotherapy stimulator (CES) devices** to Class III (requiring a PMA)	FDA's Neurological Devices Advisory Committee
February 17	**Corcept Therapeutics' Corlux** (mifepristone) for Cushing's syndrome	PDUFA date
February 27	Review of evidence needed for approval of **anti-inflammatory ophthalmic drugs post-ocular surgery** and appropriateness of marketing a single bottle for use in both eyes post-surgery	FDA's Dermatologic and Ophthalmic Drugs Advisory Committee
February 28	**Pfizer's axitinib** for advanced renal cell carcinoma	PDUFA date (*approximate*)
	March 2012	
March tba	**Anti-nerve growth factor (NGF)** drug class safety review	FDA's Arthritis Advisory Committee – originally scheduled for September 13, 2011, but postponed indefinitely, now March 2012
March 6	**Discovery Labs' Surfaxin** (lucinactant) for infant respiratory disease	PDUFA date
March 7	**NeurogesX' Quetenza** (transdermal capsaicin) for HIV-related neuropathic pain	PDUFA date
March 8	**Roche/Genentech and Curis' vismodegib,** a Hedgehog pathway inhibitor for advanced basal cell carcinoma in adults for whom surgery is not an option	PDUFA date
March 27	**Affymax and Takeda's peginesatide** for anemia	PDUFA date
March 28	**Bristol-Myers Squibb's Eliquis** (apixaban) to prevent strokes in AFib	PDUFA date
March 28	**Chelsea Therapeutics' Northera** (droxidopa) for symptomatic neurogenic orthostatic hypotension with primary autonomic failure	PDUFA date
March 28	**Edwards Lifesciences' Sapien** transcatheter aortic valve	CMS expected to publish NCD decision memo

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Date	**Topic**	**Committee/Event**
	April 2012	
April 17	**Vivus' Qnexa** (phentermine + topiramate) for weight loss	PDUFA date for resubmission
April 25	**Takeda's alogliptin,** a DPP-4 for Type 2 diabetes	PDUFA date
April 26	**Amgen's Xgeva** (denosumab) for prevention/delay of bone metastases in prostate cancer	PDUFA date
April 27	**Salix Pharmaceuticals and Progenics Pharmaceuticals' Relistor** (methylnaltrexone injection) for opioid-induced constipation	PDUFA date
April 29	**Vivus' avanafil** for erectile dysfunction	PDUFA date
April 30	**Baxter and Halozyme's HyQ** for immunodeficiency	PDUFA date
	Other 2012	
June	**Forest Laboratories and Ironwood Pharmaceuticals' linaclotide** for IBS-C	PDUFA date
June 25	**QRxPharma's MoxDuo** (morphine + oxycodone)	PDUFA date
June 26	**Edwards Lifesciences' Sapien** transcatheter aortic valve	CMS final NCD expected
July 26	**Amarin's AMR-101** (omega-3 fish oil EPA) to treat hypertriglyceridemia	PDUFA date
July 26	**Horizon Pharma's Lodotra** (low-dose prednisone) for rheumatoid arthritis	PDUFA date
July 30	**Regeneron's Arcalyst** (rilonacept) for gout	PDUFA date
August	**Pfizer's tofacitinib,** an oral JAK2 inhibitor for rheumatoid arthritis	PDUFA date