



## by "The Max Elixirs"

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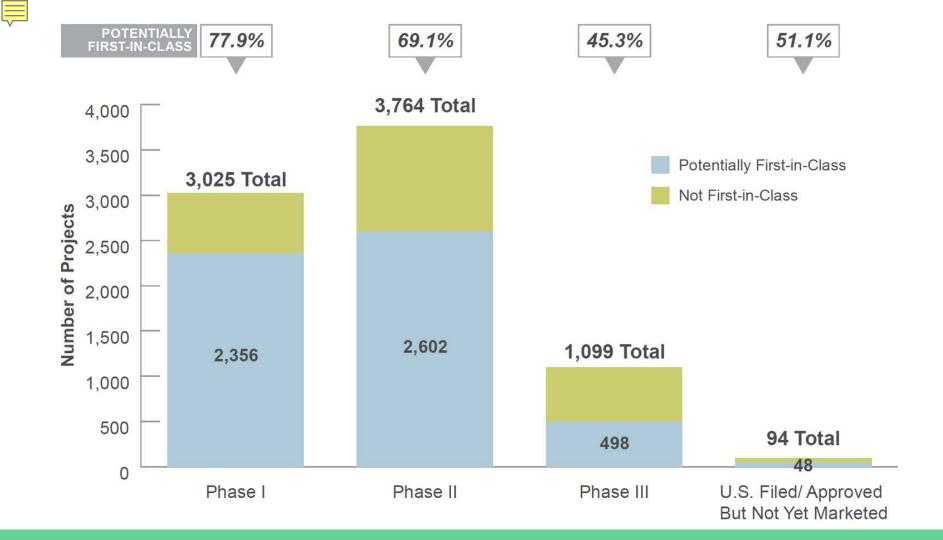


- A database to use as an everyday resource for healthcare professionals
- Integrated with current information and new tools
- Will include blood components, antibody and protein therapies.



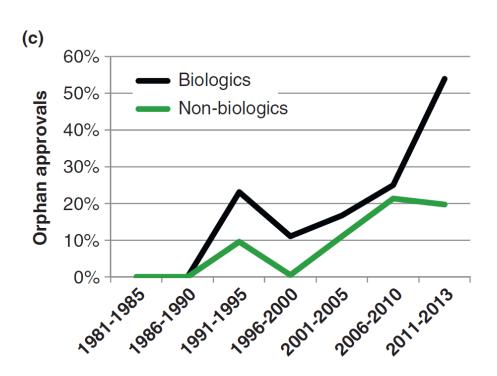
# FDA Priority Areas

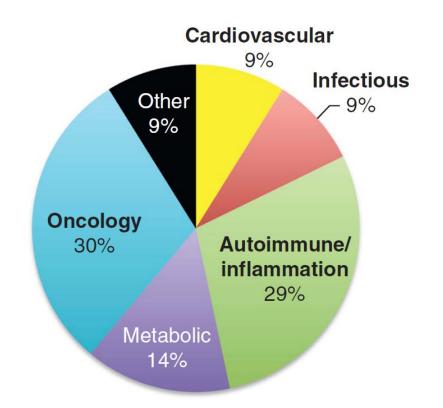
- Harness Diverse Data Through Information Sciences to Improve Health Outcomes
- Facilitate Development of Medical Countermeasures to Protect Against Threats to U.S. and Global Health and Security
  - Modernize tools to evaluate MCM product safety, efficacy, and quality
  - Enhance emergency communication
- Strengthen Social and Behavioral Science to Help Consumers and Professionals Make Informed Decisions about Regulated Products
  - Reach the audience
  - Ensure audience understanding





# **Biologics**









### **U.S. Food and Drug Administration**

Protecting and Promoting Your Health

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### Vaccines, Blood & Biologics

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### Spotlight

- What's New for Biologics
- Pregnancy and Lactation Labeling Final Rule
- Impact of Severe Weather Conditions on Biological Products
- Guidance for Industry:
   Enforcement Policy Regarding Investigational New Drug Requirements for Use of Fecal Microbiota for Transplantation to Treat Clostridium difficile Infection Not Responsive to Standard Therapies





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## Filgrastim - Neupogen/Zarxio

Colony Stimulating Factor

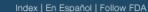






## Biosimilar Substitution

BLA STN	PRODUCT (PROPER) NAME	PROPRIETARY NAME	DATE OF LICENSURE	DATE OF FIRST LICENSURE (mo/day/yr)	REFERENCE PRODUCT EXCLUSIVITY EXPIRY DATE (mo/day/yr)	INTERCHANGEABLE (I)/ BIOSIMILAR (B)	WITHDRAWN
			(mo/day/yr)				
125118	abatacept	Orencia	12/23/05				
103575	abciximab	ReoPro	12/22/94	NA	NA		
125274	abobotulinumtoxinA	Dysport	04/29/09				
125057	adalimumab	Humira	12/31/02	NA	NA		
125427	ado-trastuzumab emtansine	Kadcyla	02/22/13				
125387	aflibercept	Eylea	11/18/11				
103979	agalsidase beta	Fabrazyme	04/24/03	NA	NA		
125431	albiglutide	Tanzeum	04/15/14				
103293	aldesleukin	Proleukin	05/05/92	NA	NA		
103948	alemtuzumab	Campath, Lemtrada	05/07/01	NA	NA		
25141	alglucosidase alfa	Myozyme	04/28/06				
25291	alglucosidase alfa	Lumizyme	05/24/10				
25559	alirocumab	Praluent	07/24/15				
03172	alteplase, cathflo activase	Activase	11/13/87	NA	NA		
03950	anakinra	Kineret	11/14/01	NA	NA		
25513	asfotase alfa	Strensig	10/23/15				
.01063	asparaginase	Elspar	01/10/78	NA	NA.		
25359	asparaginase erwinia chrysanthemi	Erwinaze	11/18/11				
.03764	basiliximab	Simulect	05/12/98	NA	NA NA		
03691	becaplermin	Regranex	12/16/97	NA	NA.		
25288	belatacept	Nulojix	06/15/11				
25370	belimumab	Benlysta	03/09/11				
25085	bevacizumab	Avastin	02/26/04				
125557	blinatumomab	Blincyto	12/03/14				
25388	brentuximab vedotin	Adcetris	08/19/11				
125319	canakinumab	Ilaris	06/17/09				
03608	capromab pendetide	ProstaScint	10/28/96	NA	NA.		
25160	certolizumab pegol	Cimzia	04/22/08				
25084	cetuximab	Erbitux	02/12/04				
01995	collagenase	Santyl	06/04/65	NA	NA		
25338	collagenase clostridium histolyticum	Xiaflex	02/02/10				
.03749	daclizumab	Zenapax	12/10/97	NA	NA.		Yes
61036	daratumumab	Darzalex	11/16/15				
.03951	darbepoetin alfa	Aranesp	09/17/01	NA	NA.		
.03767	denileukin diftitox	Ontak	02/05/99	NA	NA		
25320	denosumab	Prolia, Xgeva	06/01/10		1		
25516	dinutuximab	Unituxin	03/10/15				
03532	dornase alfa	Pulmozyme	12/30/93	NA	NA NA		
25469	dulaglutide	Trulicity	09/18/14		103		
25277	ecallantide	Kalbitor	12/01/09				
25166	eculizumab	Soliris	03/16/07				
25460	elosulfase alfa	Vimizim	02/14/14		1		
61035	elotuzumab	Empliciti	11/30/15				
.03234	epoetin alfa	Epogen/Procrit	06/01/89	NA	NA NA		
03795	etanercept	Enbrel	11/02/98	NA NA	NA NA		
25522	evolocumab	Repatha	08/27/15	NA.	INA.		
03353	filgrastim	Neupogen	02/20/91	NA	NA NA	<del>                                     </del>	
25553	filgrastim-sndz	Zarxio	03/06/15	NA.	INA	В	
25117	galsulfase	Naglazyme	05/31/05		+	В	





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# Filgrastim - Neupogen/Zarxio Biosimilar/Interchangeable

Neupogen - filgrastim

Injection

Reference Drug

Zarxio - filgrastim sndz

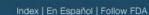
Injection

Biosimilar - Link Clinical Data



# **Medication Safety**

- Adverse Effects
- Contraindications
- Black Box Warnings
- REMS
- Monitoring







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## Aranesp - Darbepoetin alfa

Dear Health Care Provider

Program.

AMGEN janssen T Name Address City, State Zip [Date] Re: ACTION REQUIRED for Healthcare Providers (HCPs) who Prescribe ESAs (erythropoiesis stimulating agents) for Patients With Cancer Dear [Insert First Name] [Insert Last Name]. Our records indicate that you have recently been identified as an HCP at [Insert Clinic Name] and you may prescribe, or prescribe and dispense, ESAs to patients with cancer. In order to continue to obtain ESAs for patients with cancer, you must train and enroll in the ESA APPRISE Oncology Program no later than [insert 90 day enrollment date] or your access to ESAs will be suspended. You can take the training and enroll in the Program at www.esa-apprise.com. The FDA has determined that a Risk Evaluation and Mitigation Strategy (REMS) is necessary for ESAs to ensure that the benefits of these drugs outweigh the risks of shortened overall survival and/or increased risk of tumor progression or recurrence. As you may be aware, on 16 February 2010, the FDA approved a REMS for ESAs (Aranesp®, Epogen®/Procrit®) used to treat patients with cancer. The ESA APPRISE Oncology Program applies to HCPs who prescribe, or prescribe and dispense, and hospitals that dispense ESAs to patients with cancer. One of the key requirements of the ESA APPRISE Oncology Program is that

If our records are not accurate or if you have any questions regarding this letter, please contact your local Amgen or Janssen Products, LP Field Representative or call the ESA APPRISE Oncology Program Call Center at 1-866-284-8089 as soon as possible.

For oncology, ESAs are indicated for the treatment of anemia in patients with non-myeloid malignancies where

any HCP who prescribes, or prescribes and dispenses, ESAs for patients with cancer must train and enroll in the



### What materials are included in the REMS?

The REMS includes a REMS Document. In addition, the REMS includes the following materials intended for patients and healthcare providers:

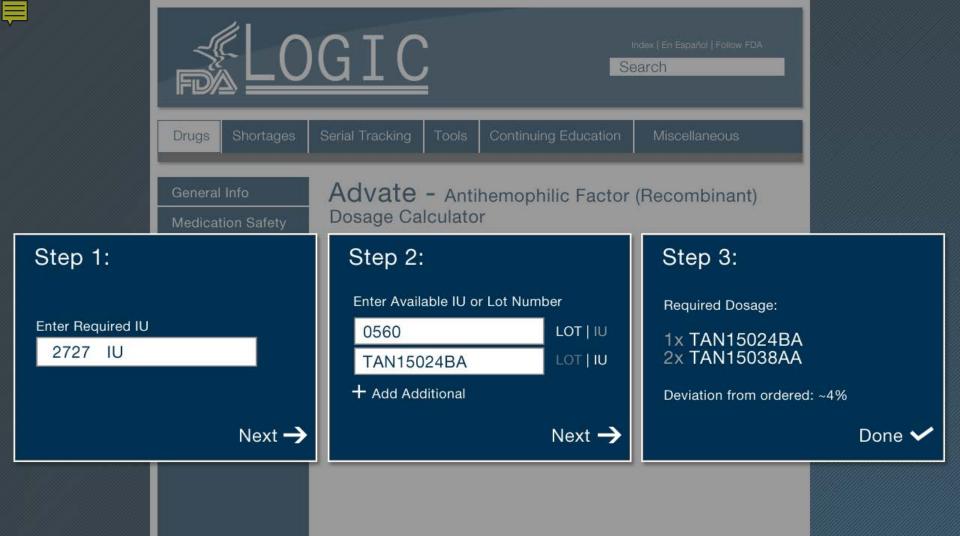
Download This List

Material Name	Category	Target Audience
Dear Healthcare Provider (DHCP) Letter to Directors of Pharmacy/ Administrators of Newly Identified Hospitals That Dispense ESAs to Patients With Cancer (PDF)	Communication	Dispenser
Dear Healthcare Provider (DHCP) Letter to Newly Identified HCPs who may Prescribe, or Prescribe and Dispense, ESAs for Patients with Cancer (PDF)	Communication	Prescriber
ESA APPRISE Oncology Program Enrollment Form for Healthcare Providers (PDF)	Enrollment	Prescriber
ESA APPRISE Oncology Program Enrollment Form for Hospitals (PDF)	Enrollment	Dispenser
ESA APPRISE Oncology Program Patient and Healthcare Provider Acknowledgment Form (PDF)	Enrollment, Practice Support	Patient, Prescriber
ESA APPRISE Oncology Program Training Module for Healthcare Providers (PDF)	Training	Prescriber
ESA APPRISE Oncology Program Training Module for Hospital Designees (PDF)	Training	Dispenser
ESA APPRISE Oncology Program Website Screenshot (PDF)	Communication	N/A
Guidelines for Acknowledgment Form Integration Within Healthcare Systems and Clinics (PDF)	Other	Dispenser
REMS document (PDF)		



# Drug Shortages and Next Availability

- Tab will show current biologic shortages from the FDA and ASHP websites
- "Reason for the Shortage" and "Estimated Resupply Date" will be displayed





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## Filgrastim Continuing Education Opportunities

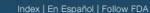


Academy of Managed Care Pharmacy® Continuing Education - Journal of Managed Care Pharmacy Pharmacoeconomics and Considerations for Injectable Products: Focus on Colony-Stimulating Factors



# Counterfeit drugs

- Strategic plan to decrease risk of counterfeit drugs entering US market and to protect consumers
- Use of current and emergent technologies to protect drug supply
  - Anti-counterfeit packaging
  - Serial numbers
  - RFID tags
- FDA-Logic will be a source of information for healthcare professionals and consumers to verify authenticity of medications







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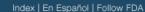
Medication Safety

**Patient Counseling** 

### Tools

Anti-counterfeiting Features Serial Tracking MedWatch BPD Report Botox - OnabotulinumtoxinA Counterfeit resistant packaging







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Anti-counterfeiting Features Serial Tracking

MedWatch BPD Report Botox - OnabotulinumtoxinA Serial Track and Trace

Scanned Serial Number: 123456789

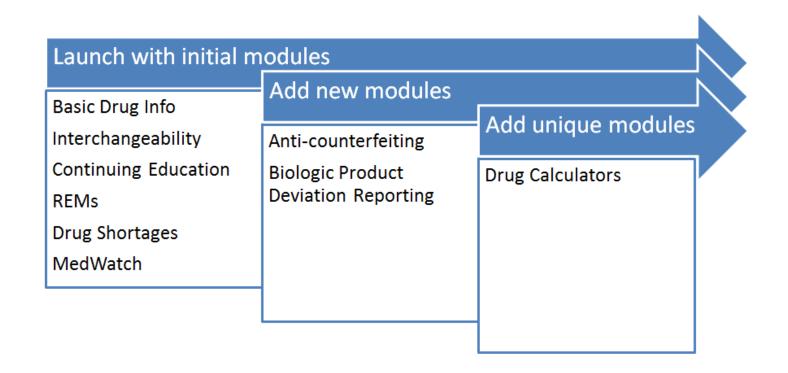
Manufactured: Allergen - Westport, Ireland

Bulk Distributor: McKesson - Baltimore, MD, USA

Delivered: Not Yet Delivered



## Implementation Strategy and Feasibility





# Feasibility

- Incorporate as many existing databases and resources to reduce costs
  - Provide existing information in a central location and in a more accessible format
- There will be some cost in developing new resources



Questions?

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