



-Fortuna Favet Paratis-

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# 2015 Year in Review

**Cullen Case Jr.**  
**Program Manager, RITN**

**January 5, 2016**

**Questions: [RITN@nmdp.org](mailto:RITN@nmdp.org)**

# Agenda

- **In The News**
- **2015 Highlights**
- **2016 Projects and Tasks**
- **Questions**

# In The News

# FDA Approves Neupogen and Neulasta for ARS



National Institute of  
Allergy and  
Infectious Diseases

Leading research to understand, treat, and prevent infectious, immunologic, and allergic diseases

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## Radiation Countermeasures

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[Pegfilgrastim Approved for  
Treatment of Acute Radiation  
Syndrome](#)

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## Pegfilgrastim Approved for Treatment of Acute Radiation Syndrome

### *Decision Based on Findings from NIAID-Funded Research*

In November 2015, the Food and Drug Administration approved the use of pegfilgrastim (trade name Neulasta) to increase survival of people acutely exposed to high-dose radiation that damages bone marrow. NIAID-funded research contributed to the approval of pegfilgrastim for treatment of acute radiation syndrome, which will improve access to the drug in the event of a public health emergency such as a nuclear power plant accident or terrorist attack.



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## FDA Approves Radiation Medical Countermeasure

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### FDA approves Neupogen® for treatment of patients with radiation-induced myelosuppression following a radiological/nuclear incident

On March 30, 2015, FDA approved use of Neupogen® (filgrastim) to treat adult and pediatric patients exposed to myelosuppressive doses of radiation (Hematopoietic Syndrome of Acute Radiation Syndrome (H-ARS)).





# 2015 News

**12/8/14-Report: Islamic State Claims 'Radioactive Device' Now in Europe**  
An alleged weapons maker for the Islamic State (IS) claimed that a "radioactive" been smuggled into an undisclosed location in Europe, according to an intelligence Monday by the SITE Intelligence Group.

"A Radioactive Device has entered somewhere in Europe," according Twitter user Britani, who claims to be a freelance jihadist weapons maker now working along known as ISIL or ISIS), according to tweets captured and disseminated by SITE. <http://freebeacon.com/national-security/report-islamic-state-claims-radioactive-device-in-europe/>



## AP: ISIS TOP STORY 2015

**November 25, Belfer Center of Science and International Affairs - "Eyes on Iran's Nuclear Program."** Former national security advisors from the United States and Israel highlighted the significance and the challenges of negotiating with Iran to prevent its development of nuclear weapons. They shared their views on the process of negotiating with Iran to reach an agreement on its current and future nuclear program. Source:

[http://belfercenter.ksg.harvard.edu/publication/24687/eyes\\_on\\_irans\\_nuclear\\_program.html?u](http://belfercenter.ksg.harvard.edu/publication/24687/eyes_on_irans_nuclear_program.html?u)

**January 28, Tri-City Herald** – (Washington) **DOE to pay \$44,722 EPA penalty over Hanford waste storage.** The U.S. Environmental Protection Agency reached a settlement January 28 with the U.S. Department of Energy (DOE) to resolve violations of radioactive and hazardous chemical waste storage requirements at Hanford in Washington after the DOE imposed a record \$1.2 billion in penalties at the site.

**February 22, International Business Times** – (Libya) **ISIS Chemical Weapons Libya: Military Warns Islamic State Might Have Mustard Gas, Sarin** Islamic State fighters in Libya allegedly have seized large amounts of chemical weapons, including mustard gas and the nerve agent Sarin, the Libyan military charged. "Unfortunately [chemical

**March 1, Global Research News** – (Asia) **Fukushima Nuclear Radiation Spikes 7,000% as Contaminated Water Pours into the Ocean** Cleanup crews trying to mitigate Japan's never-ending radiation crisis at Fukushima ran into more problems recently after sensors monitoring a drainage gutter detected a huge spike in radiation levels from wastewater pouring into the Pacific Ocean. The Tokyo Electric Power Company says radiation levels were up to 70 times, or 7,000

# 2015 News

**March 24, Eurasia Review – The Case of Poland's Stolen Radiological Material** On 6 March 2015, 22 canisters, each weighing 100-154lbs. containing radioactive cobalt-60, were stolen from a Poznan facility. The control of radiological materials in Poland is the responsibility of the National Atomic Energy Agency (in Polish language acronym, the PAA, which reported the theft to the International Atomic Energy Agency on or around 19 March 2015).

## Recovered in April

**March 27, Reuters – (New Mexico) Wrong kitty litter led to radiation leak at New Mexico nuke waste dump.** A U.S. Department of Energy report released March 26 identified a barrel of a drum of waste that was improperly packaged at the Los Alamos National Laboratory as the cause of a 2014 radiation leak at the Waste Isolation Pilot Plant near Carlsbad, New Mexico, that exposed workers to radiation.

**August 18, WTOP – Terrorists may be within reach of dirty bomb** In the shadows of the fighting between military forces and Russian-backed rebels in eastern Ukraine, potentially deadly radiological material has all removed from an underground bunker. Ukrainian security service documents surfaced in early August suggest rebels and Russian scientists were working on a radiological dispersal device (RDD) –better known as a dirty Russian government has since pointed the finger at Ukrainian forces. But U.S. officials and international experts say a greater threat looms. “We’re very much concerned about the Islamic State in Iraq and the Levant (ISIL) or Al Qaeda to steal radioactive material and make a dirty bomb that can be used either in the region or theater, or trans-

**August 20, North Country Gazette – Man Convicted of Attempt to Acquire Death Ray Weapon** A judge sentenced Glendon Scott Crawford, 51, of Galway Friday after a five-day trial on all charges relating to his effort to acquire a weapon of mass destruction. Crawford was convicted of attempting to acquire and use a radiological weapon, conspiring to use a weapon of mass destruction and distributing information relating to weapons of mass destruction.

**October 7, NBC News – Smugglers Tried to Sell Nuclear Material to ISIS** In the backwaters of Eastern authorities working with the FBI have interrupted four attempts in the past five years by gangs with suspected connections that sought to sell radioactive material to Middle Eastern extremists, The Associated Press has reported. The latest known case came in February this year, when a smuggler offered a huge cache of deadly cesium-137, which can contaminate several city blocks — and specifically sought a buyer from ISIS. Source:



# 2015 News

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The New York Times Magazine

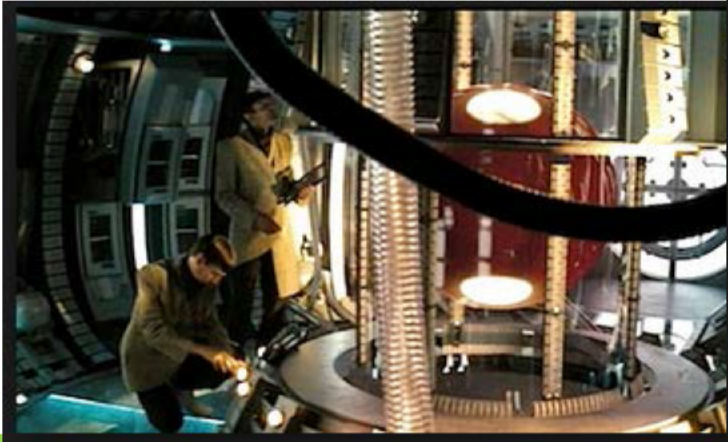
[http://www.nytimes.com/2015/11/22/magazine/the-doomsday-scam.html?\\_r=0](http://www.nytimes.com/2015/11/22/magazine/the-doomsday-scam.html?_r=0)

### The Doomsday Scam

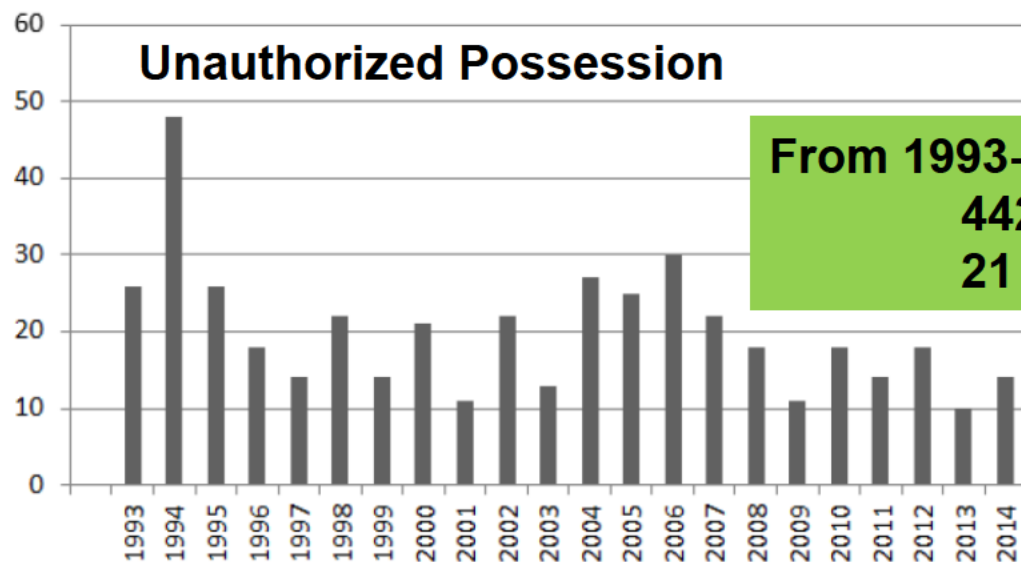
For decades, aspiring bomb makers — including ISIS — have desperately tried to get their hands on a lethal substance called red mercury. There's a reason that they never have.

By C. J. CHIVERS NOV. 19, 2015





# IAEA Reported Incidents 1993-2014



From 1993-2014:

**442 total incidents**

**21 incidents with HEU or Plutonium**

Figure 1. Incidents reported to the ITDB involving unauthorized possession and related criminal activities, 1993–2014.

**This is only what  
is being reported**

### Theft or Loss

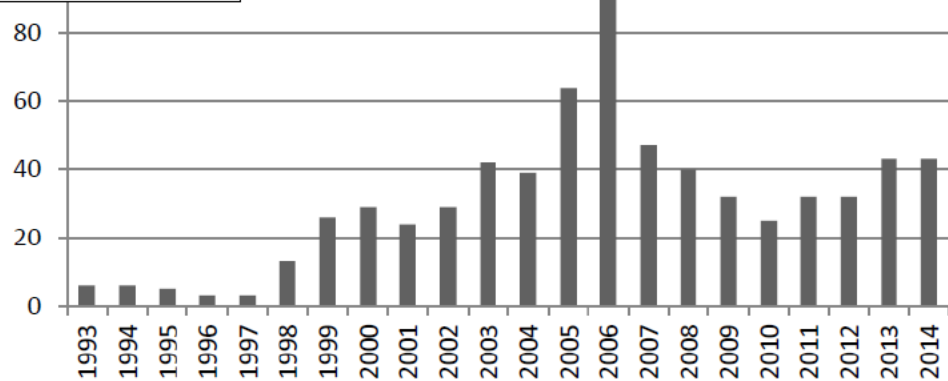
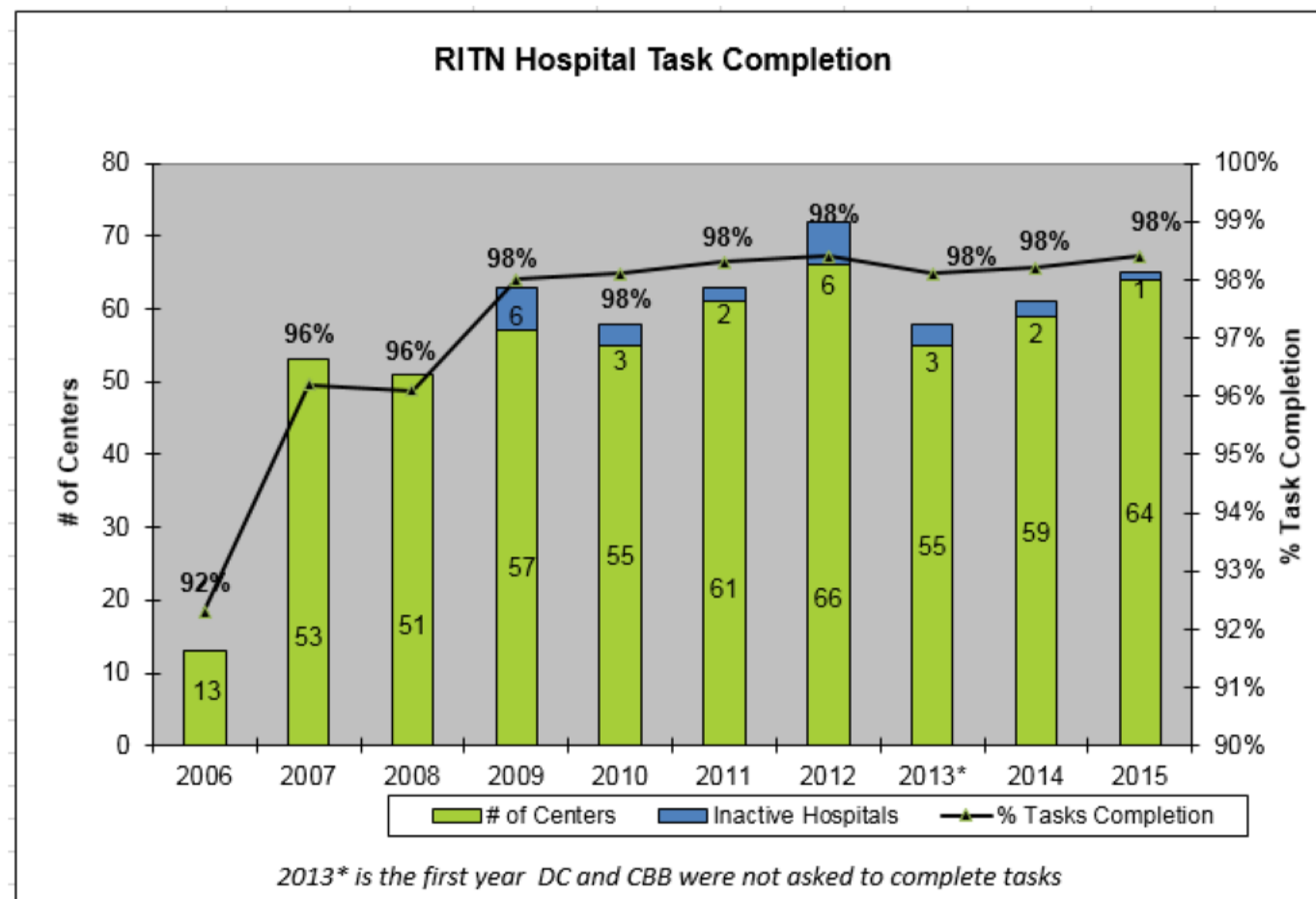


Figure 2. Incidents reported to the ITDB involving theft or loss, 1993–2014.

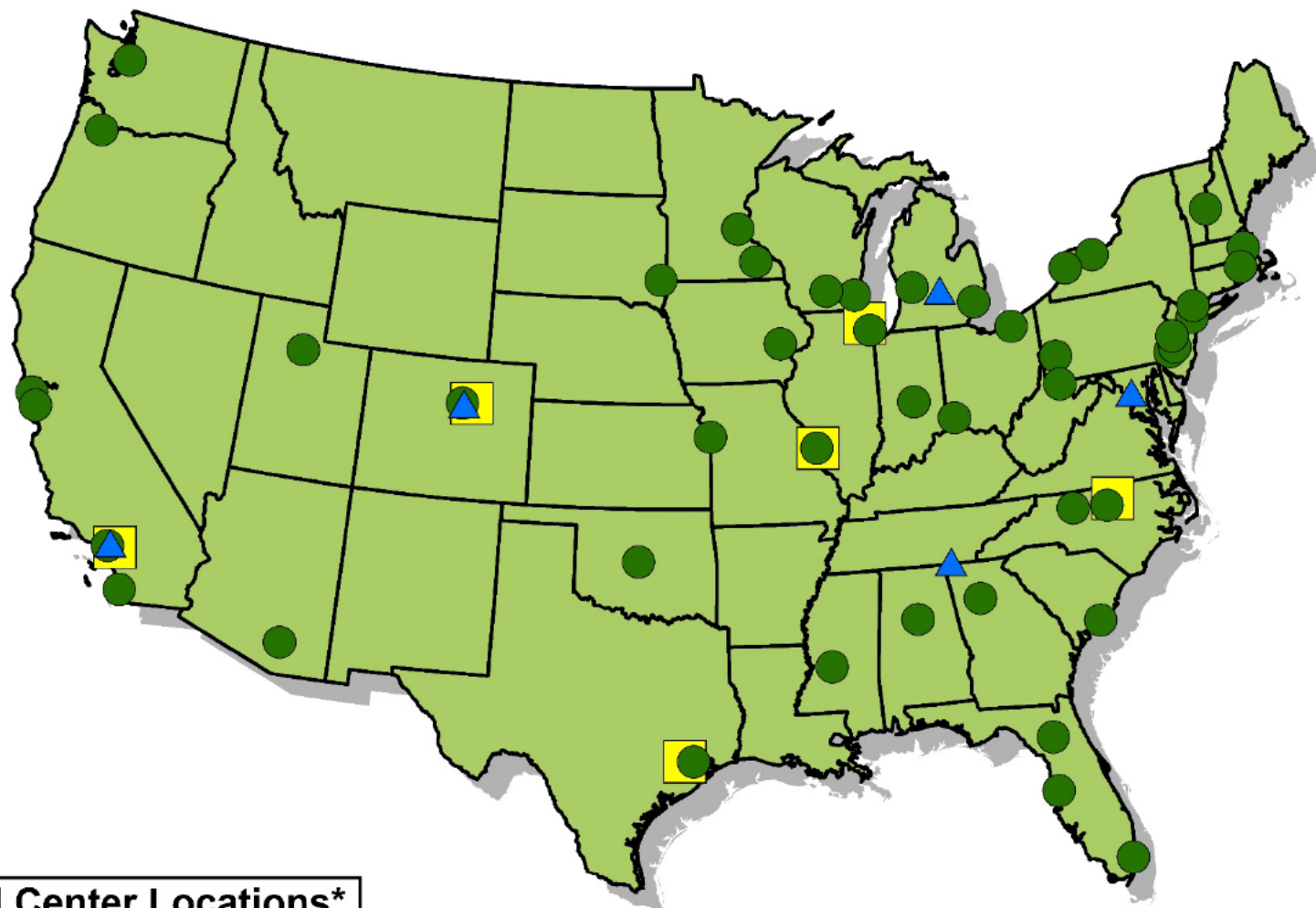
# Highlights

# Growth

- Centers that were inactive this year:
  - Milwaukee Children's
- Centers that joined RITN this year:
  - Scripps
  - NYU-Langone
  - Children's of AL
  - Spectrum Health
  - Roswell
  - UPMC







### RITN Center Locations\*

- ▲ Donor Centers
- Transplant Centers
- Cord Blood Centers



June 2015

\* Multiple centers of a single type located within close geographic proximity are represented by a single symbol.

## Transplant Centers

AL - Children's Hospital of Alabama  
AL - University of Alabama at Birmingham  
AZ - University Medical Center  
CA - City of Hope National Medical Center  
CA - Scripps Green Hospital  
CA - Stanford Hospital and Clinics  
CA - UCSF Medical Center  
CO - Presbyterian/St. Lukes Medical Center  
CO - University of Colorado (Aurora)  
FL - All Children's Hospital  
FL - H. Lee Moffitt Cancer Center  
FL - Shands Hospital at the University of Florida  
FL - University of Miami  
GA - Emory University  
GA - Northside Hospital  
IA - University of Iowa Hospitals and Clinics  
IL - Northwestern University MC  
IL - Rush University Medical Center  
IN - St. Francis Hospital and Health Centers  
KS - University of Kansas Medical Center  
MA - Children's Hospital of Boston  
MA - Dana Farber/Partners Cancer Care  
MA - Massachusetts General Hospital  
MI - Barbara Ann Karmanos Cancer Center  
MI - Spectrum Health  
MN - Mayo Clinic Rochester  
MN - University of Minnesota BMT Program  
MO - Barnes-Jewish Hospital at Washington  
MO - The Children's Mercy Hospital  
MS - University of Mississippi Medical Center  
NC - Duke University Medical Center  
NC - UNC Hospitals  
NC - Wake Forest Univ Baptist Medical Center  
NH - Dartmouth-Hitchcock Medical Center  
NY - Memorial Sloan-Kettering Cancer Center  
NY - Mount Sinai Hospital  
NY - NorthShore Medical Center

Ped = Pediatric patient only facility

P/A = Pediatric and adult capable facility

\*\*If no capability is annotated the facility is adult only

NDMS = National Disaster Medical System Center

HPP = Hospital Preparedness Program

## Transplant Centers

Ped	NDMS	HPP	NY - NYU Langone Medical Center		
P/A	NDMS	HPP	NY - Roswell Park Cancer Institute		
P/A	NDMS	HPP	NY - Strong Memorial Hospital	P/A	NDMS HPP
P/A	NDMS	HPP	NY - Westchester Medical Center		NDMS HPP
			OH - Cincinnati Children's Hospital Medical Center	Ped	NDMS HPP
P/A	NDMS	HPP	OH - Cleveland Clinic Foundation		NDMS HPP
P/A		HPP	OH - University Hospitals Seidman Cancer Center		NDMS HPP
	NDMS	HPP	OK - Oklahoma Univ. Medical Center & Childrens Hospital	P/A	NDMS
P/A	NDMS	HPP	OR - Oregon Health & Science University	P/A	NDMS HPP
Ped	NDMS	HPP	PA - AHN Cancer Institute West Penn Hospital		NDMS
P/A	NDMS		PA - Children's Hospital of Philadelphia	Ped	NDMS HPP
P/A		HPP	PA - Temple University		NDMS HPP
	NDMS	HPP	PA - Thomas Jefferson		NDMS HPP
		HPP	PA - University of Pennsylvania Medical Center		NDMS HPP
		HPP	RI - Roger Williams Medical Center		NDMS HPP
P/A	NDMS	HPP	SC - Medical University of South Carolina		NDMS HPP
	NDMS	HPP	SD - Avera McKennan Transplant Institute		HPP
		HPP	TX - M.D. Anderson Cancer Center	P/A	HPP
	NDMS	HPP	TX - Texas Children's Hospital	Ped	NDMS HPP
	NDMS	HPP	UT - LDS Hospital		NDMS HPP
Ped	NDMS	HPP	UT - Primary Children's Medical Center	Ped	NDMS HPP
P/A	NDMS	HPP	UT - University of Utah	P/A	NDMS HPP
	NDMS	HPP	WA - Seattle Cancer Care Alliance	P/A	NDMS
	NDMS	HPP	WI - Children's Hosp of WI & Midwest Children's CC	Ped	NDMS HPP
P/A		HPP	WI - Froedtert Memorial Lutheran Hospital		NDMS HPP
P/A	NDMS	HPP	WI - Univ. of Wisconsin at Madison	P/A	NDMS HPP
P/A	NDMS	HPP	WV - West Virginia University Hospitals		NDMS HPP

## Donor Centers

CA - City of Hope National Medical Center  
CO - Colorado Marrow Donor Program  
MD - C.W. Bill Young Marrow Donor Center  
MI - NMDP operated donor center  
TN - Blood Assurance

## Cord Blood Banks

CA - StemCyte International Cord Blood Center  
CO - University of Colorado  
IL - ITxM Cord Blood Services  
MO - St. Louis Cord Blood Bank  
NC - Carolinas Cord Blood Bank  
TX - MD Anderson



TC	64
DC	5
CBB	6
Total	<u>75</u>

Total NDMS Centers	51	80%
Total HPP Centers	57	89%
Total Pediatric or Ped/Adult	34	53%




# 2015 Activity

- Exercises:
  - Regional Tabletops
  - Fullscale Exercises
  - Web based tabletops
- AARs posted
- Conference
- Re-Creation of Radiation Safety Communication course
- G-CSF distribution project with ASTHO and CDC
- Completion and release of Web based data collection forms on FormsNet 3
- Telemedicine research

# 2015 Conference


- July 14-15, 2015
- 150 attendees
- 37 speakers
- Research and Operations Track
- Speakers from
  - DHHS-ASPR
  - FEMA
  - NIAID
  - BARDA
  - FDA
  - Slew of colleges and medical institutions




**Medical and Organizational Challenges  
Resulting from a  
Radiological/Nuclear Emergency**


The RITN is a cooperative effort of the National Marrow Donor Program® (NMDP)/Be The Match and the American Society for Blood and Marrow Transplantation (ASBMT).

**Jointly Provided by:**




**Supported by:**



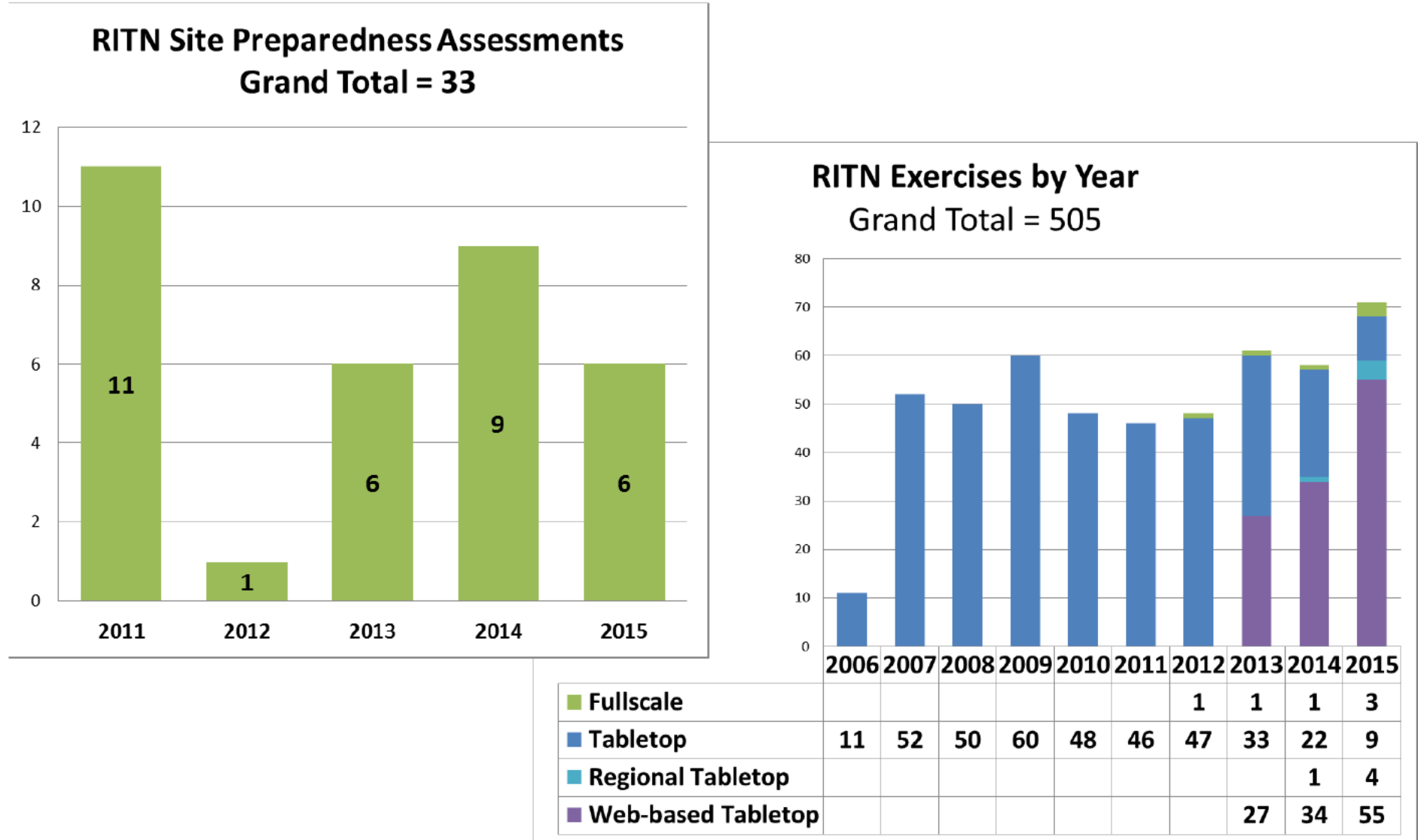
**Paid Exhibitor:**  
 **Neumedicines**

**RITN Key Partners:**



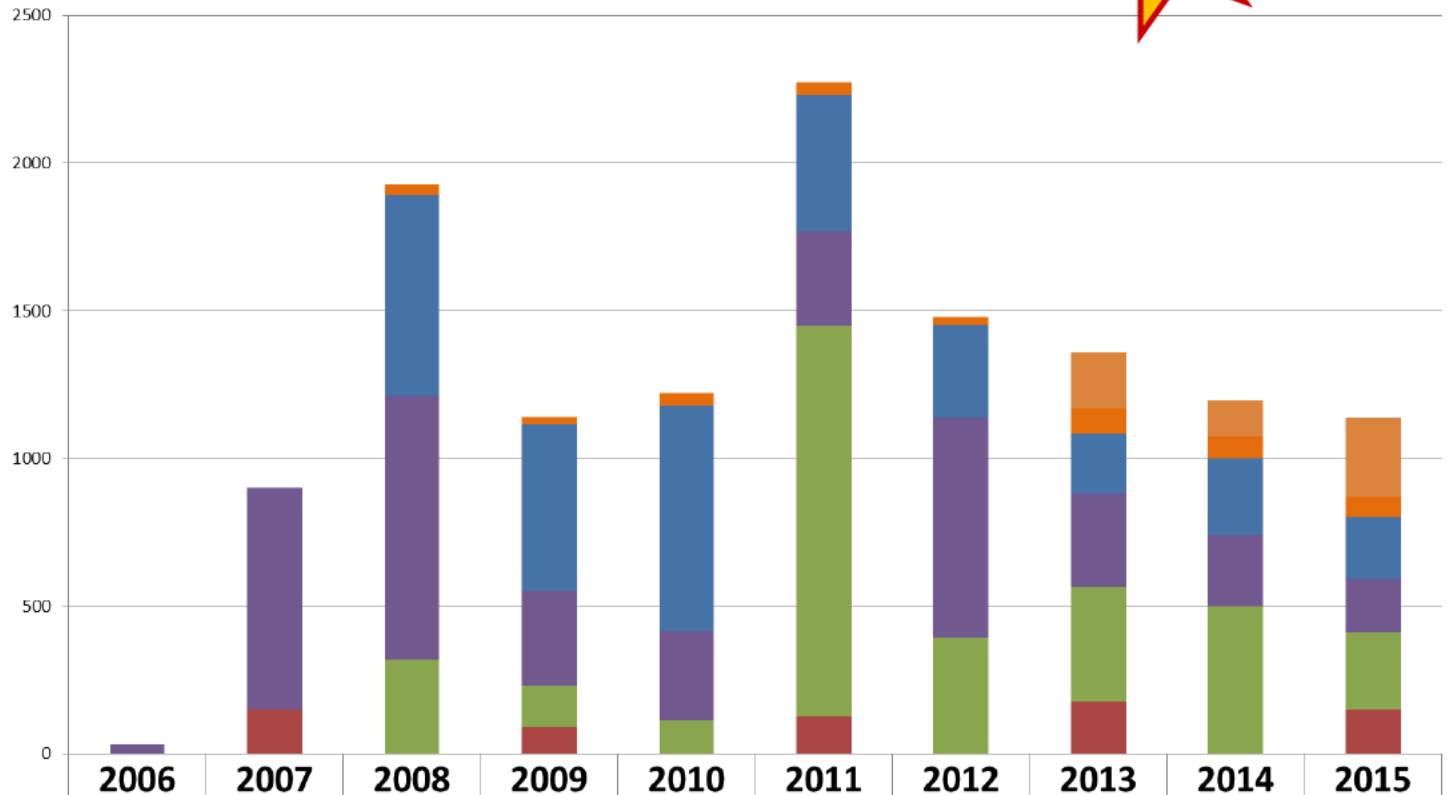
This project is supported by funding from the National Marrow Donor Program and the Department of the Navy, Office of Naval Research Grant N00014-14-1-0848 to the NMDP. N°23443, JUL 2015

# RITN Preparedness Efforts



# RITN Training & Education

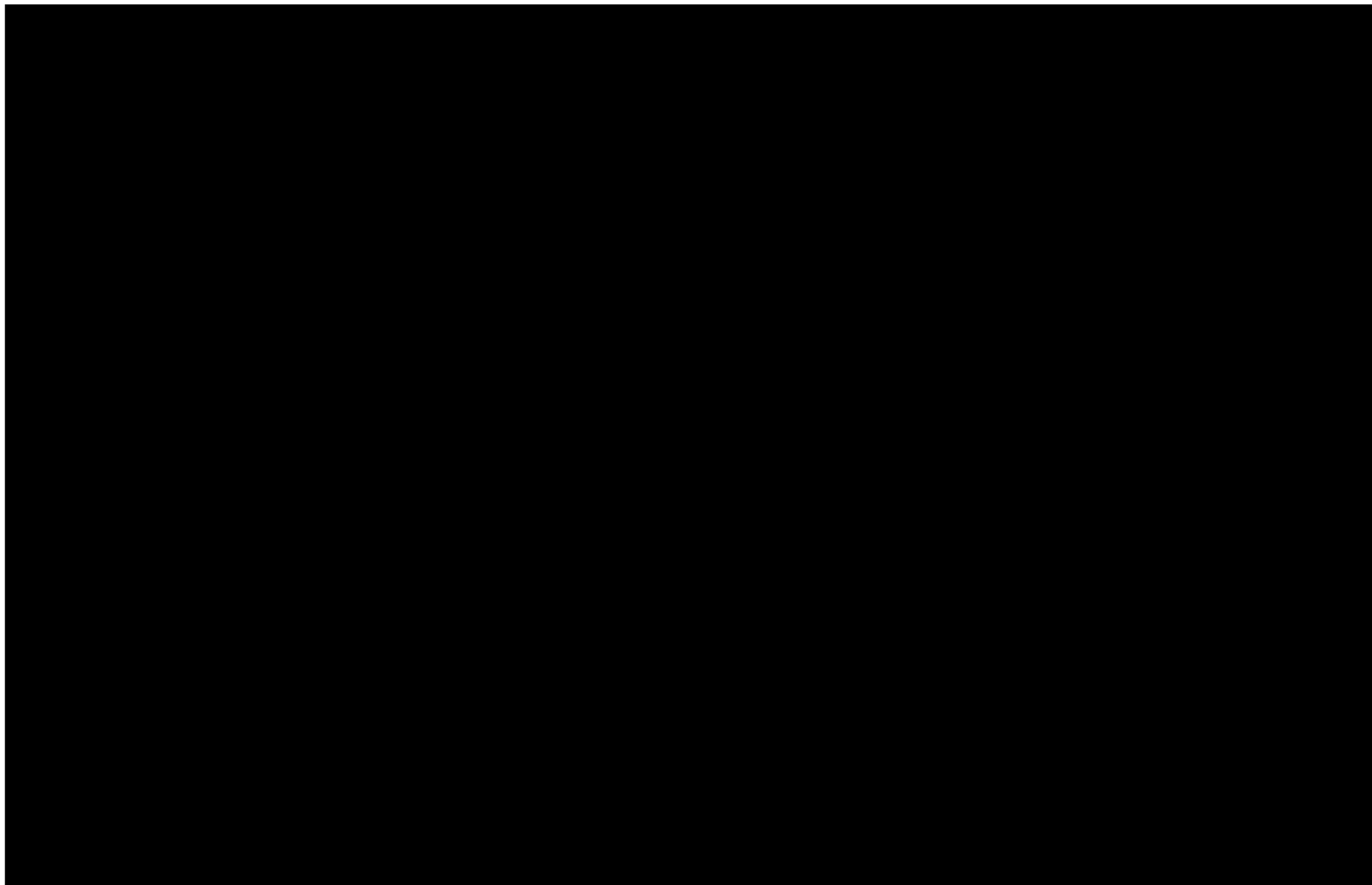
Grand Total = 12,665



Other RITN Web Courses								192	120	267
REAC/TS			38	26	46	45	26	84	77	71
Grandrounds			677	564	763	460	314	203	259	208
Basic Rad Tng	30	752	895	320	301	322	744	316	242	180
Outreach Presentation			317	139	112	1322	394	389	498	261
Biennial Conference		149		92		125		175		150

# Upcoming Year Projects and Tasks

## Funding of RITN



# 2016 Activity

- Growth of RITN (by 3 new centers)
- Data collection test/exercise with new forms
- Continue Tele Consult Project
- 2 workshops with NIAID
- 2 x Mobile REAC/TS training sessions
- 2 x AHLS Rad training courses
- Public Health Awareness project with NACCHO & ASTHO
- Exercises:

Exercise	Funding
Regional TTX Detroit	
Regional TTX Charleston	
Regional TTX TBA	
Roger Williams Functional Ex	
Mayo Functional Ex	
Spectrum Functional Ex	
City of Hope Full Scale Ex	
Emory Full Scale Ex	

# 2016 Tasks (Oct 1, 2015-Aug 31, 2016)

## 1. Administrative

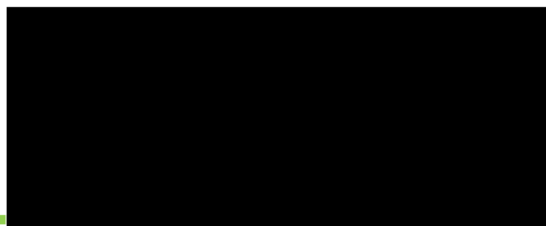
- a) SOP update, contact update, GETS test, HCS, satellite phone, IRB consents

## 2. Exercise

- a) Primary choice will be web based on 5 scheduled dates
- b) Can coordinate and host own if prefer

## 3. Training

- a) Options: 20 x BRT/RSC/CDC-Rad Basics, MD or AP to REAC/TS/Conf/Exercise, Grandrounds, Overview to external preparedness group, site assessment, Host REAC/TS or AHLS
- b) 1<sup>st</sup> year RITN centers must complete specified training





# Resources

**[www.REMM.NLM.gov](http://www.REMM.NLM.gov)**

U.S. Department of Health & Human Services

**REMM** RADIATION  
EMERGENCY  
MEDICAL  
MANAGEMENT

Guidance on Diagnosis and Treatment for Healthcare Providers



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- Plan Ahead
- Practice Teamwork
- Work Safely

Interactive Clinical Tools ▾

Diagnosis & Treatment ▾

Reference & Data ▾

Overview ▾

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## What Kind of Emergency?



- › Nuclear Detonation: Weapons, Improvised Nuclear Devices
- › Radiological Dispersal Devices, Dirty Bombs
- › Nuclear Power Plant/Reactor Incidents
- › Radiological Exposure Devices
- › Transportation Incidents

## Patient Management



- › Choose Appropriate Algorithm
- › Contamination
- › Exposure (Acute Radiation Syndrome)
- › Exposure + Contamination
- › Triage Guidelines
- › Hospital Orders Template

## Initial Incident Activities



- › Discovering an Incident
- › Describing an Incident
- \_\_\_\_\_
- › On-site Activities
- › Triage Guidelines
- › Transport Victims
- › Hospital Activities

## Management Modifiers



- › Radiation + Trauma
- › Burn Triage and Treatment

## Practical Guidance



- › Use of Blood Products
- › Population Monitoring

## Other Audiences



- › First Responders
- › Mental Health Professionals

Updated with a  
Brand New Look

# Resources

**[www.RITN.net](http://www.RITN.net)**



# Partners are Critical to Success

- American Society for Blood and Marrow Transplantation
- Department of Defense - Office of Naval Research
- Dept. of Health & Human Services-Asst. Sec. for Preparedness & Response
- Health Resources and Services Administration
- Radiation Emergency Medical Management website: [www.remm.nlm.gov](http://www.remm.nlm.gov)
- National Assoc. of City and County Health Officials
- Assoc. of State and Territorial Health Officials
- National Alliance for Radiation Readiness [www.radiationready.org](http://www.radiationready.org)
- AABB-Disasters Task Force
- Radiation Emergency Assistance Center/Training Site
- New England Center for Emergency Preparedness
- European Group for Blood and Marrow Transplantation-Nuclear Accident Committee
- Center for International Blood and Marrow Transplant Research

# Questions?