Postmarket Regulatory Tools Supporting Use of Patient-Generated Health Data

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Various Tools for Various Purposes

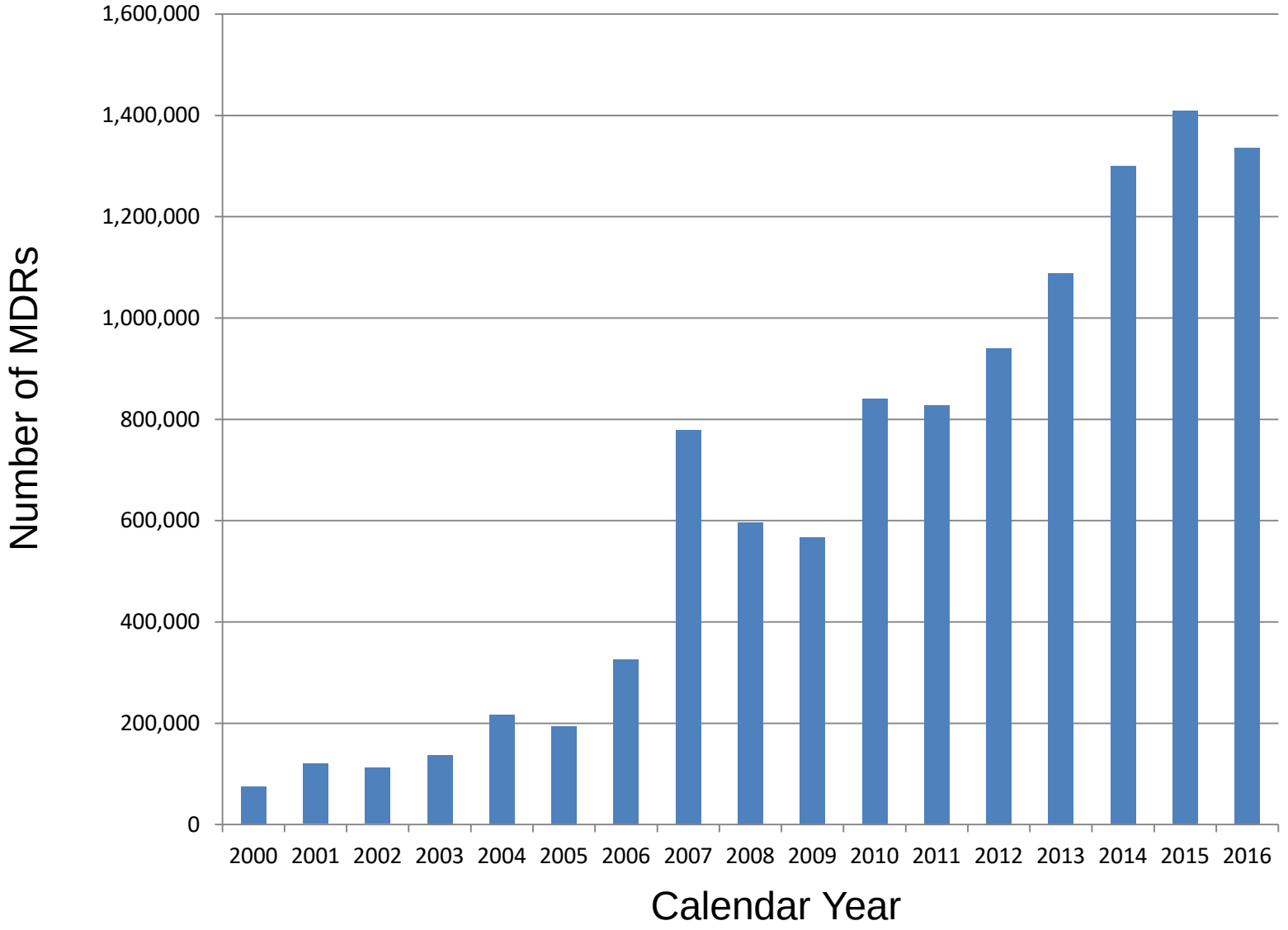
- **Passive and Enhanced Surveillance**
  - Ongoing systems of reporting of device-related adverse events and product problems (so called Medical Device Reports or MDRs)
- **Mandated Postmarket Studies**
  - Formal protocol-driven assessments of remaining questions about a device's safety and/or effectiveness
- **Compliance Oversight**
  - Various means to assure compliance with FDA laws and regulatory requirements
- **Signal Management**
  - Processes to further evaluate and communicate potential safety signals

Sources of MDR Reporting to FDA

Patients Are a Key Component to Initiating Process

Manufacturer (and importer)	• Mandatory, Passive Surveillance • Deaths, Serious Injuries, Malfunctions • 98% of reports
User Facility	• Mandatory, Passive Surveillance • Deaths, Serious Injuries • <1%
Voluntary	• Patients/Consumers, Healthcare Providers • All types, Passive Surveillance • <1%
MedSun (Medical Product Safety Network)	• Mandatory and Voluntary (near-misses) • Enhanced Surveillance; Patient Interactions • <1%

Increases in Medical Device Reports



Value of MDRs

- **Qualitative profile of adverse events and product problems**
  - Reflects device use in real world; insight into subgroups
- **Monitor device performance**
  - Short- to long-term use, failure modes
- **Signal detection**
  - Rare or unexpected events
  - Change in severity of expected events
  - Use error/human factors issues

Limitations

- **Underreporting**
  - Cannot establish rates
- **Insufficient, inadequate information**
  - Not obtainable; device not available
- **Difficult to establish causality**

Mandated Postmarket Studies

Post-approval Studies (PAS)

- Class III devices
- As condition of approval
- Non-clinical or clinical
  - Longer-term follow-up
  - Remaining benefit/risk issues

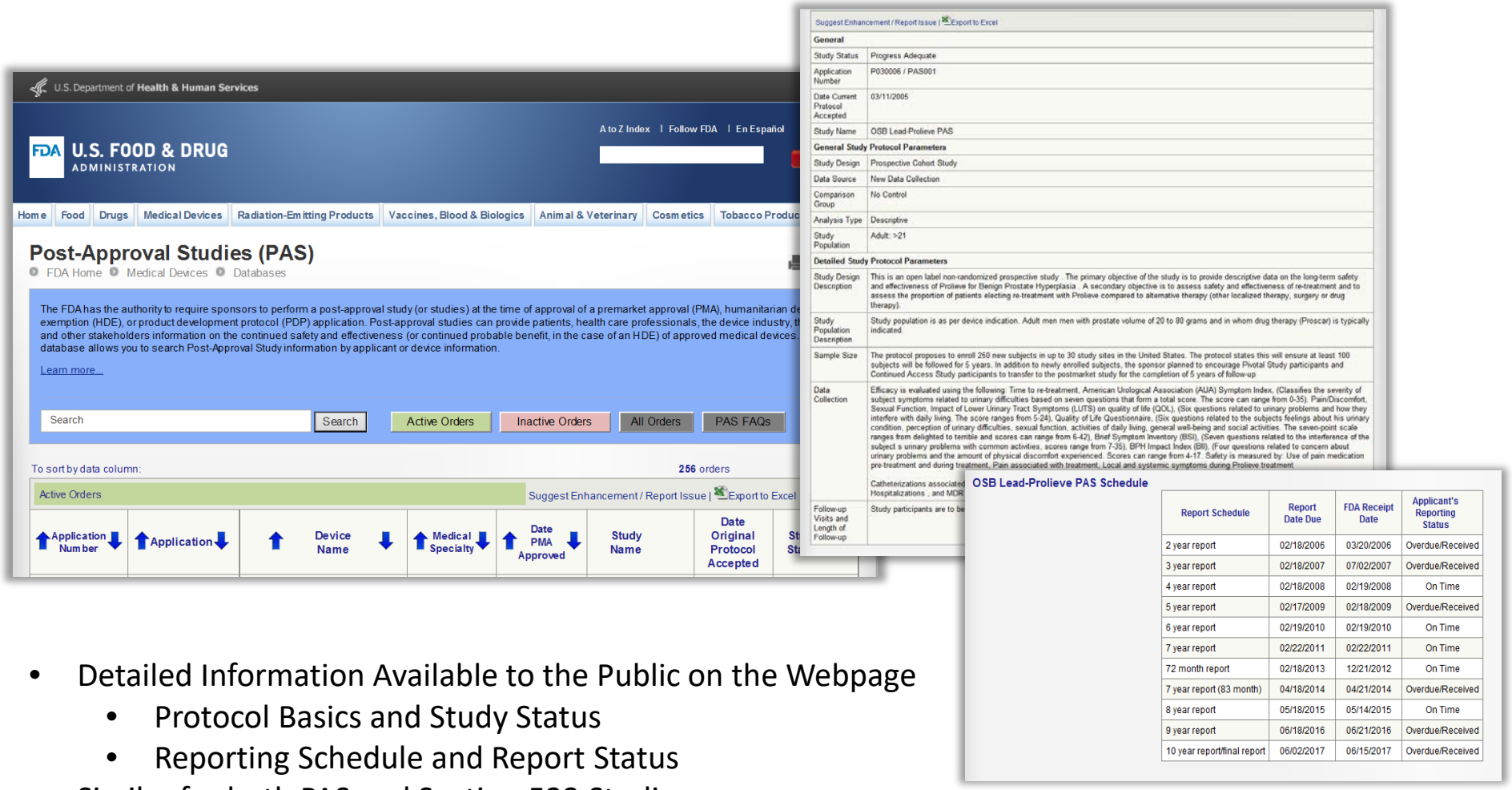
Section 522 Studies

- Class II or III
- For cause, time of clearance or approval
- Non-clinical or clinical
  - Failure and serious health consequences
  - Significant use in pediatric population
  - Implanted for more than one year
  - Life-sustaining/life-supporting used outside of user facility

- Protocol-driven with analysis plan
- Newly created study (hospital/clinic, registry-based), existing cohort follow-up, active surveillance
- IRB approval and FDA oversight

- Numbers: ~300 active PAS and ~35 active Section 522 studies (Examples: remote monitoring and patient reported outcomes)

Public Transparency



- Detailed Information Available to the Public on the Webpage
  - Protocol Basics and Study Status
  - Reporting Schedule and Report Status
- Similar for both PAS and Section 522 Studies

https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpma/pma_pas.cfm

Value of Mandated Studies

- Addresses important benefit/risk issues when data are not available elsewhere
- Leads to regulatory actions: support for breakthrough devices, labeling changes, safety communications
- Increasingly aligned with national initiatives [e.g., NEST, registry development]

Limitations

- Resource-intensive to develop and approve study protocols
- Study results may take time
  - Enrollment may be challenging
  - Assuring follow-up may be challenging
- Device modifications may occur while studies are conducted

Compliance Oversight

- Complaints and allegations (~1250/year)
  - Notifications of potential violations or risks (from variety of sources including patients, caregivers)
  - Many different types: misleading advertising, quality system problems, illegal marketing, health fraud, MDRs
- Recalls (~1150/year)
  - Removal or correction of violative product that may involve repair, modification, relabeling, destruction, patient monitoring
  - Involve FDA assessment of violation, risk, recall strategy and notification, classification

Signal Management: What is it?

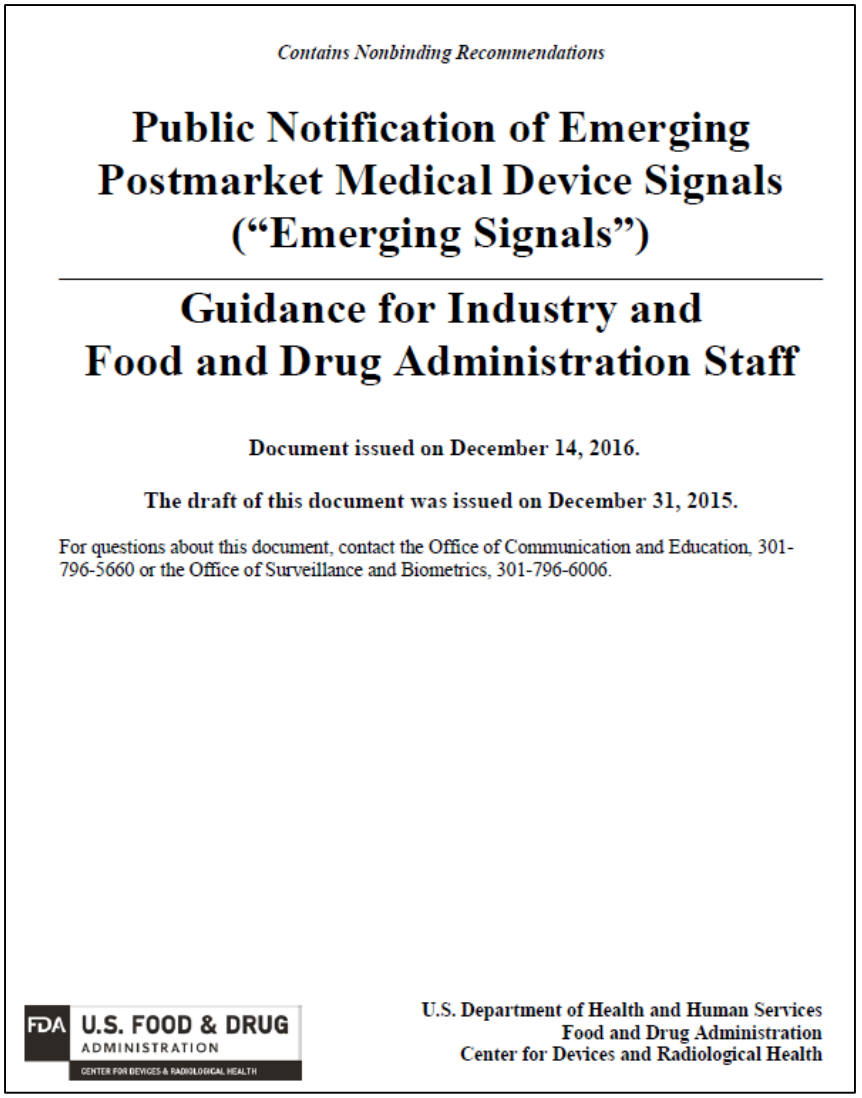
- A set of activities to determine whether a safety signal identified for a marketed device or group of devices represents a risk which may warrant further Center:
  - assessment, communication, and/or
  - other risk mitigation actions and

  the actions which are undertaken accordingly.

- Potential signals may come from or involve: MDRs, complaints, peer-reviewed literature (including patient case series), mandated studies, premarket

- An avenue for sharing knowledge and information about the performance of the products we regulate
  - Feedback to improve premarket review
  - Identification of science research needs

Emerging Signals Notifications



Contains Nonbinding Recommendations

Public Notification of Emerging Postmarket Medical Device Signals ("Emerging Signals")

Guidance for Industry and Food and Drug Administration Staff

Document issued on December 14, 2016.

The draft of this document was issued on December 31, 2015.

For questions about this document, contact the Office of Communication and Education, 301-796-5660 or the Office of Surveillance and Biometrics, 301-796-6006.

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Potential Outcomes*

- **Public Communications/Outreach**
- **Labeling Changes**
- Compliance Actions (recalls, letters, inspections)
- (Premarket) Guidance Documents
- Product Redesign and/or Premarket Submissions
- Standards Work
- Research Projects
- Section 522 Studies
- Increase Risk Classification
- Advisory Committee Meetings
- No Action Required

* Out of ~170 signals since 2012

National Evaluation System for health Technology (NEST)

- FDA is member of Governing Committee and works closely with the Coordinating Center
- Figures prominently in FDA's Medical Device Safety Action Plan
- Will help establish a robust medical device patient safety net in the U.S.
  - To create capabilities to perform active surveillance
  - To perform timely, efficient postmarket safety studies

Patients are a Key Component

- Reports
  - MDRs
  - Complaints/Allegations
- Studies
  - Remote monitoring
  - PROs
  - Registries
- Other
  - MedSun interactions
  - Recalls and monitoring
  - Literature case series
  - NEST