OIR/OHT7 Update

Courtney H. Lias, Ph.D.
Acting Deputy Director
OHT7:Office of In Vitro Diagnostics and Radiological Health
Office of Product Evaluation and Quality
Center for Devices and Radiological Health
U.S. Food and Drug Administration

AMDM Focus Meeting
October 3, 2019

Mission, Vision, & Shared Values

CDRH Mission

"…to protect and promote the public health…"

CDRH Vision

"Patients in the U.S. have access to high-quality, safe, and effective medical devices of public health importance first in the world…"

CDRH Shared Values

Public Health Focus
Science-Based Decisions
Our People
Innovation
Transparency
Honesty and Integrity
Accountability

What's the bottom line?

Patients are at the Heart of What We Do!

Key Office IVD Activities

- Premarket – Pre-submissions, Breakthrough Designations, CLIA Waiver Reviews and complexity determinations, 510(k), De Novo, PMA, EUA, IDE, and HDE
- Relevant Guidance Documents
- Third Party Review Program
- Surveillance
- Compliance
- Community Outreach

Highly Productive Office

In a typical year we receive…

- ~1800 Submissions
  - ~130 PMAs and PMA Supplements
  - >700 510(k)s
  - >800 Pre-Submissions
  - ~40 IDEs
  - + Plus multiple other types of submissions
- Surveillance
  - ~800,000 MDRs

OIR by the numbers:

About 290 Scientists & Engineers

- ~20 MDs
- ~150 PhDs
- ~40 Masters

CDRH by the numbers:

>90%

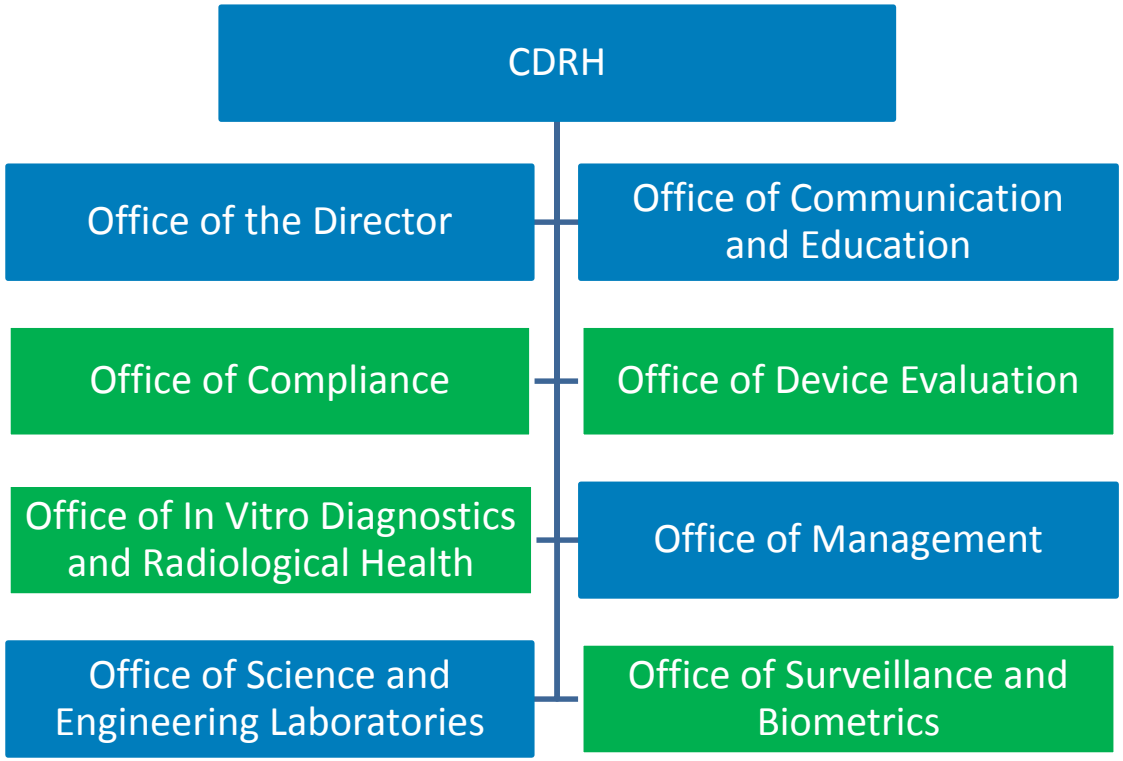
external customer satisfaction rating

100%

of MDUFA 4 FDA-Days Goals Met

We're proud of our talented, well-educated, and professional staff.

CDRH has reorganized to support a Total Product Life Cycle (TPLC) approach

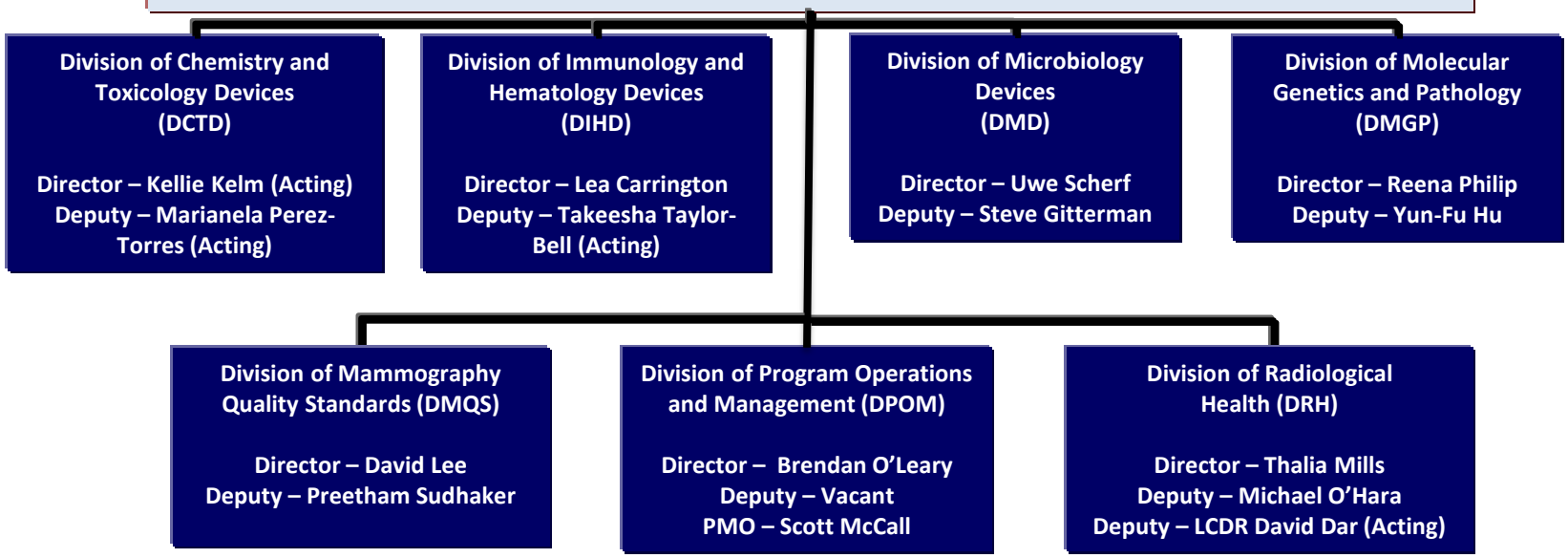


Office of Product Evaluation and Quality

OHT	Scope of Products / Responsibilities	Office Director
OHT 1	Ophthalmic, Anesthesia, Respiratory, ENT and Dental Devices	Malvina Eydelman, M.D.
OHT 2	Cardiovascular Devices	Bram Zuckerman, M.D.
OHT 3	Reproductive, Gastro-Renal, Urological, General Hospital Device and Human Factors	Ben Fisher, Ph.D.
OHT 4	Surgical and Infection Control Devices	Binita Ashar, M.D.
OHT 5	Neurological and Physical Medicine Devices	Carlos Pena, Ph.D.
OHT 6	Orthopedic Devices	Raquel Peat, Ph.D., MPH
OHT 7 /OIR	In Vitro Diagnostics and Radiological Health	Tim Stenzel, MD, PhD
ORP	Programmatic oversight for premarket, postmarket and compliance activities	CAPT Sean Boyd
OCEA	Programmatic oversight for clinical trial, BIMO, RWE, and statistical activities	Owen Faris, PhD

Office of In Vitro Diagnostics & Radiological Health (OIR)

Director	Timothy Stenzel
Deputy Dir. for New Product Evaluation	Donald St. Pierre
Deputy Dir. for Patient Safety and Product Quality	Courtney Lias (Acting)
Deputy Dir. for Personalized Medicine	Katherine Donigan (Acting)
Deputy Dir. for Radiological Health	Robert Ochs
Associate Dir. for Programs and Performance	Toby Lowe (Acting)
Associate Dir. for Strategic Initiatives	Vacant
Associate Dir. for Regulatory Counsel	Scott McFarland
Associate Dir. for Medical Affairs	Vacant
Chief Medical Officer for Radiological Health	Donald L. Miller



Meet Our New Associate Director for Medical Affairs

Dr. Sara Brenner, MD, MPH

White House Office of Science and Technology Policy

- Senior Policy Advisor

  Developed national policy relevant to health care, medical technology, biomedical science, innovative early-stage research, and workforce training and education

SUNY Polytechnic Institute Colleges of Nanoscale Science & Engineering

- Associate Professor of Nanobioscience
- Assistant Vice President for NanoHealth Initiatives
- Director of the MD/PhD Program in Nanomedicine
- Led development and operation of the NanoHealth and Safety Center

  Public-private partnership to address gaps in understanding the safety and risk associated with the unique characteristics of nanoscale materials used in advanced manufacturing

FY2018 Highlights

- ✓ CDRH approved 106 novel devices, a 40-year record.
- ✓ Finalized two NGS guidance documents, “Use of Public Human Genetic Variant Databases to Support Clinical Validity for Genetic and Genomic-Based *In Vitro* Diagnostics” and “Considerations for Design, Development, and Analytical Validation of Next Generation Sequencing (NGS) – Based In Vitro Diagnostics (IVDs) Intended to Aid in the Diagnosis of Suspected Germline Diseases”.
- ✓ Approved the first fully implantable device to measure glucose in people with diabetes as well as an insulin dosing system expansion to include patients as young as age 7 years.
- ✓ Granted first DNA-based test for minimal residual disease for hematologic malignancies (NGS).
- ✓ Granted first brain injury marker test.
- ✓ Multiple Breakthrough Device Designations.

YTD FY2019 Highlights

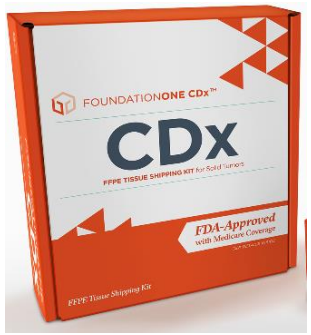
- ✓ Published DRAFT "Recommendations for Dual 510(k) and CLIA Waiver by Application Studies" and "Select Updates for Recommendations for Clinical Laboratory Improvement Amendments of 1988 (CLIA) Waiver Applications for Manufacturers of In Vitro Diagnostic Devices"
- ✓ Published FINAL "Coordinated Development of Antimicrobial Drugs and Antimicrobial Susceptibility Test Devices"
- ✓ Published DRAFT "Developing and Labeling *In vitro* Companion Diagnostic Devices for a Specific Group or Class of Oncology Therapeutic Products"
- ✓ Published Proposed Rule to exempt Flow Cytometer Instruments
- ✓ First Genetic Database Recognized
- ✓ Granted first interoperable insulin pump
- ✓ Granted first FISH assays for chromosomal abnormalities in patients with hematologic malignancies
- ✓ Granted first Human Milk Analyzer

More breakthroughs are coming to market through FDA

- >199 designated devices
  - 67 diagnostics
- 12 devices authorized to market
  - 7 PMAs approved
  - 3 510(k)s cleared
  - 2 De Novos granted

Early successes in breakthrough IVDs authorized to market include:

FoundationOne CDx



- 1st breakthrough to market
- 1st pan cancer CDx oncopanel

Banyan Brain Trauma Indicator

- 1st breakthrough De Novo to market
- 1st Blood test for TBI

More to come….

Least Burdensome Flag

- Opportunity for sponsor to “throw flag” during review
- Must have made good faith effort to resolve with review team and management
- Triggers senior management review of focused clinical/scientific issue
- 3 week timeline for resolution of issue

SMART Template

- Formatted guide/template for review staff
- Promotes consistency in review and documentation
- Includes links to help/advice to facilitate review

SMART Template

III. Device/System Description

Device Characteristics		Inadequate Or Marked
Is the intended use or fundamental technology new?	No	☐
Is the device life-supporting or life sustaining?	No	☐
Are there any direct or indirect patient contacting components?	Yes	☐
• Is the device or a component an implant?	Yes	☐
Does the device use software/firmware?	No	☐
Does the device or a component need sterilization (by manufacturer or user)?	Yes	☐
The device/system uses or is…	a single use device(s) (SUD)	☐
The environment of use of the device/system includes…	Professional Healthcare Facility	☐
Is the device a combination product?	N - Not a Part 3 Combination Product	☐
Is the device/system electrical (battery or wall powered)?	No, the device is not electrical	☐

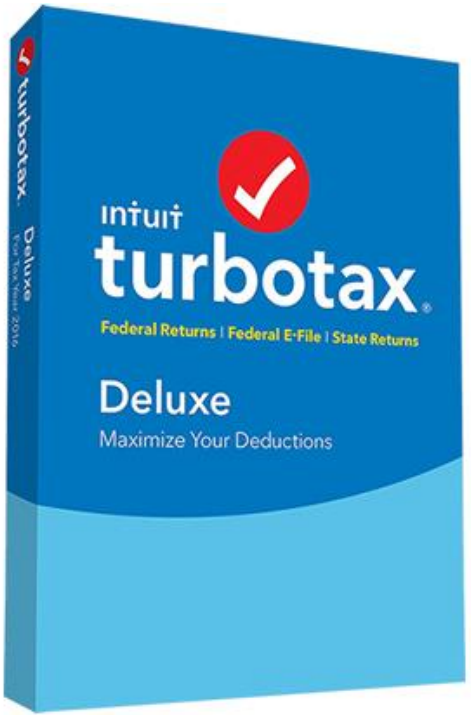
Check the attributes that are applicable to this submission.

	Nanotechnology	Reprocessed SUD	Companion Diagnostic	Medical Counter Measures
Yes	☐	☐	☐	☐
No	☒	☒	☒	☒
Unknown	☐	☐	☐	☐

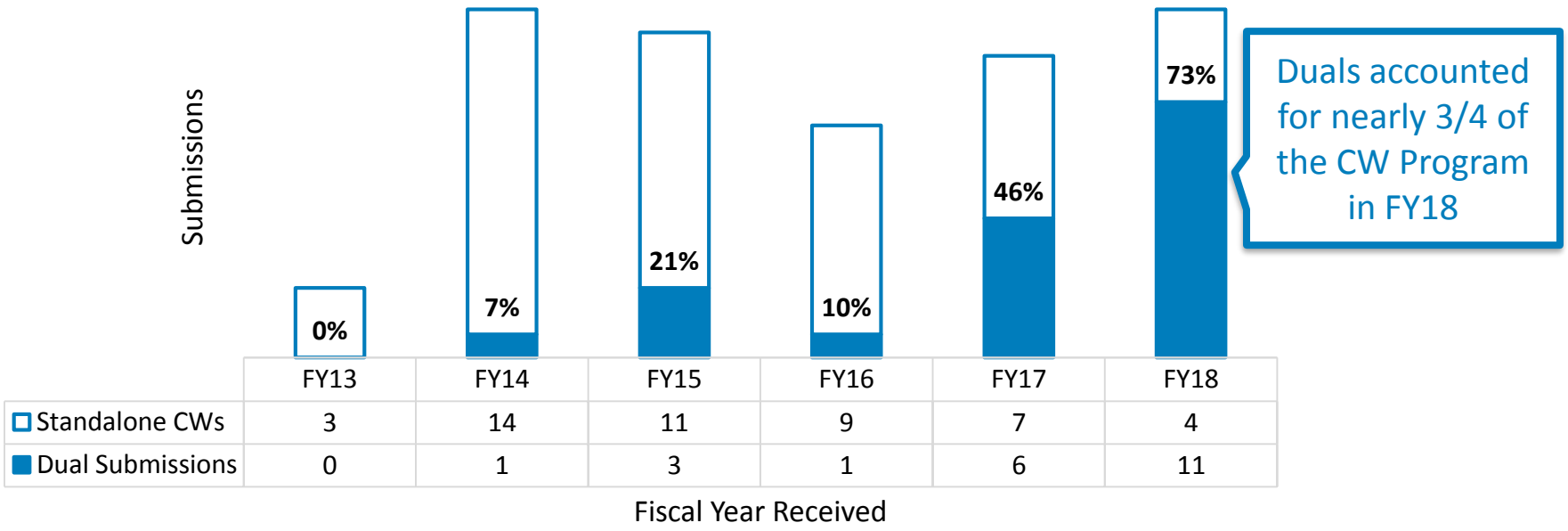
Device Description Table: Summary of important device characteristics

Quality 510(k) (QUiK) Review Pilot Program

- "Turbotax" for 510(k)
- Sponsor completes formatted eSubmission
- In return, CDRH will:
  - Skip RTA phase
  - Commit to interactive review without hold
  - Reduce FDA review time by 1/3



Dual CWs eclipsed standalone CWs as the preferred waiver pathway in FY18



	FY13	FY14	FY15	FY16	FY17	FY18
Standalone CWs	3	14	11	9	7	4
Dual Submissions	0	1	3	1	6	11

CLIA Waiver Decision Summaries:
https://www.fda.gov/AboutFDA/CentersOffices/OfficeofMedicalProductsandTobacco/CDRH/CDRHTransparency/ucm578178.htm

In Vitro Diagnostics in the Age of Precision Medicine

Developing a Nimble Regulatory Approach for Genomic Tests

Vision: Implement new regulatory policies to promote research and accelerate the translation of precision medicine technologies into treatments that **benefit patients**.

Goal: Improve regulatory efficiency; encourage and speed innovation

FDA's Vision for Regulation of NGS-Based IVDs for Diagnosing Germline Diseases

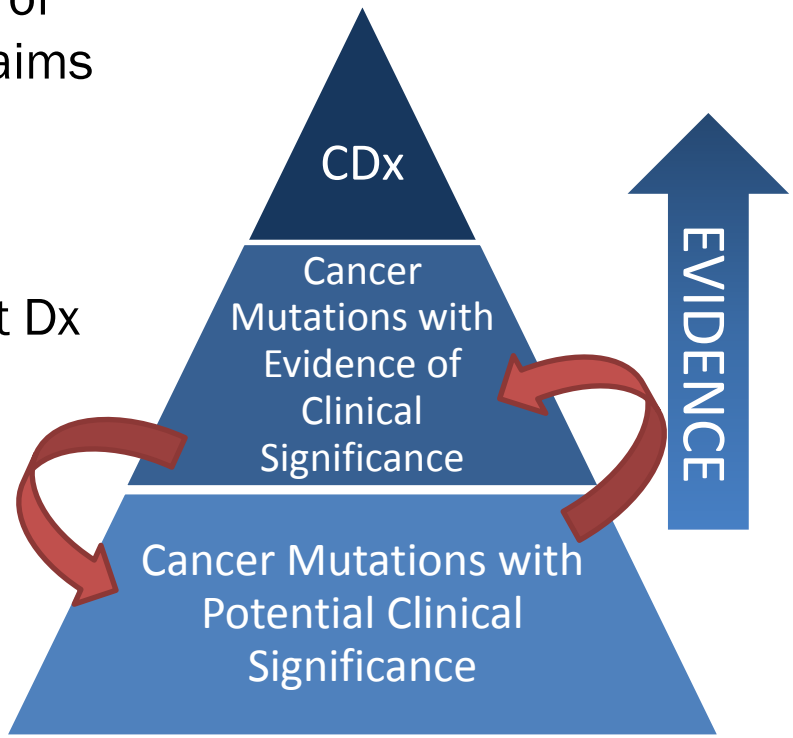
- **Technical/analytical standards for NGS**
  - ✓ The potential for an expedited path to market for test developers that meet these standards.
  - ✓ Standards would be developed with the scientific community, and can be updated as science and technology advance.
- **Use of FDA-recognized databases to provide clinical evidence**
  - ✓ Use databases as information sources to support the link between genetic variation and health/disease.
  - ✓ Test developers may be able to use such databases in support or in lieu of traditional clinical studies.
- **Develop, characterize, make publicly available NGS reference sample sets that can be used to support validation of NGS platforms.**
  - ✓ Make available characterized samples and sequence
  - ✓ Generate evolving "truth" sequence.

Oncopanels

- FDA laid out a clear, defined pathway in a white paper published to our website in the Fall of 2017.

- This pathway explains the different levels of evidence needed for different levels of claims for NGS-based oncopanels.

- Three Key Submissions Authorized:
  - ThermoFisher's OncoMine Target Test Dx
  - MSK-IMPACT-De Novo set up Class II pathway, potential 3rd party review
  - Foundation Medicine's F1CDx-PMA *Parallel Review* (FDA approval/CMS coverage)

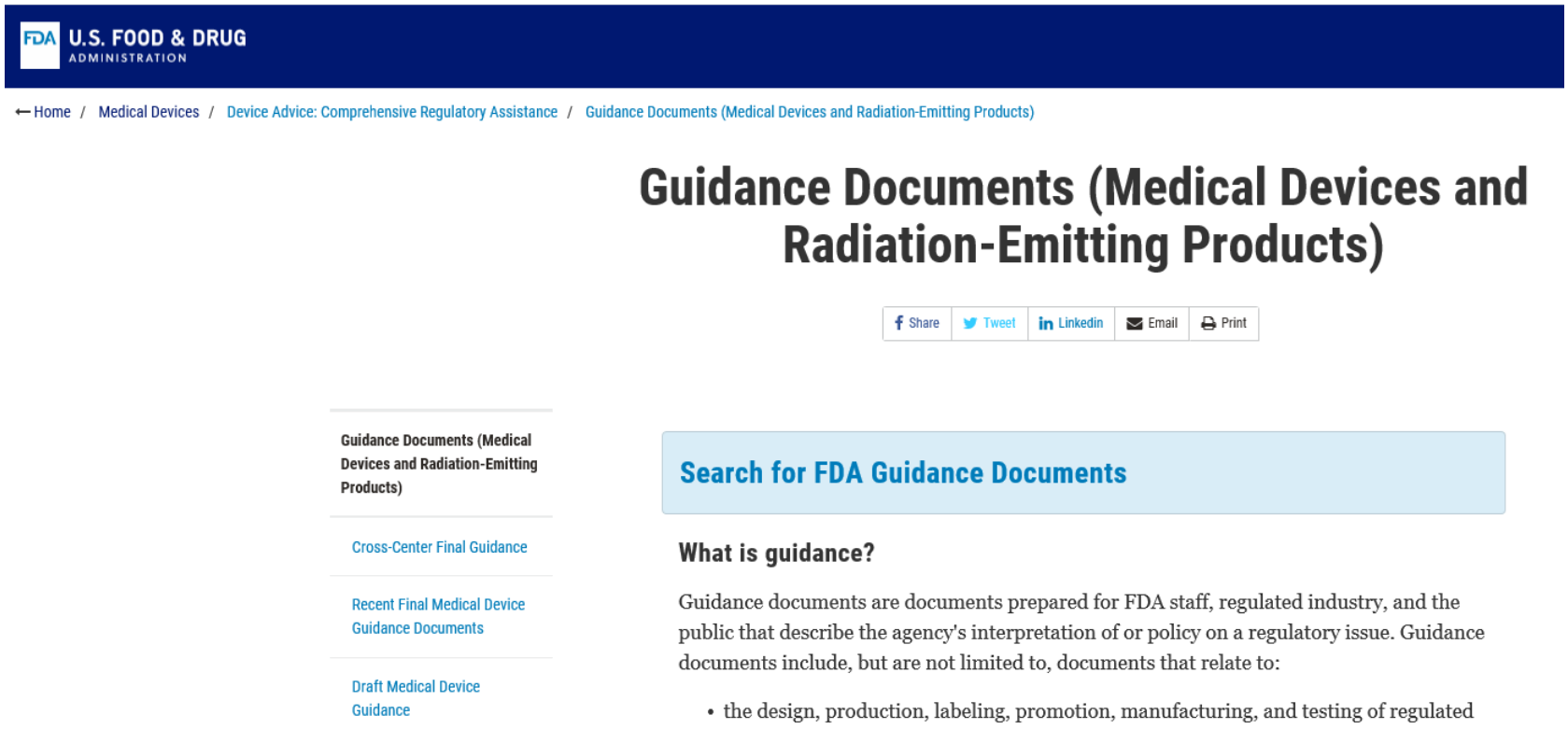


Reference Samples and Possibilities

- Develop, characterize, make publicly available NGS **reference sample sets**
  - Characterization efforts; generating "truth sets"
- Community effort – reference sequence
  - Sequence deposition on easily accessible **platform**
    - Integrate calls
    - Develop constantly ***evolving "truth" sequence***
    - Metadata explains technical characteristics
  - Characterized samples available
  - Sequence and metadata available

precisionFDA – platform, can be used to analyze, integrate and compare data sets

Guidance Documents



https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/guidance-documents-medical-devices-and-radiation-emitting-products

Performance Transparency

https://www.fda.gov/industry/medical-device-user-fee-amendments-mdufa/mdufa-quarterly-performance-reports

Questions?


FDA
U.S. FOOD & DRUG
ADMINISTRATION