How is FDA Supporting Medical Device Innovation

Carolyn Y. Neuland, Ph.D.
Assistant Director
Division of Renal, Gastroenterology, Obesity and Transplantation Devices
OHT3, OPEQ
Center for Devices and Radiological Health
U.S. Food and Drug Administration

AAKP/GW University
Inaugural Global Innovations in Patient-Centered Kidney Care Summit
Washington, DC
May 23, 2019

CDRH's Mission is: Protect and Promote Public Health

Assure that patients and providers have timely and continued access to safe, effective, and high-quality medical devices and safe radiation emitting products…..

Provide consumers, patients, their caregivers, and providers with understandable and accessible science-based information about the products we oversee…..

Facilitate medical device innovation by advancing regulatory science, providing industry with predictable, consistent, transparent, and efficient regulatory pathways, and assuring consumer confidence in devices marketed in the U.S

Patients are at the Heart of What We Do

CDRH Vision

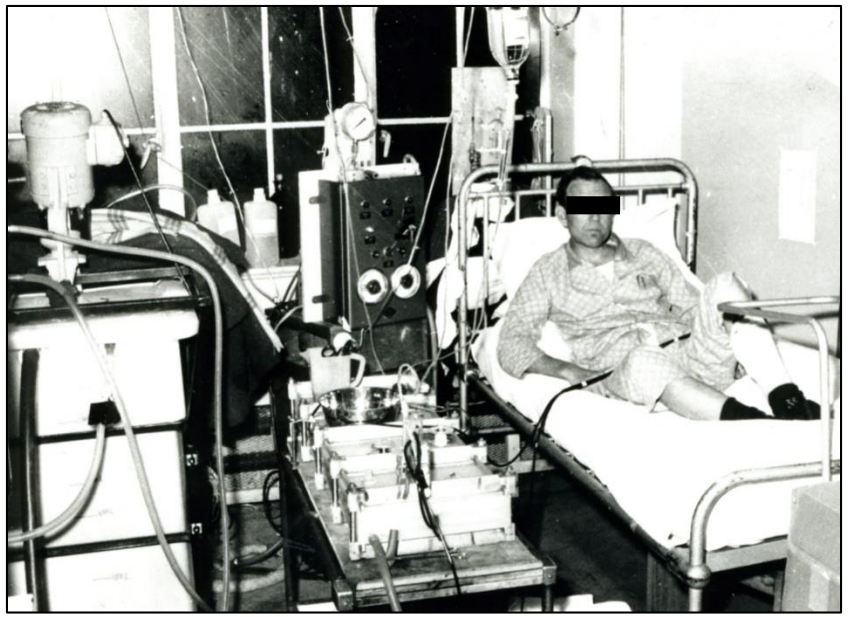
Patients in the U.S. have access to high-quality, safe, and effective medical devices of public health importance first in the world

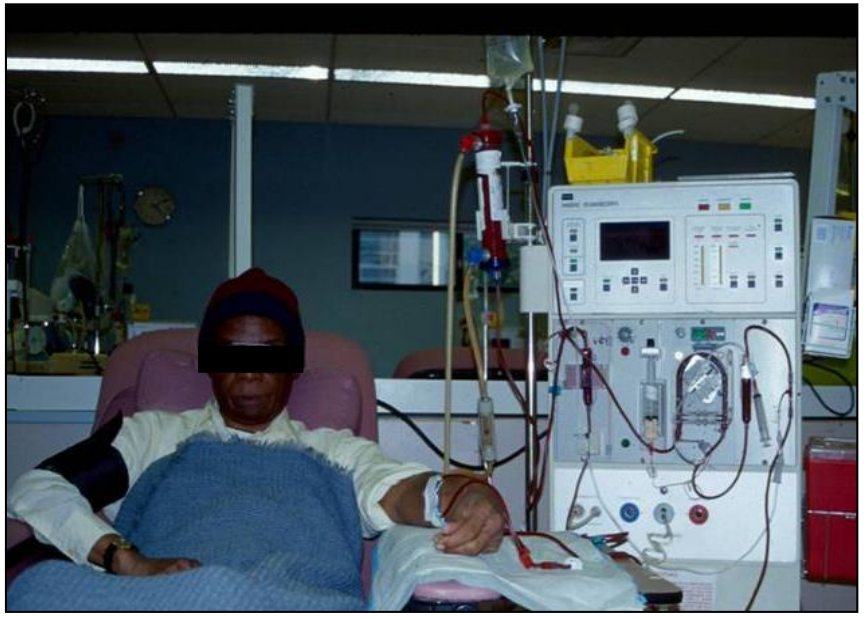
Are you part of the Problem or part of the Solution?

The Challenge

Little has Changed in Dialysis Technology in Nearly 60 Years

U.S. FOOD & DRUG ADMINISTRATION





1962 **2018**

Outcomes Remain Poor

"If we are going to keep patients alive by artificial means, we then incur the responsibility to see that it is a good life and an enjoyable life."

– Willem Kolff, 1968, pioneer of hemodialysis and artificial organs

	Class I	Class II	Class III
Risk level	Low	Moderate	High
Sufficient information for controls?	General	General & Special	Insufficient
Premarket review?	Mostly exempt	510(k) De Novo	PMA
Examples	Tongue depressor, Stethoscope	Endoscopes Infusion pumps Dialysis systems Dialysis catheters	Cardiac ablation catheters, Coronary artery stents Extracorporeal columns

	Class II		Class III
Premarket Path	510(k)	De Novo	PMA
Predicate?	Identified	None	None
Appropriate for …	“me also”	Innovative lower risk	High risk
Regulatory standard	“substantial equivalence”	Controls provide reasonable assurance for reclassification	Reasonable assurance of safety and effectiveness
Permission	“cleared’	“granted”	“approved”
Clinical data?	10-15%	Most	Almost always
Time to approval	4-6 months	6-9 months	1-2 years

FDA as Innovator: Strategy

Revolutionize

the Evidence Generation Paradigm

Transform

the Device Regulatory Framework

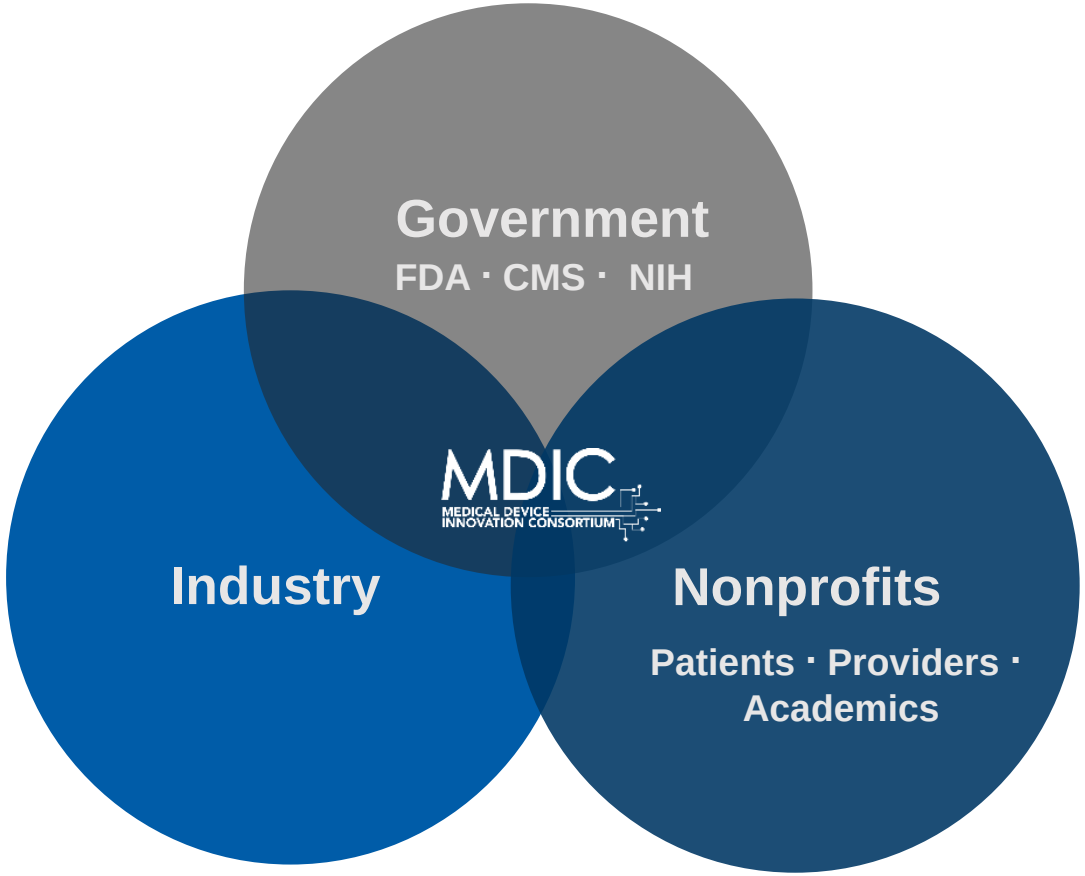
Evolve

the Role of the FDA

Public Private Partnerships

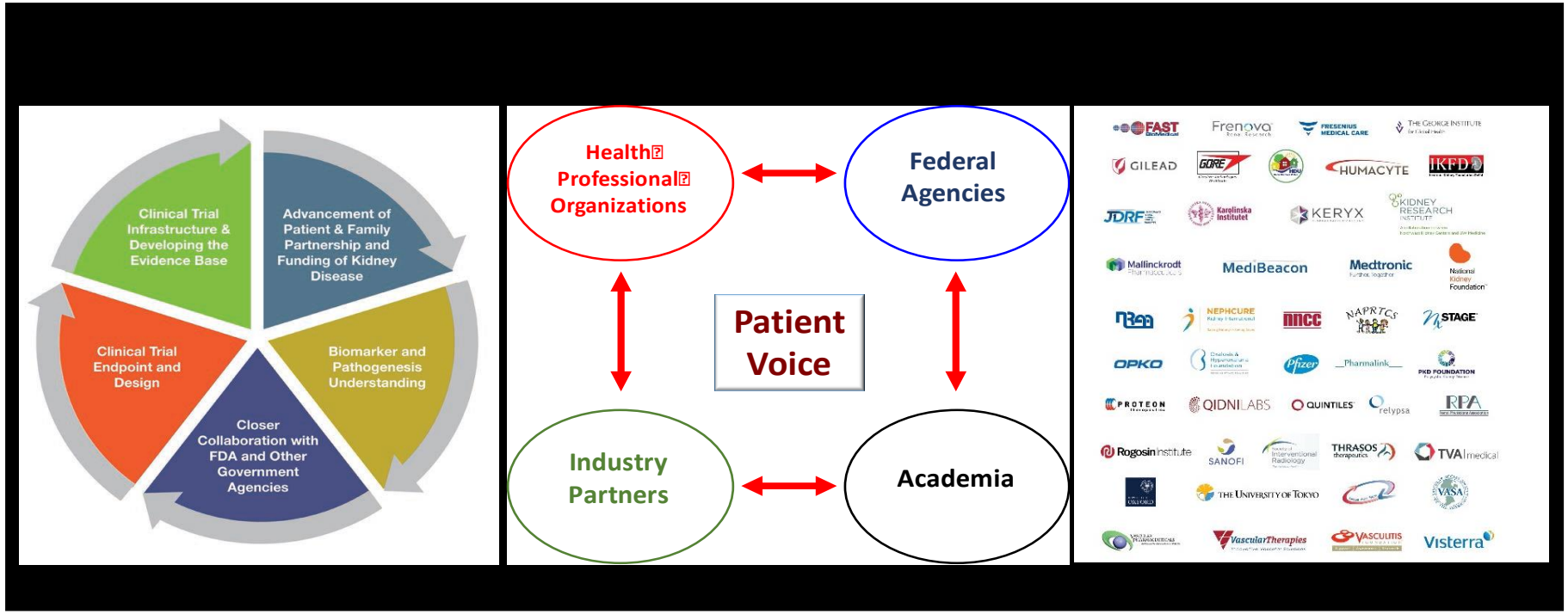
- Medical Device and Innovation Consortium (MDIC)
- Kidney Health Initiative (KHI)
- KidneyX Innovation Accelerator

Medical Device Innovation Consortium



MDIC is a public-private partnership created with the sole objective of advancing regulatory science of medical devices to more effectively and efficiently bridge the "Valley of Death" for patient benefit

The Kidney Health Initiative



2012: A public private partnership between the American Society of Nephrology (ASN) and the US Food and Drug Administration (FDA)

Has brought stakeholders together to foster innovation to address patient's need for alternatives to dialysis for renal replacement therapy (RRT)

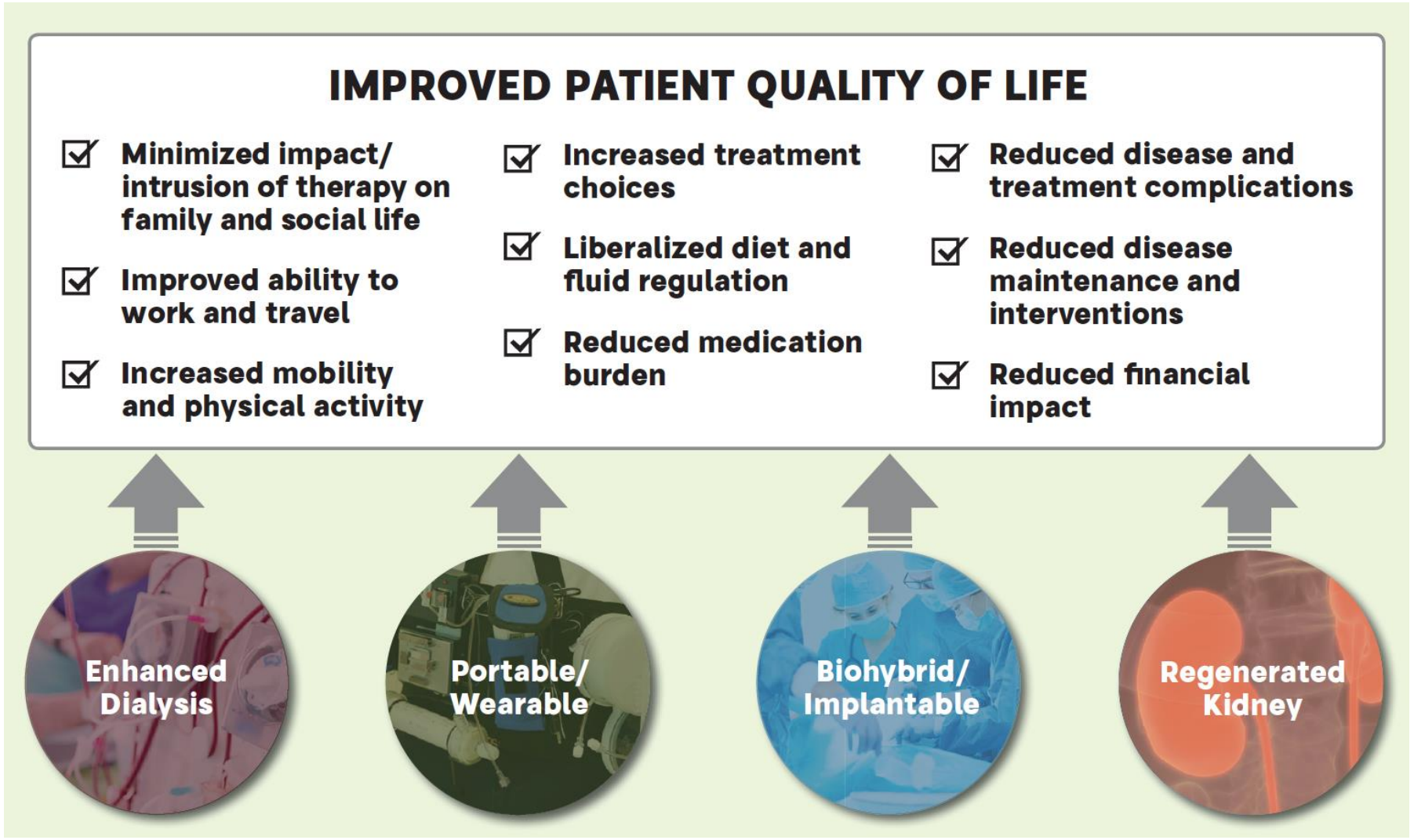
Technology Roadmap

for Innovative Approaches to Renal Replacement Therapy

Goals of the KHI RRT technology Roadmap:

- Spur innovation in the RRT field
- Attract industry/academic investment in developing RRT solutions
- Encourage internationally oriented multi-disciplinary approach
- Accelerate availability and adoption of commercially viable solutions
- Ensure patient/care partner preferences are incorporated
- Optimize processes regarding reimbursement

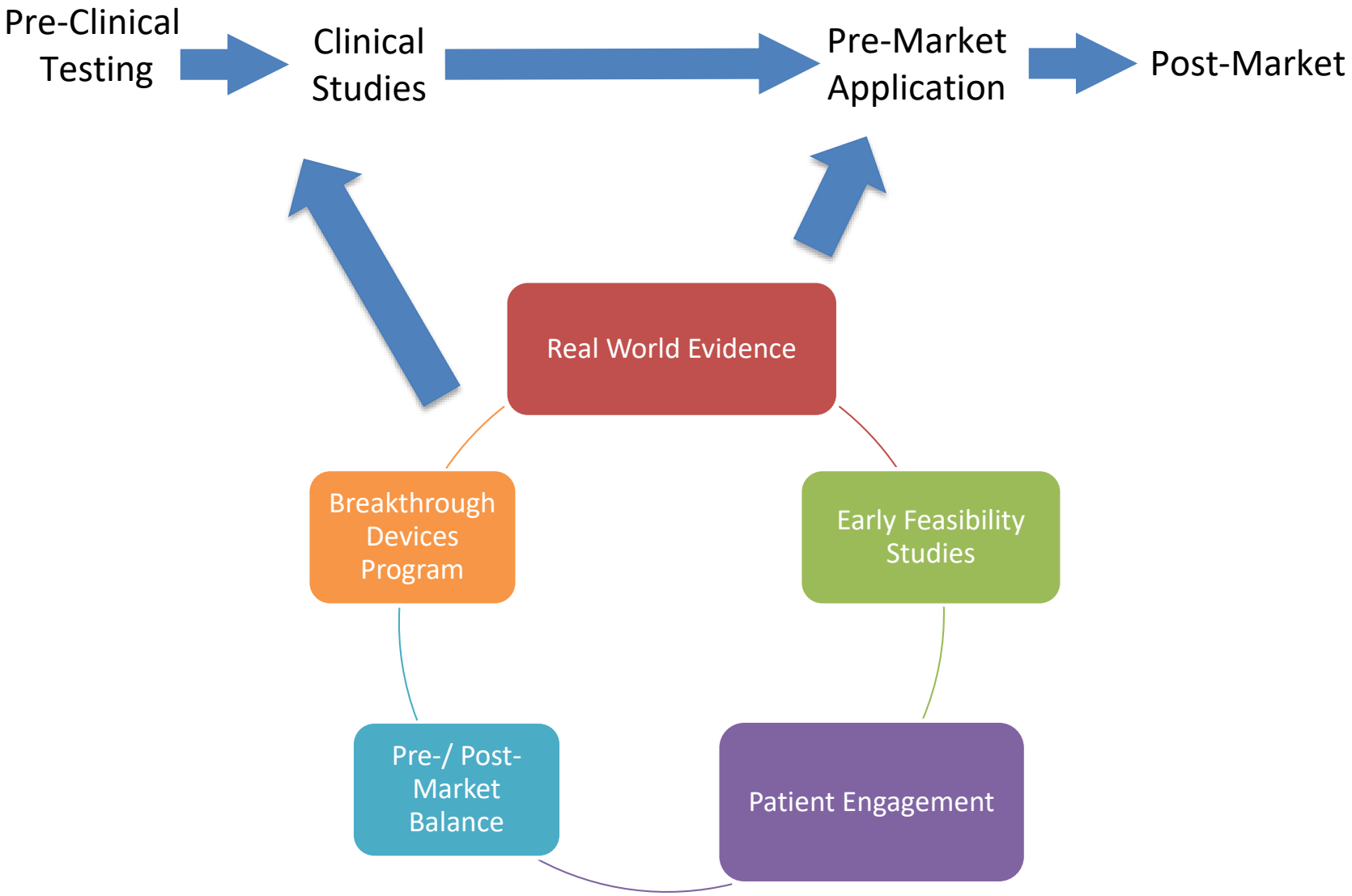
Future State: Improved QoL



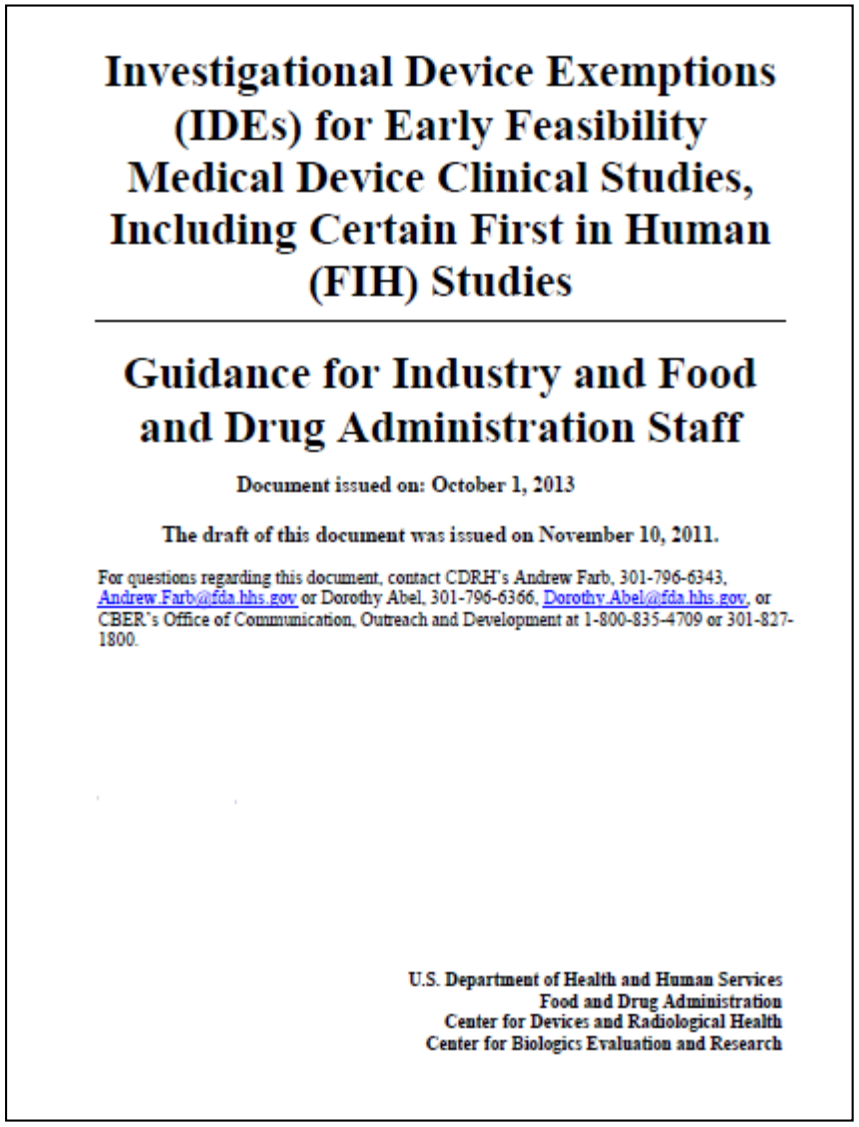
KidneyX Innovation Accelerator

- Kidney Innovation Accelerator (KidneyX) is a public-private partnership between HHS and ASN intended to accelerate breakthroughs and innovations in kidney care
- Provide merit based, non-dilutive funding via a series of prize competitions
- Supports coordination across HHS Agencies (FDA, CMS and NIH) to clarify the path toward commercialization and patient access to innovative products
- The RRT Roadmap will guide the priority funding choices of KidneyX 1.0
- FDA has played a key role in these efforts

Multiple Approaches to Supporting Device Innovation



Early Feasibility Study Program



Investigational Device Exemptions (IDEs) for Early Feasibility Medical Device Clinical Studies, Including Certain First in Human (FIH) Studies

Guidance for Industry and Food and Drug Administration Staff

Document issued on: October 1, 2013

The draft of this document was issued on November 10, 2011.

For questions regarding this document, contact CDRH's Andrew Farb, 301-796-6343, Andrew.Farb@fda.hhs.gov or Dorothy Abel, 301-796-6366, Dorothy.Abel@fda.hhs.gov, or CBER's Office of Communication, Outreach and Development at 1-800-835-4709 or 301-827-1800.

U.S. Department of Health and Human Services
Food and Drug Administration
Center for Devices and Radiological Health
Center for Biologics Evaluation and Research

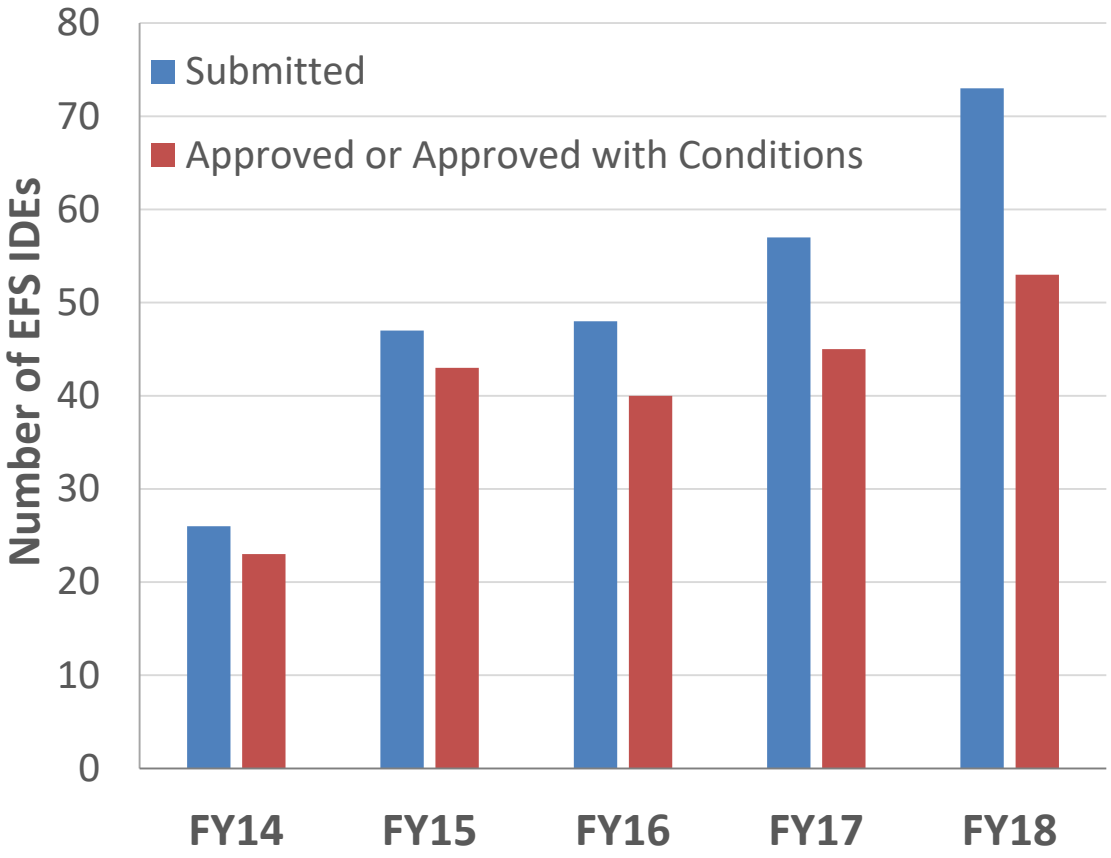
- **Voluntary, informal** program for devices in an **early stage** of development to be evaluated in a **small human clinical study <u>in the US</u>**
- Flexible approaches to address risk while protecting human subjects
- Tools for communicating device evaluation strategy
- Significant training effort and identification of representatives from each pre-market review area

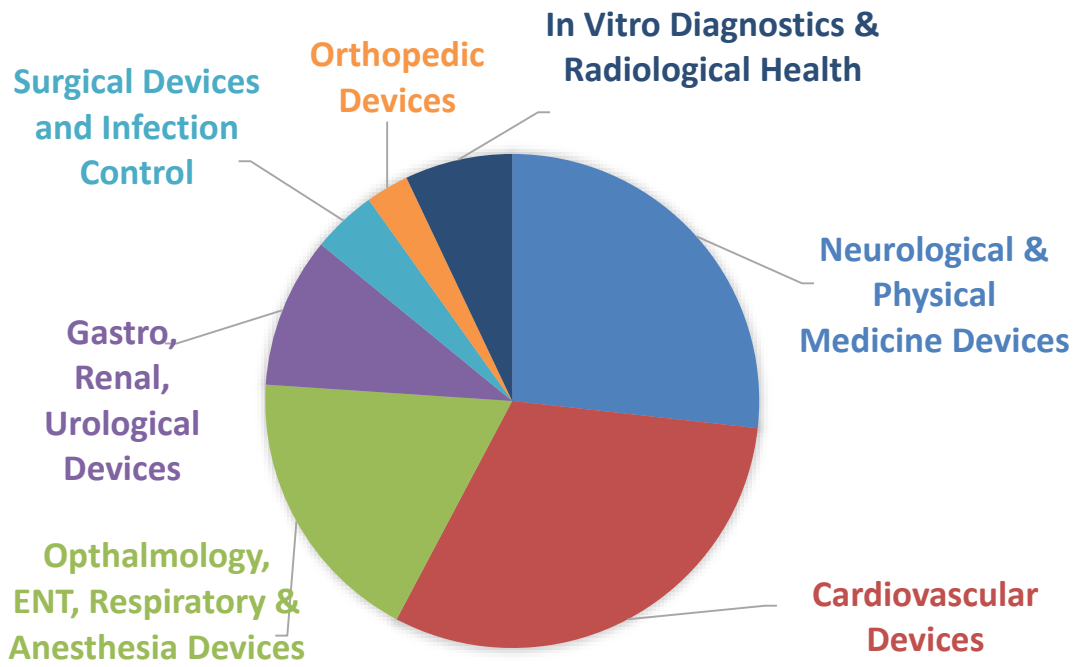
Key Policies for EFS Program

- **“Right Testing at the Right Time”**
  - Comprehensive testing during early phases of device development may add cost without significant return
  - However, informative nonclinical testing should be completed
- **Possible to leverage data from earlier versions of the device**
- **Unknowns and risk can be addressed by…**
  - Using clinical mitigations to provide patients with extra protection
  - more frequent/detailed reporting
- **Provides tools for communicating available data to CDRH**
  - Device evaluation strategy based approach

EFS Program at a Glance

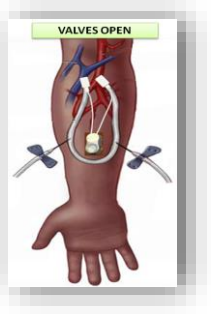
Significant FDA interaction from first Pre-Submission to EFS IDE review
Over 200 EFS approved





Based on FY18 data

Innovation Pathway 2.0
End Stage Renal Disease Innovation Challenge



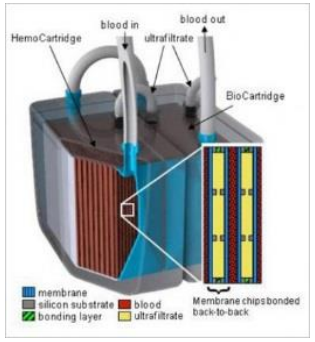
- 32 Device applicants; 3 selected
- Collaboration Phase – Summer 2012

HemoAccess Valve System

- A mechanical valve system allowing blood flow into AV graft only during dialysis

Wearable Artificial Kidney

- A miniaturized wearable dialysis machine to provide hemodialysis



Implantable Bio-Artificial Kidney

- Filters toxins from blood, and provide other biological functions giving patients 24/7 dialysis

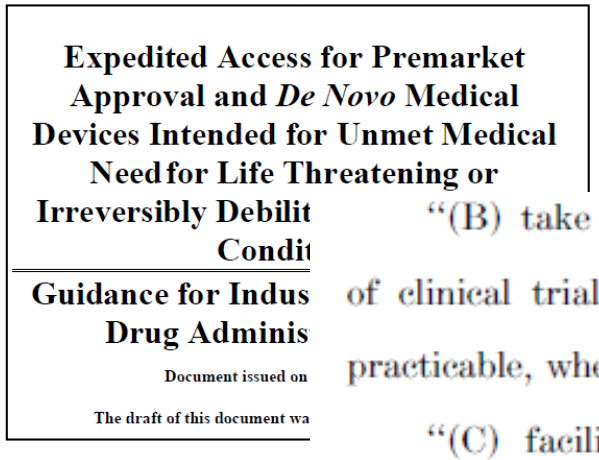
Breakthrough Devices Program

FDA's EAP Final Guidance April 13, 2015

21st Century Cures Act December 13, 2016

Breakthrough Devices Program Guidance December 18, 2018

2015 2016 2017 2018

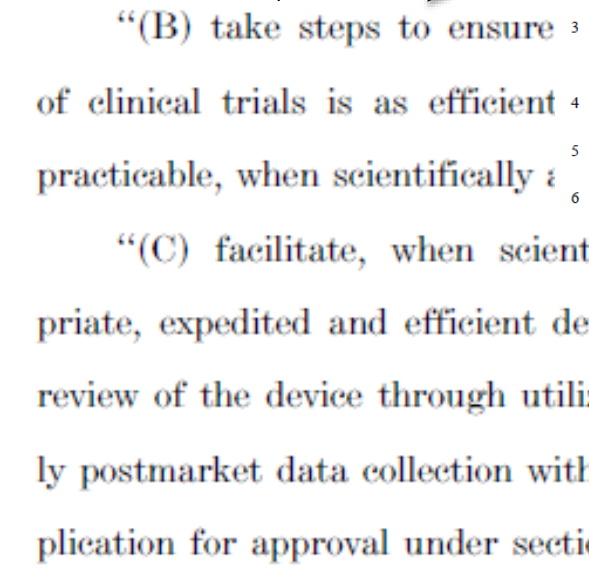


Expedited Access for Premarket Approval and *De Novo* Medical Devices Intended for Unmet Medical Need for Life Threatening or Irreversibly Debilit Condit

Guidance for Indus Drug Adminis

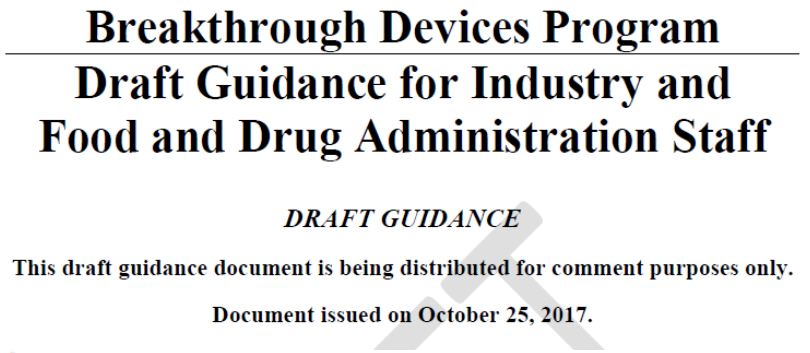
Document issued on

The draft of this document wa



"(B) take steps to ensure of clinical trials is as efficient practicable, when scientifically a

"(C) facilitate, when scientifically appropriate, expedited and efficient development and review of the device through utilization of timely postmarket data collection with regard to application for approval under section 515(c); and



Breakthrough Devices Program

Draft Guidance for Industry and Food and Drug Administration Staff

DRAFT GUIDANCE

This draft guidance document is being distributed for comment purposes only.

Document issued on October 25, 2017.

Breakthrough Program Purpose

- Help patients have more timely access to devices
- Expedite device development and review for certain medical devices
- Work with sponsors to define a roadmap to FDA marketing authorization
  - Breakdown perceived barriers
  - Collaboration & interaction in a positive feedback loop
- Devices subject to PMA, De Novo and 510(k) that:

Breakthrough Eligibility & Criteria

- 1: provide for more effective treatment or diagnosis of life-threatening or irreversibly debilitating human disease or conditions;

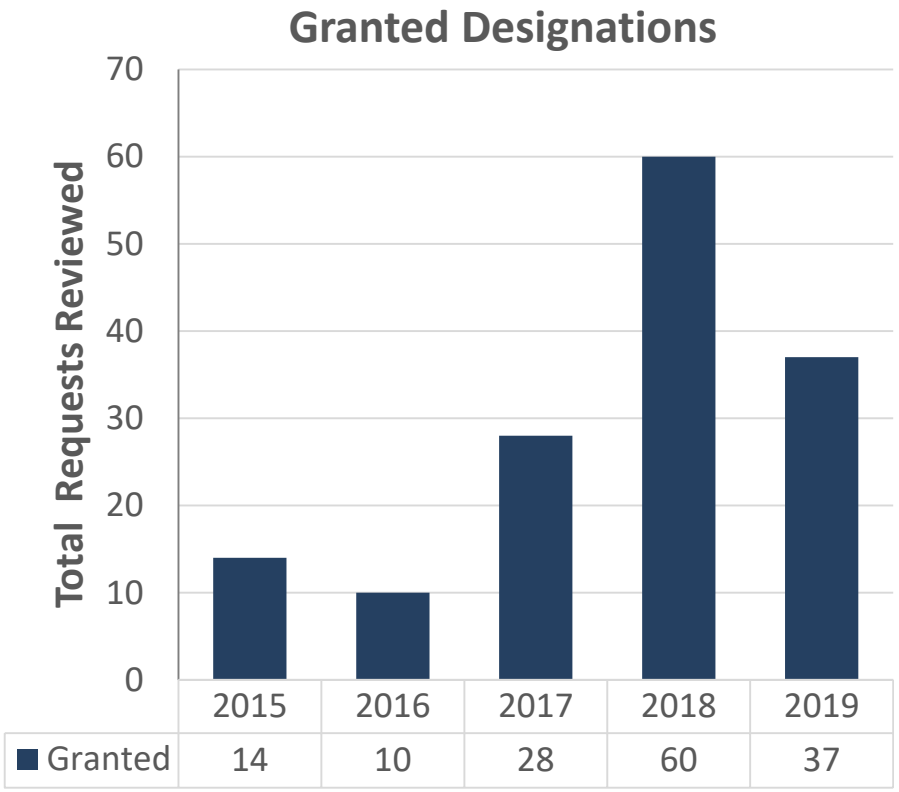
and

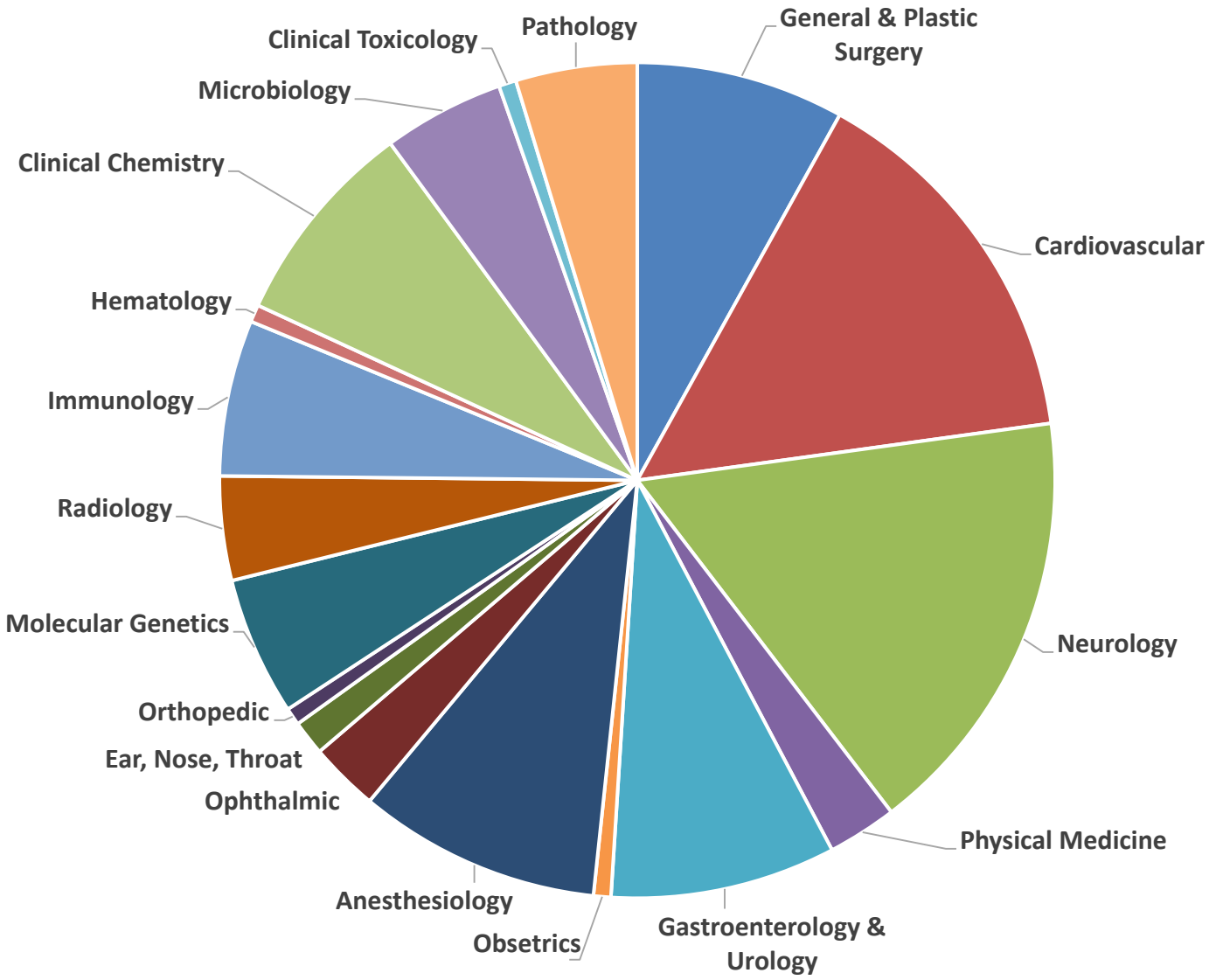
- 2A: that represent breakthrough technologies; **or**
- 2B: for which no approved or cleared alternatives exist; **or**
- 2C: that offer significant advantages over existing approved or cleared alternatives, including the potential, compared to existing approved alternatives, to reduce or eliminate the need for hospitalization, improve patient quality of life, facilitate patients' ability to manage their own care (such as through self-directed personal assistance), or establish long-term clinical efficiencies; **or**
- 2D: the availability of which is in the best interest of patients."

Section 515B(b) FD&C Act

Program at a Glance – Granted Designations

as of May 1, 2019

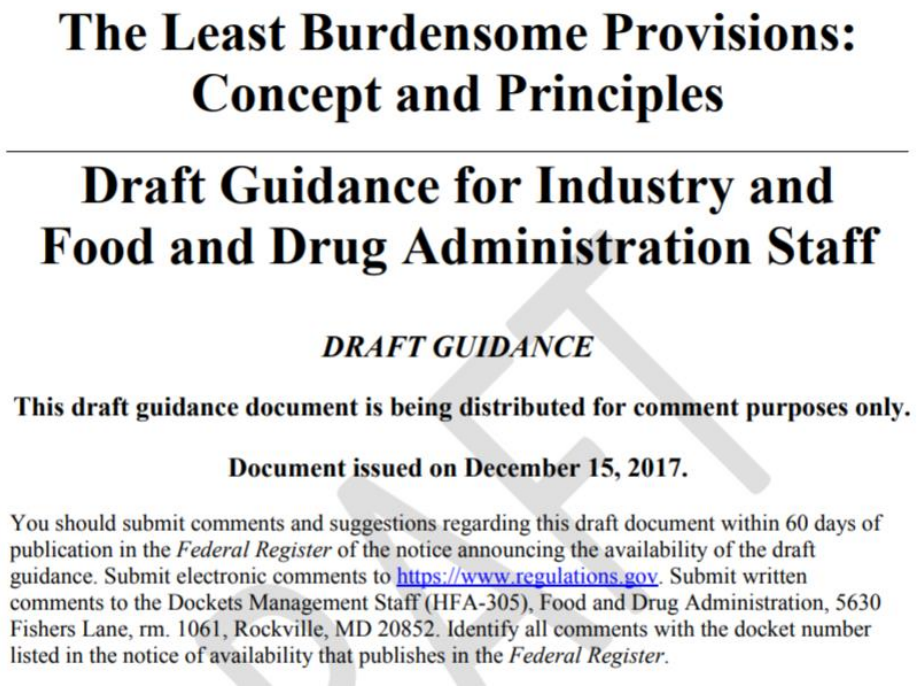




** 2015 reflects data from publication of final EAP Guidance on 4/13/2015*

2019 reflects data from first 4 months – 149 devices

Least Burdensome Provisions



The Least Burdensome Provisions: Concept and Principles

Draft Guidance for Industry and Food and Drug Administration Staff

DRAFT GUIDANCE

This draft guidance document is being distributed for comment purposes only.

Document issued on December 15, 2017.

You should submit comments and suggestions regarding this draft document within 60 days of publication in the *Federal Register* of the notice announcing the availability of the draft guidance. Submit electronic comments to https://www.regulations.gov. Submit written comments to the Dockets Management Staff (HFA-305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852. Identify all comments with the docket number listed in the notice of availability that publishes in the *Federal Register*.

2000 – FDAMA – suggested format for developing and responding to deficiencies

2002 – FDA guidance – focus on statutory and regulatory criteria (eg., need to know vs nice to know)

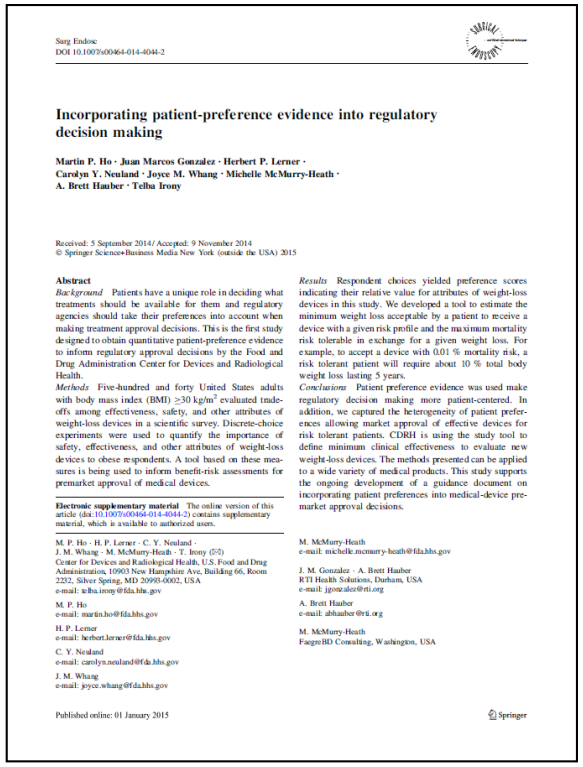
2017 – MDUFA 4 and 21st Century Cures – "the minimum amount of information necessary to adequately address a regulatory question or issue through the most efficient manner at the right time", decisions based on sound science, use of alternative approaches, use of real world evidence, and effective use of regulatory resources

Least Burdensome Provisions

Does not raise or lower the regulatory “bar”……

….and does not translate into “I don’t want to do it”

Device Patient Preference Initiative



Surg Endosc
DOI 10.1007/s00464-014-4044-2

Incorporating patient-preference evidence into regulatory decision making

Martin P. Ho · Juan Marcos Gonzalez · Herbert P. Lerner · Carolyn Y. Neuland · Joyce M. Whang · Michelle McMurry-Heath · A. Brett Hauber · Telba Irony

Received: 5 September 2014 / Accepted: 9 November 2014

Abstract
Background Patients have a unique role in deciding what treatments should be available for them and regulatory agencies should take their preferences into account when making treatment approval decisions. This is the first study designed to obtain quantitative patient-preference evidence to inform regulatory approval decisions by the Food and Drug Administration Center for Devices and Radiological Health.
Methods Five-hundred and forty United States adults with body mass index (BMI) >30 kg/m^2 evaluated trade-offs among effectiveness, safety, and other attributes of weight-loss devices in a scientific survey. Discrete-choice experiments were used to quantify the importance of safety, effectiveness, and other attributes of weight-loss devices to obese respondents. A tool based on these measures is being used to inform benefit-risk assessments for premarket approval of medical devices.
Results Respondent choices yielded preference scores indicating their relative value for attributes of weight-loss devices in this study. We developed a tool to estimate the minimum weight loss acceptable by a patient to receive a device with a given risk profile and the maximum mortality risk tolerable in exchange for a given weight loss. For example, to accept a device with 0.01 % mortality risk, a risk tolerant patient will require about 10 % total body weight loss lasting 5 years.
Conclusions Patient preference evidence was used make regulatory decision making more patient-centered. In addition, we captured the heterogeneity of patient preferences allowing market approval of effective devices for risk tolerant patients. CDRH is using the study tool to define minimum clinical effectiveness to evaluate new weight-loss devices. The methods presented can be applied to a wide variety of medical products. This study supports the ongoing development of a guidance document on incorporating patient preferences into medical-device premarket approval decisions.

Electronic supplementary material The online version of this article (doi:10.1007/s00464-014-4044-2) contains supplementary material, which is available to authorized users.

M. P. Ho · H. P. Lerner · C. Y. Neuland · J. M. Whang · M. McMurry-Heath · T. Irony (✉)
Center for Devices and Radiological Health, U.S. Food and Drug Administration, 10903 New Hampshire Ave, Building 66, Room 2232, Silver Spring, MD 20993-0002, USA
e-mail: telba.irony@fda.hhs.gov

M. P. Ho
e-mail: martin.ho@fda.hhs.gov

H. P. Lerner
e-mail: herbert.lerner@fda.hhs.gov

C. Y. Neuland
e-mail: carolyn.neuland@fda.hhs.gov

J. M. Whang
e-mail: joyce.whang@fda.hhs.gov

M. McMurry-Heath
e-mail: michelle.mcmurry-heath@fda.hhs.gov

J. M. Gonzalez · A. Brett Hauber
RTI Health Solutions, Durham, USA
e-mail: jgonzalez@rti.org

A. Brett Hauber
e-mail: abhauber@rti.org

M. McMurry-Heath
FaegreBD Consulting, Washington, USA

Published online: 01 January 2015

Springer

Patient Preference Information – Voluntary Submission, Review in Premarket Approval Applications, Humanitarian Device Exemption Applications, and *De Novo* Requests, and Inclusion in Decision Summaries and Device Labeling

Guidance for Industry, Food and Drug Administration Staff, and Other Stakeholders

Document issued on August 24, 2016.
This document will be in effect as of October 23, 2016.

The draft of this document was issued on May 18, 2015.

For questions about this document regarding CDRH-regulated devices, contact the Office of the Center Director (CDRH) at 301-796-5900 or Anindita Saha at 301-796-2537 (Anindita.Saha@fda.hhs.gov)..

For questions about this document regarding CBER-regulated devices, contact the Office of Communication, Outreach, and Development (OCOD) at 1-800-835-4709 or 240-402-8010.

U.S. Department of Health and Human Services
Food and Drug Administration

Center for Devices and Radiological Health

Center for Biologics Evaluation and Research

Partnering with Patients

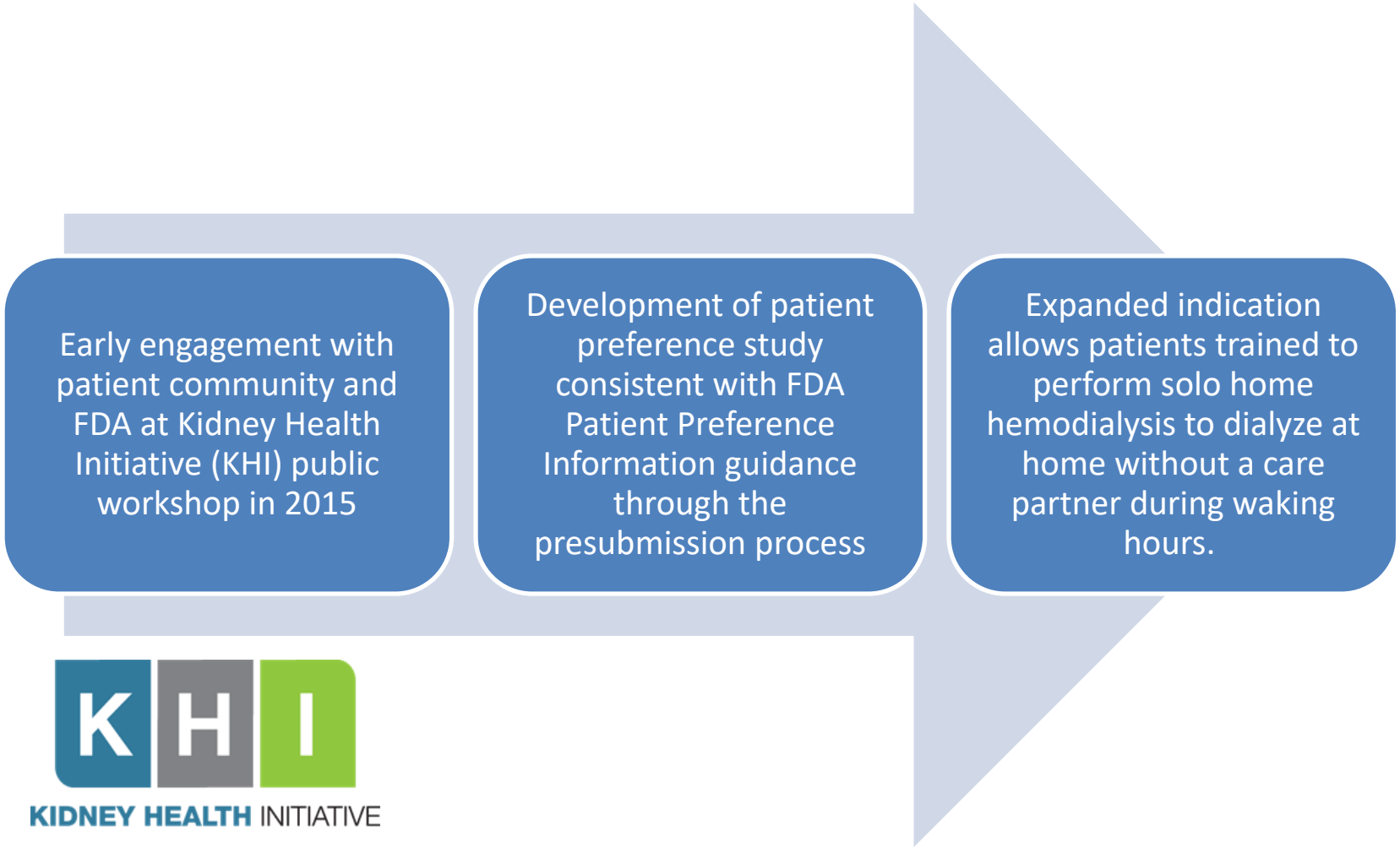
Patient Reported Outcomes

Patient Preference Information

Patient Engagement Advisory Committee

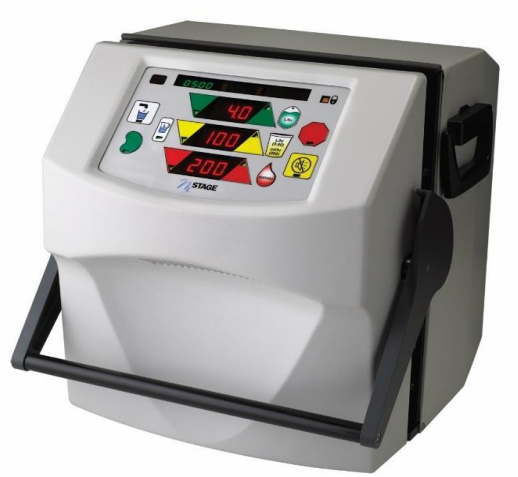
JAMA - Engaging Patients Across the Spectrum of Medical Product Development

Patient Engagement - Solo Home HD



Submission Background: NxStage Solo dialysis

- Originally cleared for home hemodialysis (HHD) with a partner
- Care partner was originally considered necessary to mitigate rare, but serious adverse events
- Clinical trial to evaluate rare events was not feasible
- Patient preference (PPI) study measured patients' maximum acceptable risk for HHD without a partner instead of in-center dialysis



FDA

NxSTAGE

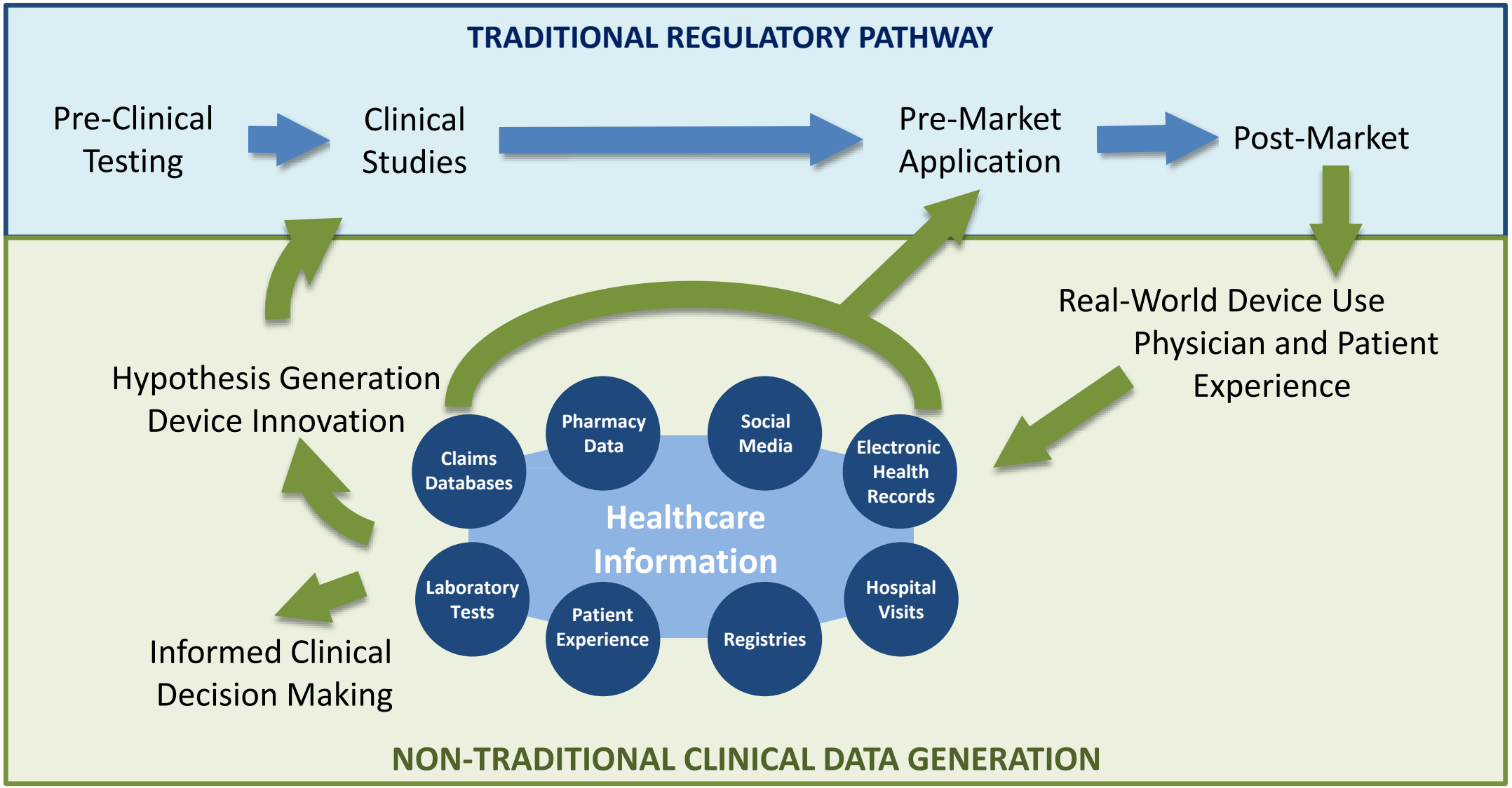
Aug 28, 2017
Previous Release

NxStage Medical Announces FDA Clearance for Solo Home Hemodialysis Using NxStage® System One™

First clearance of its kind gives trained NxStage patients freedom to dialyze without a care partner

LAWRENCE, Mass., Aug. 28, 2017 /PRNewswire/ -- NxStage Medical, Inc. (Nasdaq: NXTM), a leading medical technology company focused on advancing renal care, today announced that the U.S. Food and Drug Administration (FDA) has cleared its System One for solo home hemodialysis, without a care partner, during waking hours.

Evidence in Regulatory Decisions



Consideration of Uncertainty In Making Benefit-Risk Determinations in PMA, De Novo, and HDE Approvals

- Some degree of uncertainty generally exists around benefits and risks for regulatory decisions
- The regulatory standard is reasonable assurance – not absolute assurance
- Flexible regulatory paradigm

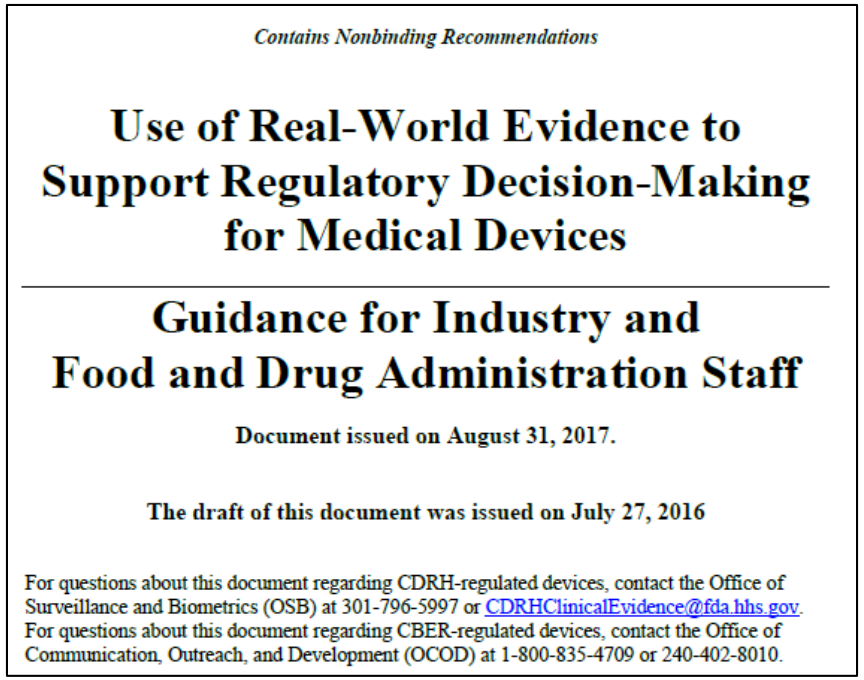
Clarified Through Draft Guidance Issued on September 5, 2018

Circumstances Where FDA is More Likely to Accept More Uncertainty

- For example:
  - Breakthrough Devices
  - PMAs with small patient population
  - De Novos with minimal risk
  - Particularly if established postmarket data collection mechanism
- Provides opportunities for international harmonization, where appropriate, and supports the establishment of a Medical Device Single Review Program

Real-World Evidence

- **Real-World Data (RWD)** are data relating to patient health status and/or the delivery of health care routinely collected from a variety of sources.
- **Real-World Evidence (RWE)** is the clinical evidence regarding the usage, and potential benefits or risks, of a medical product derived from analysis of RWD.



Contains Nonbinding Recommendations

Use of Real-World Evidence to Support Regulatory Decision-Making for Medical Devices

Guidance for Industry and Food and Drug Administration Staff

Document issued on August 31, 2017.

The draft of this document was issued on July 27, 2016

For questions about this document regarding CDRH-regulated devices, contact the Office of Surveillance and Biometrics (OSB) at 301-796-5997 or CDRHClinicalEvidence@fda.hhs.gov. For questions about this document regarding CBER-regulated devices, contact the Office of Communication, Outreach, and Development (OCOD) at 1-800-835-4709 or 240-402-8010.

Under the right conditions, data derived from real world sources can be used to support regulatory decisions.

Real-World Evidence

- RWE recently used to expand Indications for a hemodialysis catheter cap device
- RWE supported a reduction in the incidence of central-line associated bloodstream infections (CLABSI)

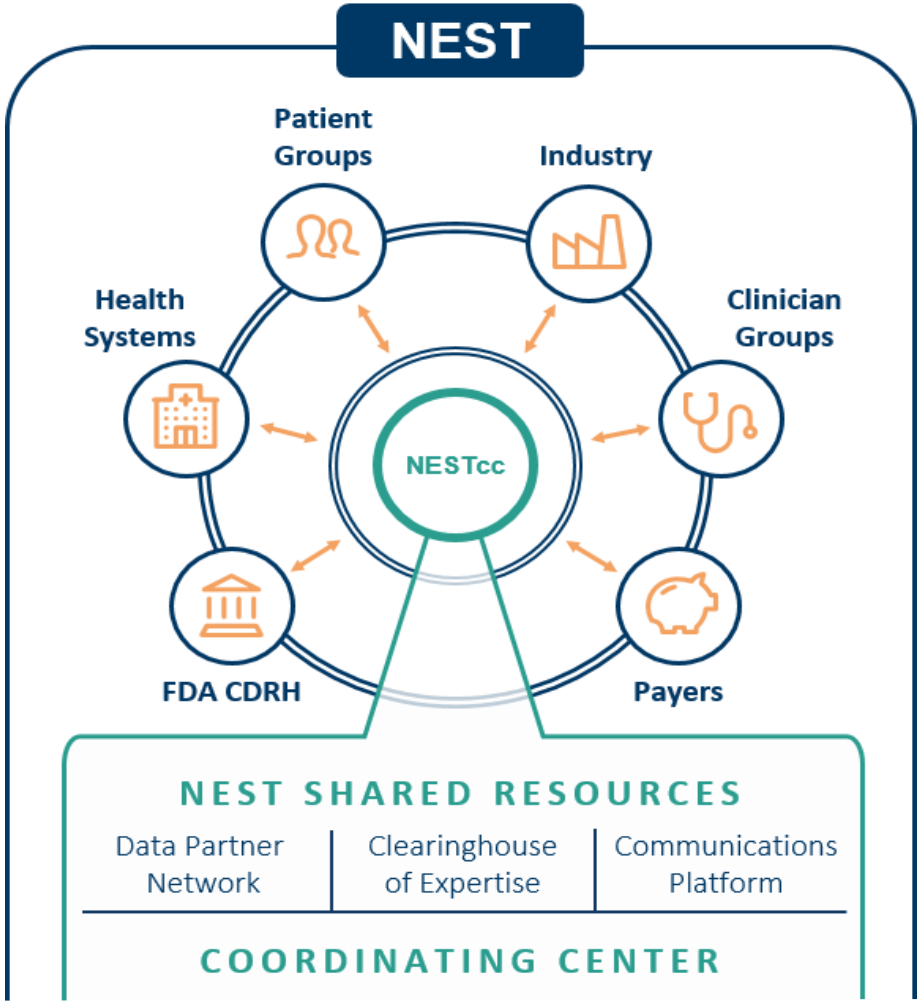
FDA Broadens ClearGuard® HD Antimicrobial Barrier Cap Indications

ClearGuard HD Caps Have Been Shown to Reduce Central Line-Associated Bloodstream Infections in Hemodialysis Patients

Maple Grove, Minn., May 30, 2018 /PRNewswire/ – Pursuit Vascular, Inc., manufacturer of ClearGuard HD Antimicrobial Caps, the leading antimicrobial device for catheter-based dialysis patients, today announced that the U.S. Food and Drug Administration (FDA) granted clearance for a broader indication of the company's ClearGuard HD caps to include reduction in the incidence of central-line associated bloodstream infection (CLABSI) in hemodialysis patients with central venous catheters (CVCs). The safety and efficacy of the ClearGuard technology is well established, and ClearGuard HD caps were first cleared for use with hemodialysis catheters in 2013. The expanded clearance was based on post-market clinical surveillance data.

http://www.pursuitvascular.com/includes/FDA_Broadens_ClearGuard_HD_Indications.pdf

National Evaluation System for health Technology

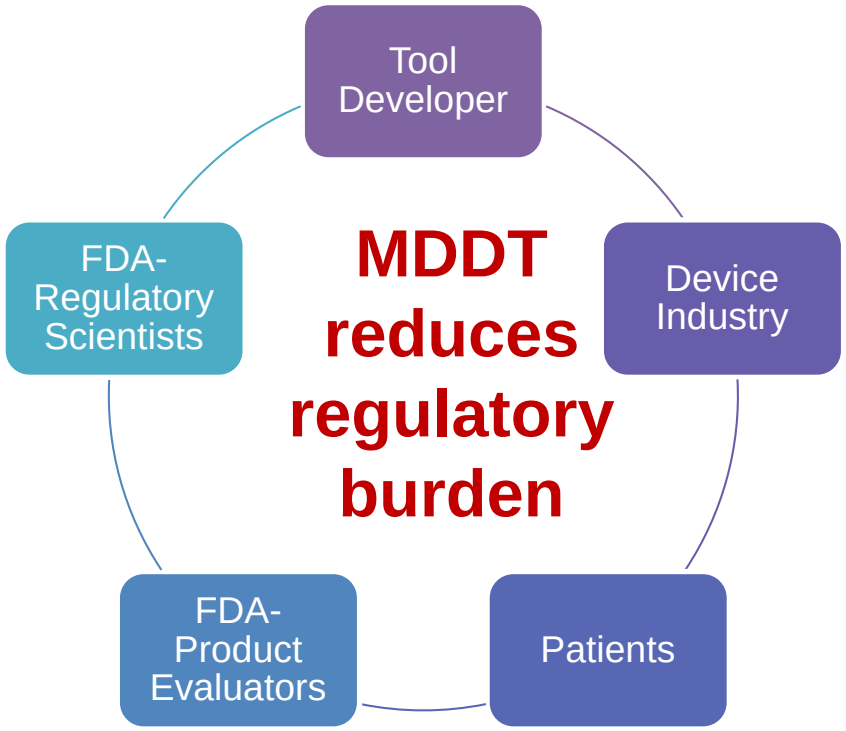


NEST
National Evaluation System for health Technology
Coordinating Center

MDIC
MEDICAL DEVICE INNOVATION CONSORTIUM

Medical Device Development Tool Program (MDDT)

Promotes Efficient Medical Device Development

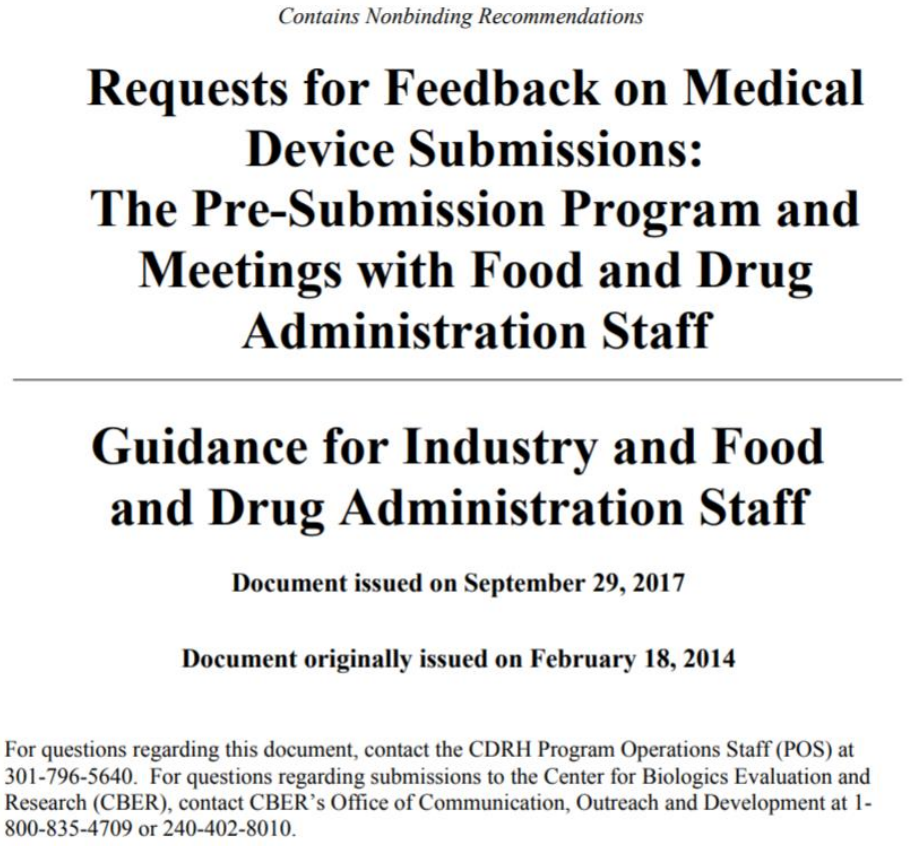


MDDT: ***a method, material or measurement used to assess effectiveness, safety or performance of a medical device***

Benefit of Qualifying Tools

- Fosters innovation
- Encourages collaboration
- Reduces resource expenditure
- Qualified MDDT applied in multiple device submissions
- Promotes efficiency in CDRH regulatory review resources
- Minimizes uncertainty in regulatory review process

Communicating with FDA



Contains Nonbinding Recommendations

Requests for Feedback on Medical Device Submissions: The Pre-Submission Program and Meetings with Food and Drug Administration Staff

---

Guidance for Industry and Food and Drug Administration Staff

Document issued on September 29, 2017

Document originally issued on February 18, 2014

For questions regarding this document, contact the CDRH Program Operations Staff (POS) at 301-796-5640. For questions regarding submissions to the Center for Biologics Evaluation and Research (CBER), contact CBER's Office of Communication, Outreach and Development at 1-800-835-4709 or 240-402-8010.

- Covers informational meetings to explain device concepts to FDA
- To obtain guidance/advice prior to submitting a device application.
- Knowing as much as possible prior to a formal device submission benefits both FDA and the sponsor

Interactions: Keys to Success

Informational Meeting

Pre-Submission Meeting

Interactive Review Process

Post-Decision Conference Call

Submission Issue Meeting

Other Innovative Programs at CDRH

- Benefit/Risk Guidance
- Balancing Premarket and Postmarket Data Collection
- Adaptive Design for Medical Device Clinical Studies
- NIH SBIR/SBTT Regulatory Assistance
- Incubator/Accelerator Visits (ELP)
- CMS Parallel Review
- Payer Communication Task Force
- Early Regulatory Assistance
- Increased Sponsor Interactions

CDRH Reorganization

Once fully implemented, the CDRH reorganization will:

OPEQ

Establish the Office of Product Evaluation and Quality (OPEQ) - Combines the Offices of Compliance, Office of Device Evaluation, Office of Surveillance and Biometrics and the Office of In Vitro Diagnostics and Radiological Health into one "super office" focused on a Total Product Lifecycle approach to medical device oversight.

OP

Establish the Office of Policy (OP) - Establishes two teams, the Guidance, Legislation and Special Projects Team and the Regulatory Documents and Special Projects Team. There are no changes in the functions for CDRH Policy.

OSPTI

Establish the Office of Strategic Partnerships and Technology Innovation (OSPTI) - Combines the Science & Strategic Partnerships, Digital Health, Health Informatics and Innovation teams. There are no changes in functions within the different teams.

Thank you!

Questions – carolyn.neuland@fda.hhs.gov


FDA

Extra Slides


FDA
U.S. FOOD & DRUG
ADMINISTRATION

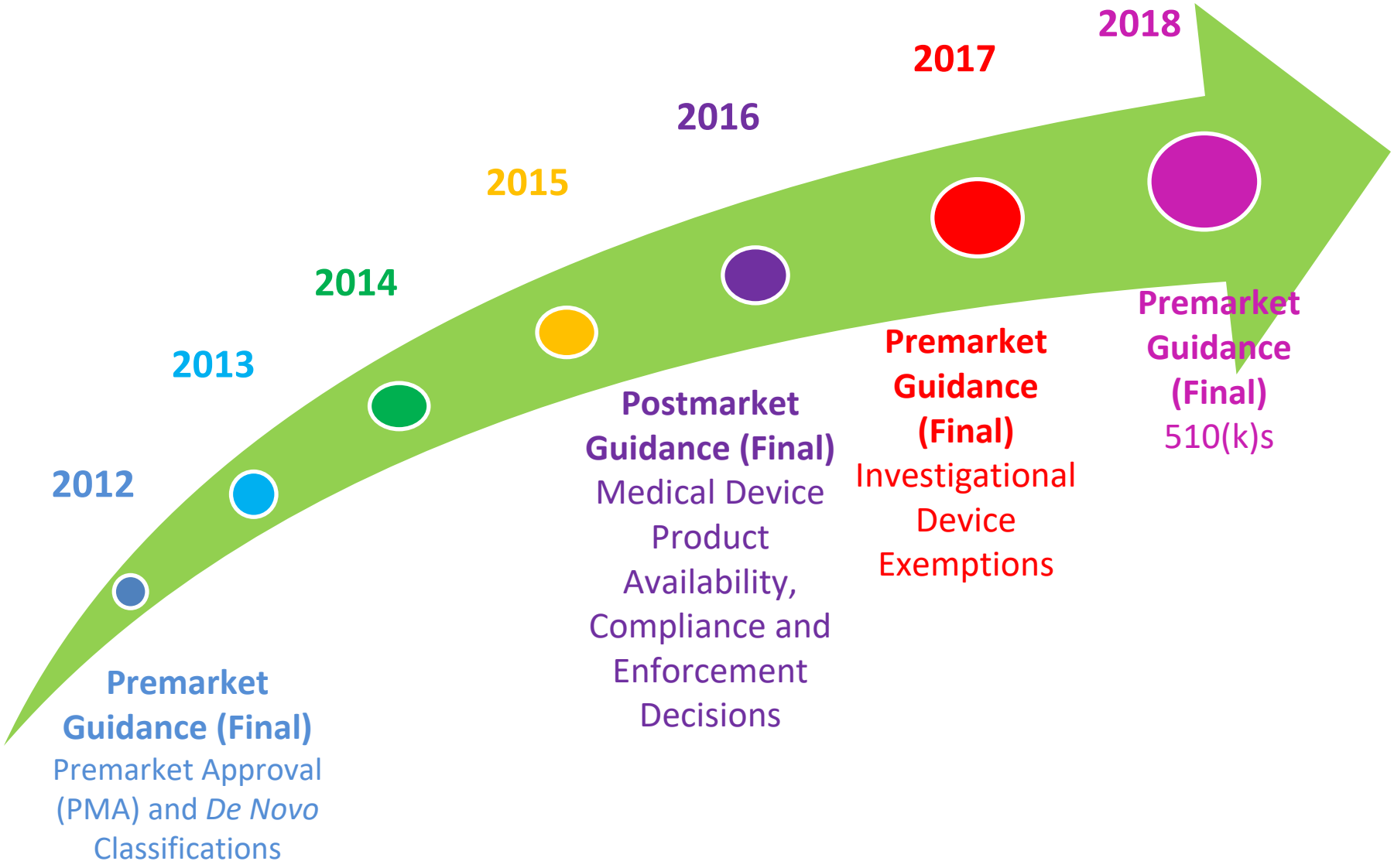
Educational Resources: CDRH

1. **CDRH Learn: Multi-Media Industry Education**
   - over 125 modules
   - videos, audio recordings, power point presentations, software-based “how to” modules
   - mobile-friendly: access CDRH Learn on your portable devices
     www.fda.gov/Training/CDRHLearn

2. **Device Advice: Text-Based Education**
   - comprehensive regulatory information on premarket and postmarket topics **www.fda.gov/MedicalDevices/DeviceAdvice**

3. **Division of Industry and Consumer Education (DICE)**
   - Contact DICE if you have a question
   - Email: **DICE@fda.hhs.gov**
   - Phone: 1(800) 638-2041 or (301) 796-7100 (Hours: 9 am-12:30 pm; 1 pm-4:30pm EST)
   - Web: **www.fda.gov/DICE**

Better Tailored, More Consistent Benefit-Risk Determinations Supporting Our Decision-Making

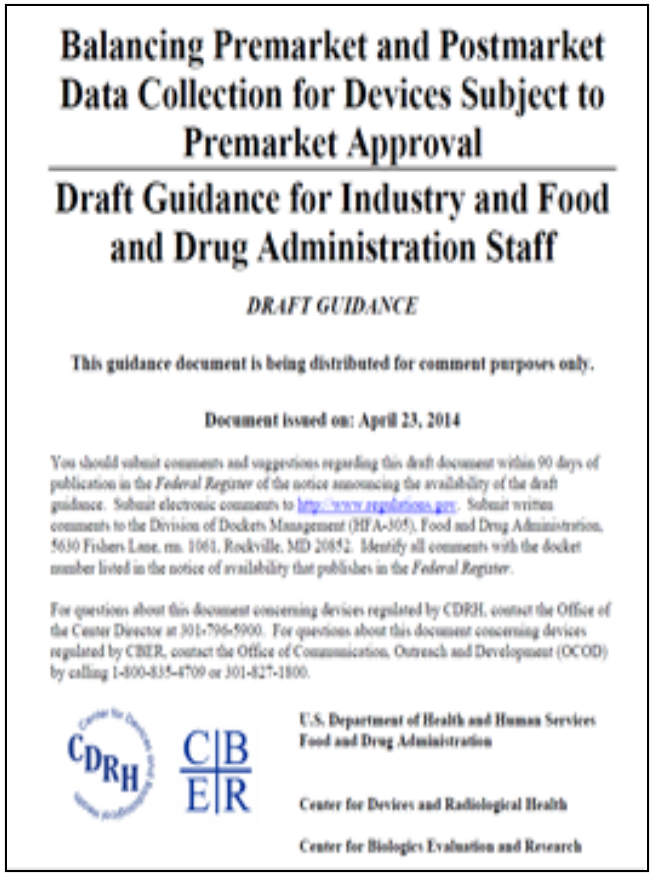


Balancing Premarket and Postmarket Data Collection

- Draft Guidance: April 23, 2014

http://www.fda.gov/downloads/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/UCM393994.pdf

- Outlines how FDA considers the role of post-market information in determining the extent of data that should be collected in the premarket setting to support premarket approval, while still meeting the statutory standard of reasonable assurance of safety and effectiveness.
- The right balance of premarket and postmarket data collection facilitates timely patient access to important new technology without undermining patient safety
- Clarifies when post-approval studies at the time of approval are appropriate



Balancing Premarket and Postmarket Data Collection for Devices Subject to Premarket Approval

Draft Guidance for Industry and Food and Drug Administration Staff

DRAFT GUIDANCE

This guidance document is being distributed for comment purposes only.

Document issued on: April 23, 2014

You should submit comments and suggestions regarding this draft document within 90 days of publication in the *Federal Register* of the notice announcing the availability of the draft guidance. Submit electronic comments to http://www.regulations.gov. Submit written comments to the Division of Dockets Management (HFA-305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852. Identify all comments with the docket number listed in the notice of availability that publishes in the *Federal Register*.

For questions about this document concerning devices regulated by CDRH, contact the Office of the Center Director at 301-796-5900. For questions about this document concerning devices regulated by CBER, contact the Office of Communication, Outreach and Development (OCOD) by calling 1-800-835-4709 or 301-827-1800.

U.S. Department of Health and Human Services
Food and Drug Administration

Center for Devices and Radiological Health

Center for Biologics Evaluation and Research

SBIR / SBTT Assistance

- Pilot program in partnership with The NIH
- CDRH will work collaboratively (via presubmission process) with Small Business Innovation Research (SBIR) and Small Business Technology Transfer (SBTT) awardees Goal is for awardees to better understand the regulatory pathway and data requirements for their medical device.

FDA-CMS Parallel Review

Exact Sciences

Cologuard – Colon cancer screening

FOUNDATIONONE

Foundation Medicine

FoundationOne – genomic profiling companion diagnostic

FDA approval & CMS proposed NCD on Same Day

Parallel Review with CMS

- FDA and CMS simultaneously review clinical data to help decrease the time between FDA's PMA approval and the subsequent CMS national coverage determination.
- Parallel Review has two stages:
  - FDA and CMS meet with the manufacturer to provide feedback on the proposed pivotal clinical trial within the CDRH Pre-Submission Program.
  - FDA and CMS concurrently review ("in parallel") the clinical trial results submitted in the PMA or De Novo request.

Opportunities To Obtain Payer and Health Technology Assessment Input

Public Payer Pre-submission Participation

Opportunity to Obtain Private Payer Input

- ❑ Voluntary Program
- ❑ Obtain input on clinical trial design or other plans for gathering clinical evidence

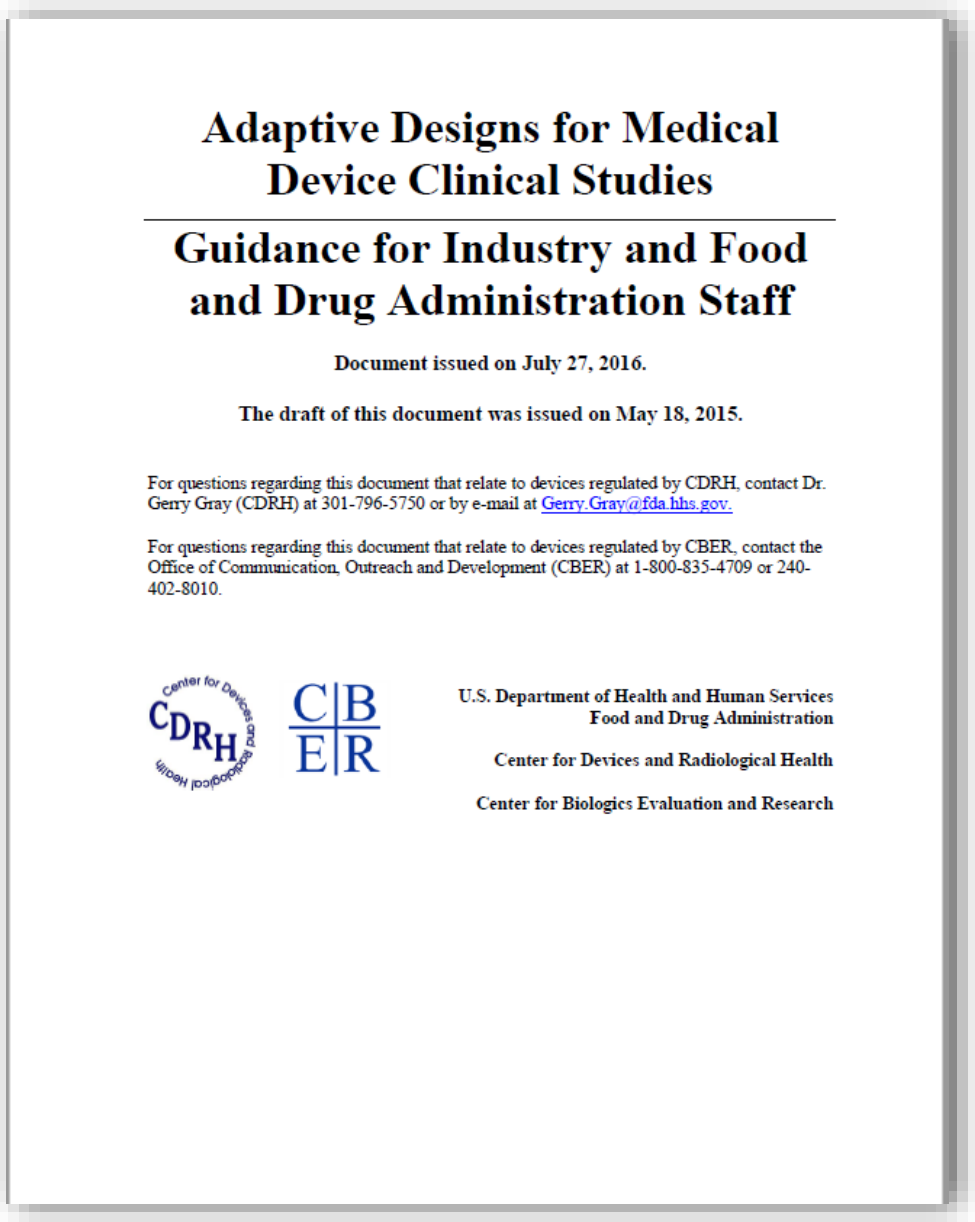
Current Participants:

- BlueCross BlueShield Association
- CareFirst BlueCross BlueShield
- CMS
- Cigna
- Duke Evidence Synthesis Group/DCRI
- ECRI Institute
- Humana
- Kaiser Permanente
- National Institute for Health and Care Excellence
- United Health Group

For more information: Google Search "CDRH Payer Program"

Clinical Trial Design Innovation:
Adaptive Designs Pathway

July 27, 2016



Adaptive Designs for Medical Device Clinical Studies

Guidance for Industry and Food and Drug Administration Staff

Document issued on July 27, 2016.

The draft of this document was issued on May 18, 2015.

For questions regarding this document that relate to devices regulated by CDRH, contact Dr. Gerry Gray (CDRH) at 301-796-5750 or by e-mail at Gerry.Gray@fda.hhs.gov.

For questions regarding this document that relate to devices regulated by CBER, contact the Office of Communication, Outreach and Development (CBER) at 1-800-835-4709 or 240-402-8010.

U.S. Department of Health and Human Services
Food and Drug Administration

Center for Devices and Radiological Health

Center for Biologics Evaluation and Research

KHI Patient Preference Workshop

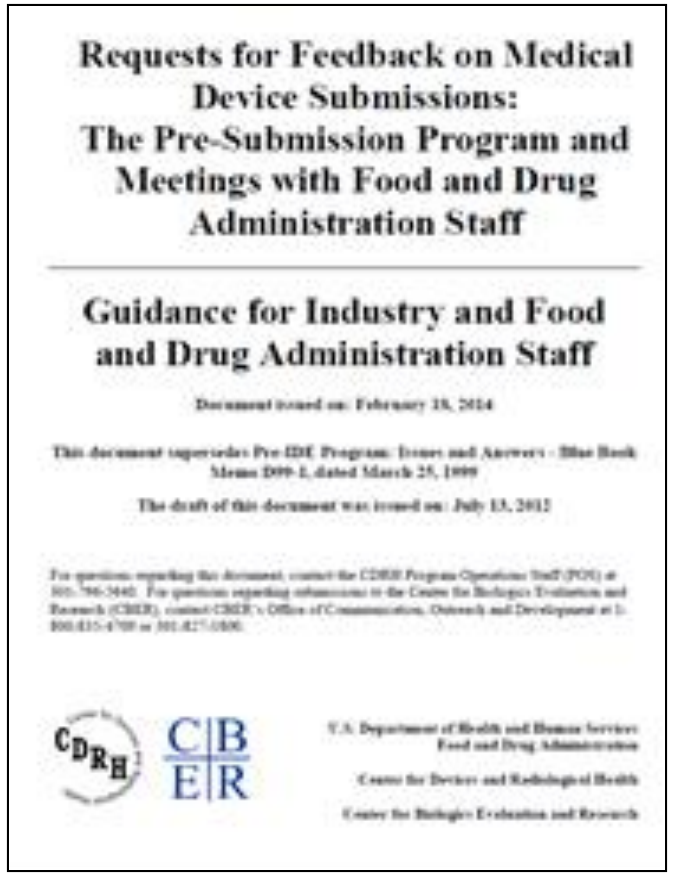
- August 12-13, 2015 in Baltimore, MD
  - *"Understanding Patients' Preferences: Stimulating Medical Device Development in Kidney Disease"*
- 110 members of the kidney community
- Patients (in center HD, home HD, PD, transplant), living donors, care partners, physicians, researchers, device manufacturers, nonprofit/foundation members, and government representatives (FDA and NIH).
- KHI provided a forum for patients to voice their concerns and preferences about their treatments
- Discussed how to incorporate this patient feedback in the various phases of medical device development.

Q Submissions (Pre-Sub)

- Final Guidance: February 18, 2014

http://www.fda.gov/downloads/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/UCM311176.pdfv

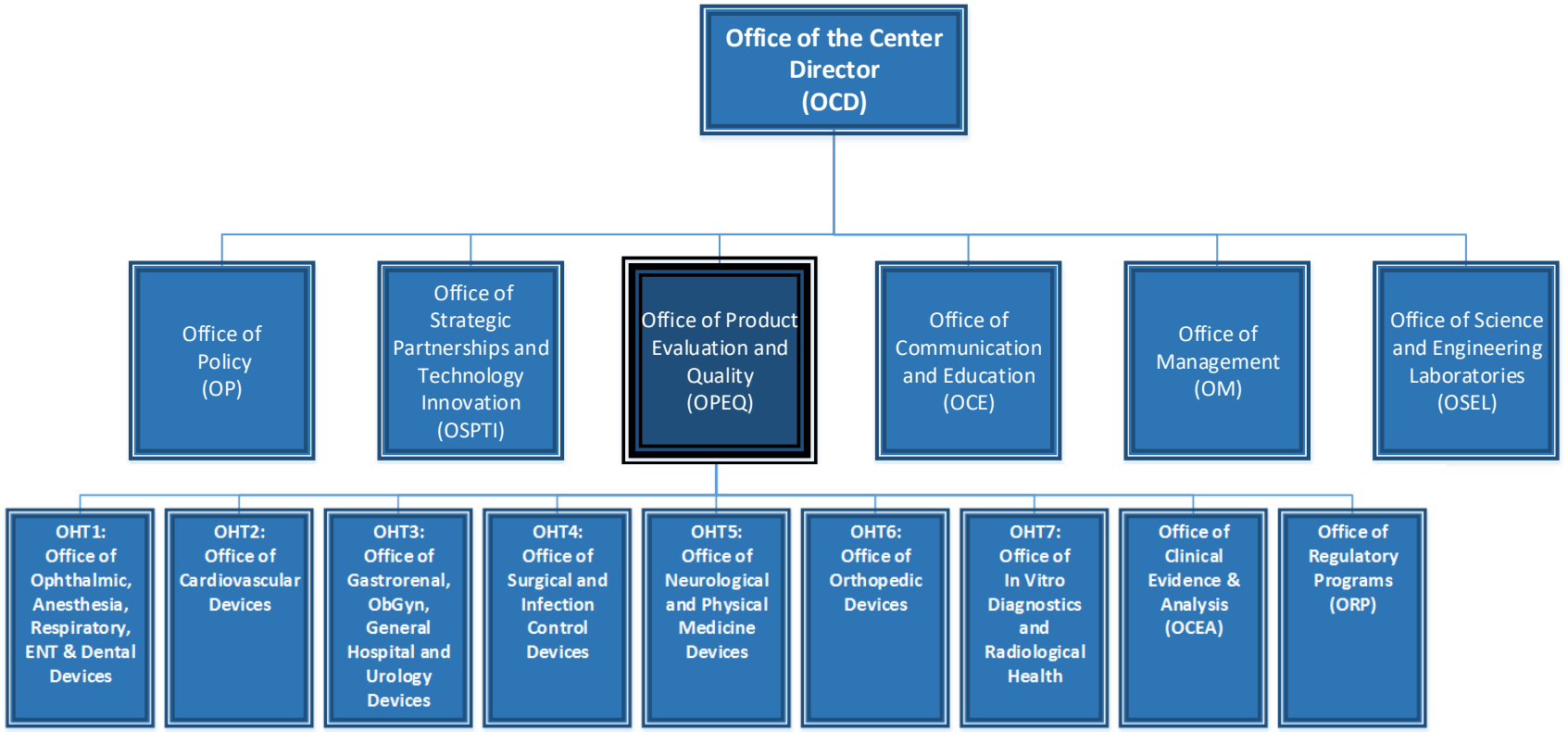
- Expansion of former Pre-IDE program
- Program expanded to many types of pre-submissions and types of feedback
- More structured approach to improve predictability & consistency
- Voluntary program
- *Considered a key part of the MDUFA III program by industry*
  - Industry desire to understand FDA's expectations *before* formal submission to ensure better quality submissions



Requests for Feedback on Medical Device Submissions: The Pre-Submission Program and Meetings with Food and Drug Administration Staff

Guidance for Industry and Food and Drug Administration Staff

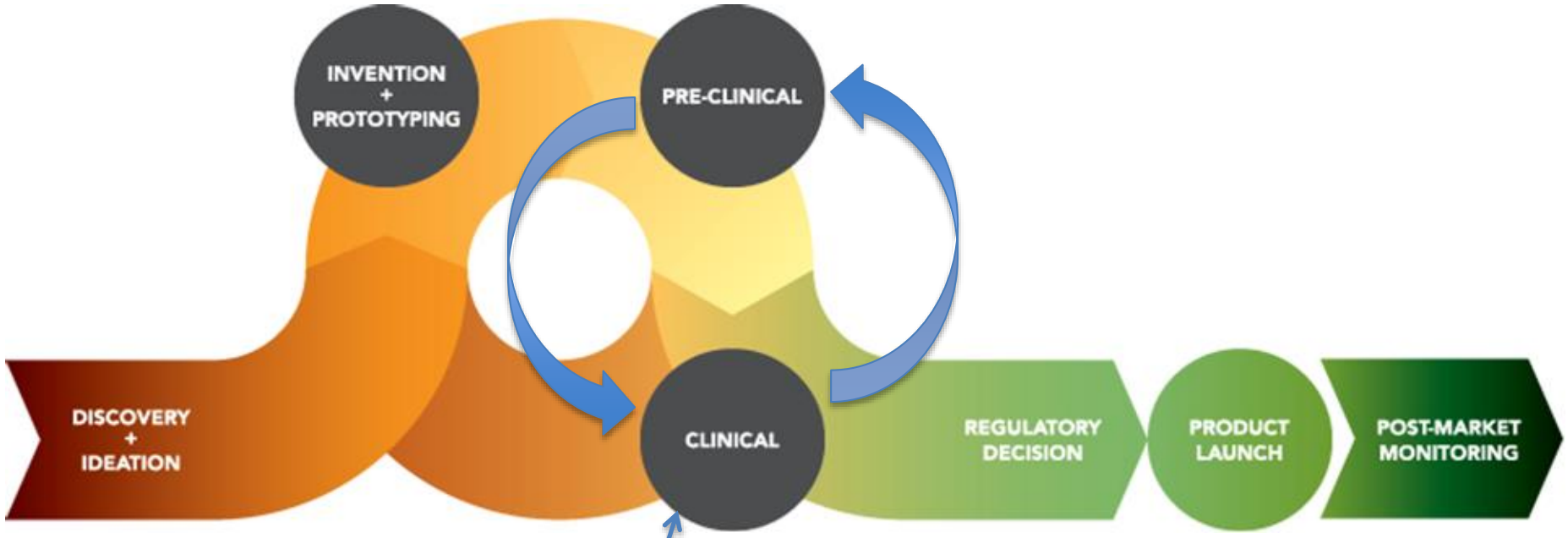
CDRH (After Reorganization)



2018-2020 Strategic Priorities
Collaborative Communities

- Forum where public and private sector members work together on an ongoing basis to achieve shared outcomes and solve both shared problems and problems unique to other members
- In an environment of trust and openness, where participants feel safe and respected to communicate their concerns
- Where members share a collective responsibility to help each other obtain what they need to be successful
- And government has a seat at the table but does not run the forum

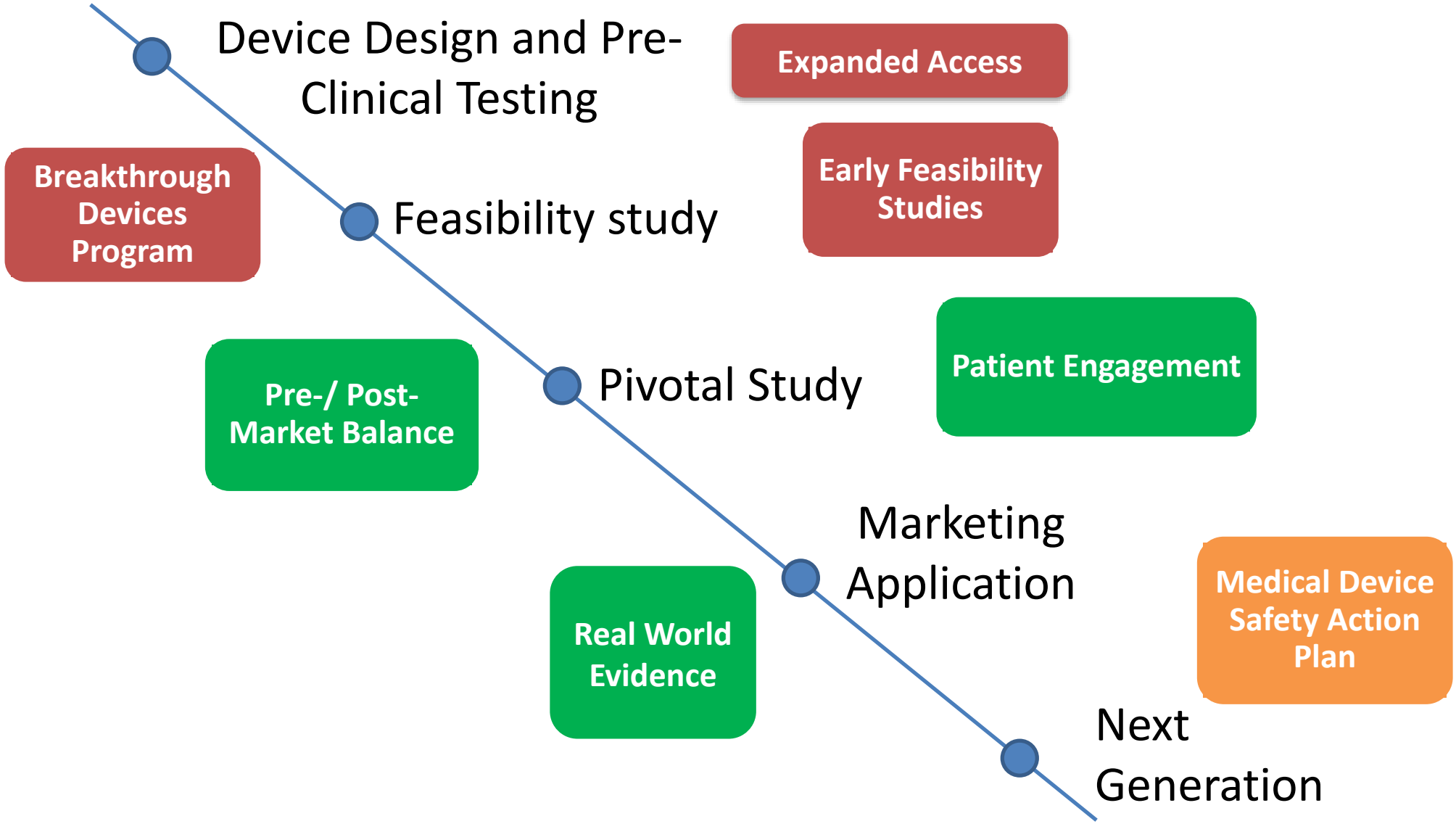
Device Development to Clinical Studies



FIH
EFS

Feasibility
Pivotal
(much more known about device, procedure, indication)

Development Milestones & FDA Programs



Breakthrough Devices Pathway
(Formerly Expedited Access Pathway)

149 devices accepted into the program since April 2015

1st breakthrough device approved December 2017

11 breakthrough devices granted marketing authorization

Breakthrough Devices Program

Guidance for Industry and Food and Drug Administration Staff

Document issued on December 18, 2018.

- Interactive & Timely Communication
- Pre-Postmarket Balance
- Flexible Clinical Study Design
- Senior Management Engagement
- Priority Review

What Is A Qualified MDDT?

- Medical Device Development Tool (MDDT) is a method, material, or measurement used to assess effectiveness, safety, or performance of a medical device
  - MDDT Categories: Clinical Outcome Assessment (COA), Biomarker Test (BT), Nonclinical Assessment Model (NAM)
  - A MDDT is scientifically validated and qualified for a specific *Context Of Use* (COU) on the way the MDDT should be used
  - Qualification is a FDA conclusion that within the COU a MDDT has a specific interpretation and application in medical device development and regulatory review

Website:
http://www.fda.gov/MedicalDevices/ScienceandResearch/MedicalDeviceDevelopmentToolsMDDT/default.htm

Questions? email: MDDT@fda.hhs.gov

DEVELOP NESTcc'S ROLE: BUILDING A DATA NETWORK

NESTcc surveyed its Data Network to determine current capabilities, gaps, and priority areas

Engage

Leverage

Transform

12

NESTcc Network Collaborators Surveyed

Duke University Health System • HealthCore • Lahey Clinic • Mayo Clinic • MDEpiNet • Mercy • OneFlorida • PEDSnet • Vanderbilt University • Weill-Cornell Medical Center • Yale New Haven Health System

Survey respondents represent:

195
Hospitals

3,942+
Outpatient Clinics

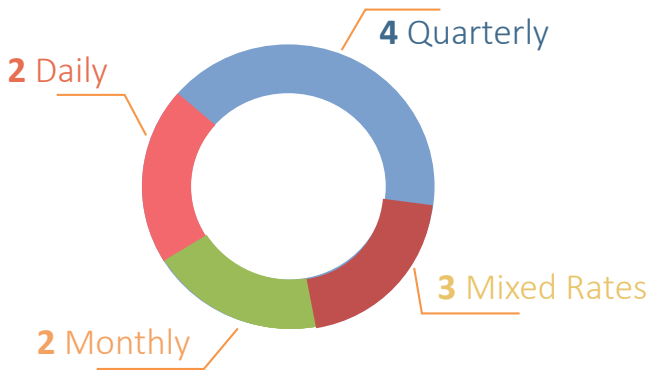
Patient data represents:

495M+
Patient Records

Common data models:

- ✓ I2b2
- ✓ OMOP
- ✓ PCORnet
- ✓ Sentinel

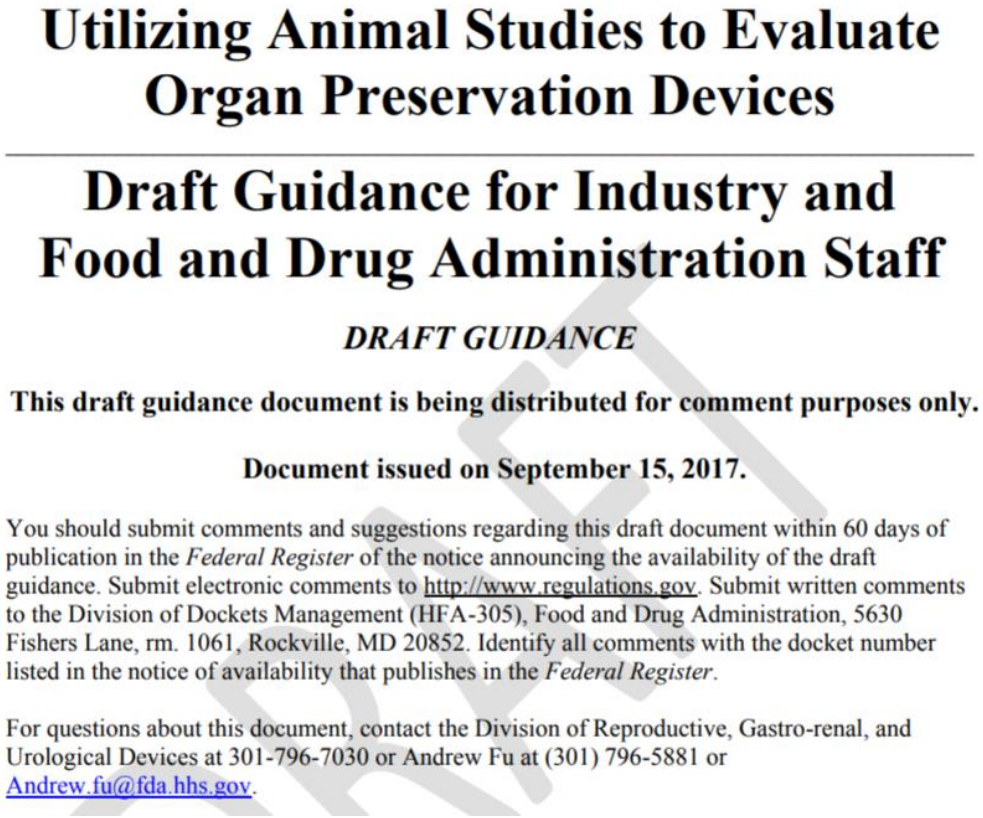
Respondents report regular data refreshes:



Most cited expertise:

- ✓ Cardiovascular and Cardiac Surgery
- ✓ Women's Health
- ✓ Neurosurgery
- ✓ Gastroenterology
- ✓ Orthopedic

Guidance with Stakeholder Input



Utilizing Animal Studies to Evaluate Organ Preservation Devices

Draft Guidance for Industry and Food and Drug Administration Staff

DRAFT GUIDANCE

This draft guidance document is being distributed for comment purposes only.

Document issued on September 15, 2017.

You should submit comments and suggestions regarding this draft document within 60 days of publication in the *Federal Register* of the notice announcing the availability of the draft guidance. Submit electronic comments to http://www.regulations.gov. Submit written comments to the Division of Dockets Management (HFA-305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852. Identify all comments with the docket number listed in the notice of availability that publishes in the *Federal Register*.

For questions about this document, contact the Division of Reproductive, Gastro-renal, and Urological Devices at 301-796-7030 or Andrew Fu at (301) 796-5881 or Andrew.fu@fda.hhs.gov.

- Time to re-evaluate how “we conduct business”
- Take into consideration the 3R’s
- Solicit and incorporate stakeholder input