WCCC
WOUND CARE
COLLABORATIVE
COMMUNITY

# Members Meeting
September 27, 2022

# Welcome and Agenda

I. Welcome

II. Deep Dive into the Tool Chest – Update from the Tools Workgroup

   A. Review of the WEF-CEP Endpoints and focus of the Tools Workgroup

   B. Goal of identifying validated tools

   C. Devices for measurement

   D. Quality of Life measurements

   E. FDA input (Dev Verma)

   F. Q&A

III. Brief update of other workgroups

   A. RWE

   B. Gaps

# How We Got Here

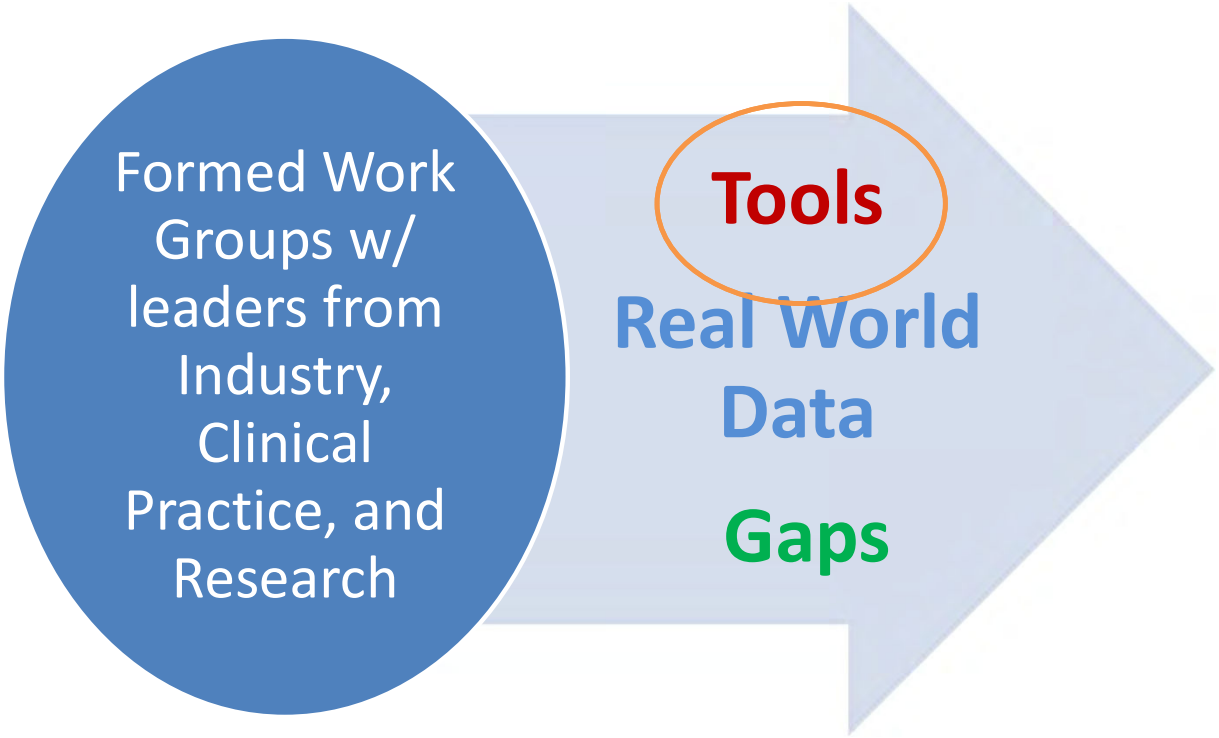
- Years of successfully working w/ the FDA on the WC endpoints project (WEF-CEP initiative)
- Extensive research effort, three publications[1,2,3] and a community outreach program… Recommended new endpoints

  FDA asked us to consider developing a Wound Care Collaborative Community **(WCCC)**

- WCCC Charter developed & accepted by the FDA


1. Driver VR, Gould LJ, Dotson P, et al. Identification and content validation of wound therapy clinical endpoints relevant to clinical practice and patient values for FDA approval. Part 1. *Wound Rep Regen* 2017;25 (3):454–465.
2. Driver VR, Gould LJ, Dotson P, Allen LL, Carter MJ, Bolton LL. Evidence Supporting Wound Care Endpoints Relevant to Clinical Practice and Patients' Lives. Part 2. *Wound Rep Regen* 2019;27(1):80-89.
3. Gould LJ, Liu J, Wan R, Carter MJ, Dotson M, Wan R, Driver VR. Evidence supporting wound care end points relevant to clinical practice and patients' lives. Part 3: The Patient Survey. *Wound Rep Regen* 2020;1-10.

# Organized into Work Groups



# Where WEF-CEP Left Off

## 15 Evidence-based Endpoints

- **Time to heal** *(FDA accepted primary endpoint)*
- **Percent area reduction** *(FDA accepted secondary endpoint*)
- **Reduced infection** *(FDA accepted secondary endpoint*)
- **Reduced pain (***FDA accepted secondary endpoint)*
- **Reduced recurrence** *(FDA accepted secondary endpoint)*
- **Increased physical function/ ambulation** *(FDA accepted secondary endpoint)*
- **Amputation reduction**
- **Reduced analgesia use**
- **Reduced depression**
- **Reduced social isolation**
- **Percent volume reduced**
- **Reduced odor**
- **Cost effectiveness**
- **Reduced cost of treatment**
- **Reduced bioburden**

## 6 New Primary Endpoints

**Recommended and agreed upon by the the FDA (**need to be validated with a specific measurement tool)

- **Percent area reduction (PAR)**
- **Reduced infection**
- **Reduced pain / reduced analgesia use**
- **Increased physical function and ambulation**
- **Quality of Life**
- **Cost effectiveness**

## Secondary Endpoints Recommended to the FDA

- **Reduced recurrence**
- **Percent volume reduction (PVR) – pending primary endpoint w/ validated tools**
- **Reduced Bioburden - pending primary endpoint w/ validated tools**
- **Reduced cost of treatment**

# Focus - Tools Work Group

- **New Primary Endpoints**
  **Recommended and agreed upon by the the FDA**
  (Validate specific measurement tools)

  1. ***Percent area reduction (PAR) & Percent volume reduction (PVR)***

  2. ***Reduced pain / reduced analgesia use***

  3. ***Combined - Increased physical function and ambulation & Quality of Life***

# TWG Where We Are Now

- Leaders:
  - Dr. Oscar Alvarez: Chair (research)
  - Dr. Tod Brindle: Co-Chair (industry)
  - Dr. Rob Snyder: Co-Chair (clinical)

- FDA Advisors/Participants:
  - Dr. Dev Verma, MD
  - Dr. Jessica Mavadia-Shukla, PhD (MDDT)

# TWG Team Members

- Scott LaRaus, DPT (Dir. Inpatient Rehab., FOX Rehabilitation)
- Eric Lullove, DPM (independent practice)
- Alisha Oropallo, MD (Northwell)
- Laticia Allen, DPM, MPH (Providence VA Med. Crt.)
- Holly Korzendorfer, PT, PhD (Cl. Asst. Professor – Marist College)
- Liz Newell (VP Clinical Research, Kent Imaging)
- Bruce Davey, PhD (CEO, Aranz Medical)
- Anne Klassen, D Phil (Wound Q)
- Andrea Pusic, MD, MHS (Wound Q)
- Amit Garg, MD (3C CHORD COUSIN Collaboration)
- Alex G Ortega Loayza, MD, MCR (C3 Work Group/ COS UPGRADE (PG)
- Linnea Rishøj Thorlacius, MD, PhD (Leader C3 Symptoms Team)
- Kyle L Wu, MD, MBA (eKARE Chief Medical Officer)
- Mark Olmstead (Sr. Dir. Market Access & Reimb., Smith & Nephew)
- Jaideep Banerjee, MD (Global Med. Science & Cl. Strategy, S&N))
- Monique Rennie (VP Medical Affairs (Evidence & Reimb., MolecuLight)
- Adam L. Isaac, DPM (independent practice)
- Martin E. Wendelken (PicZar developer)
- Mary Maijer (Sr. VP Marketing/ CCO (Vomaris WC, Inc.)
- Bob Bartlett (CMO, Swift Medical)
- Tim LaCroix, MBA (Alair Health Incorporated)

# WCCC Tools Work Group Goals and Objectives

**Goal:** Identify evidence that clinically validated technology/methodology exists to accurately and reproducibly support a Clinical Trial Primary Endpoint that combines improved wound healing (Percent Area Reduction) with improved quality of life as evidenced by Patient Reported Outcomes

**Objectives:**

1. Clarify core terminology and best practices for the evaluation of wound measurement/monitoring technologies
2. Gather and evaluate validation information regarding wound measurement and evaluation methods and devices
3. Gather and evaluate validation information regarding Patient Centric, Patient Reported Outcome (PRO) tools as they relate to the chronic wound care patient
4. Identify existing technology with existing, validated capabilities

# Moving From Current Siloed Practices To One Universal Best Practice

***Adaptation of V3 multi-step process that includes relevant expertise at each stage, as well as interdisciplinary collaboration throughout****

1. **Verification** entails a systematic evaluation of the hardware by the developers/manufacturers.

2. **Analytical Validation** occurs at the intersection of engineering and clinical expertise. This step translates the evaluation procedure for the device from the bench to in vivo. Does the device/method reliably and accurately measure what is intended, is scientifically plausible, and is reasonably likely to predict the outcome of interest?

3. **Clinical Validation** demonstrates that the device/method acceptably identifies, measures, or predicts the clinical, biological, physical, functional state, or experience in the defined context of use (which includes the definition of the wound and population).

*Goldsack, JC, Coravos, A, Bakker, JP, et al: Verification, analytical validation, and clinical validation (V3): the foundation of determining fit-for-purpose for Biometric Monitoring Technologies (BioMeTs). npj Digital Medicine (2020) 3:55 ; https://doi.org/10.1038/s41746-020-0260-4

# Ongoing Clinical Validation
# Imaging Industry Consortium

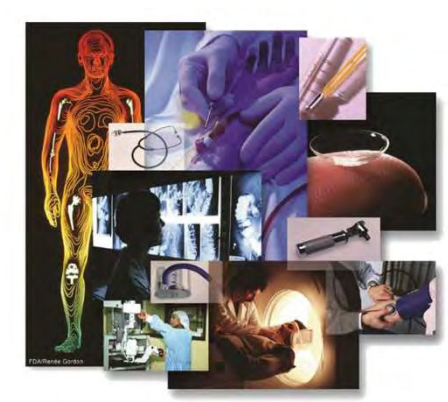
- Monique Rennie, PhD: VP Medical Affairs Moleculight, Inc
- Jeffrey Niezgoda, MD: CMO Kent Imaging, Inc

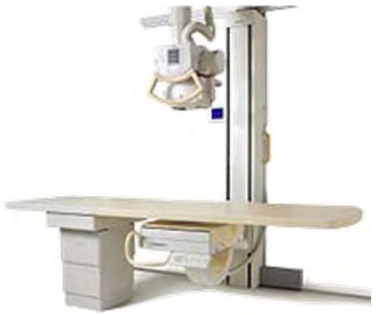
# PRO Tool Development

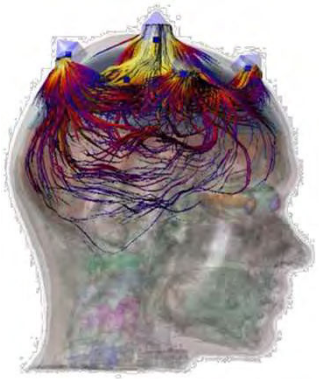
- Andrea L. Pusic MD: Chief of the Division of Plastic and Reconstructive Surgery, Director of the Patient-Reported Outcomes, Value & Experience (PROVE) Center and a Professor of Surgery at Harvard Medical School

  ❖***Face Q, Wound Q and the MDDT Process***

U.S. FOOD & DRUG ADMINISTRATION







# Medical Device Development Tools (MDDT) Program

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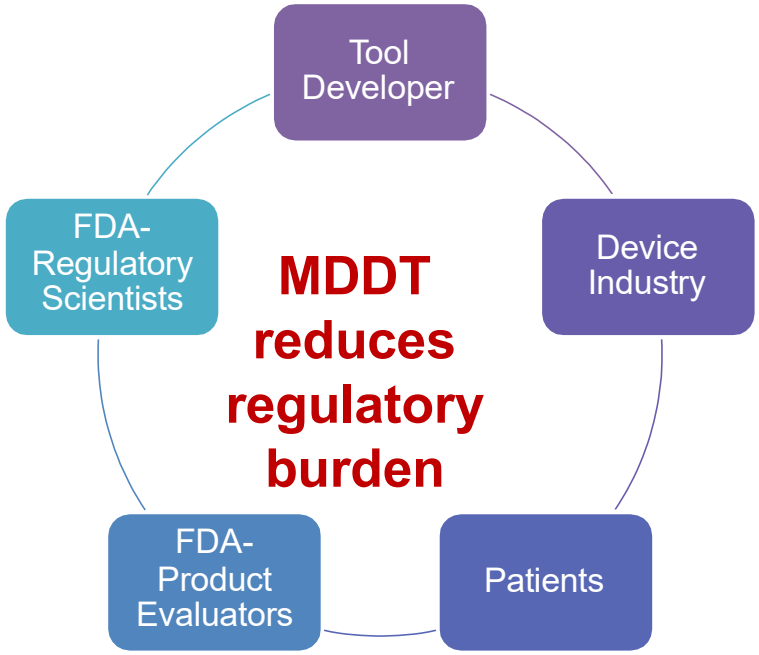
U.S. Food and Drug Administration

www.fda.gov

# Medical Device Development Tool Program


***Promotes Efficient Medical Device Development***

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## *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

# What Is An MDDT?

- **Medical Device Development Tool (MDDT) -** a method, material, or measurement used to assess the effectiveness, safety, or performance of a medical device
  - A MDDT is scientifically validated and qualified for a specific ***Context Of Use*** (COU)
  - COU describes the way the MDDT should be used, purpose in device evaluation and/or regulatory submission, and specific output/measure from the tool
  - Qualification is a FDA conclusion that within the COU a MDDT can be relied upon to have a specific interpretation and application in medical device development and regulatory review
  - CDRH reviewers should accept the MDDT outcomes within the qualified context of use (COU)) without the need to reconfirm the suitability and utility of the MDDT when used in a regulatory submission

# MDDT Types

## COA

- Patient selection for clinical studies
- Clinical study outcomes

## BT

- Objective measure of biologic process or response to an intervention
- Patient selection
- Predict or identify outcomes

## NAM

- Models (computational and animal) to measure/predict a parameter of interest
- Reduce / Replace animal testing
- Reduce test duration or sample size

**Clinical Outcome Assessments**

**Biomarker Tests**

**Nonclinical Assessment Models**

# MDDT Program Creation

- Before creation of MDDT program…tools used by developers were evaluated on **case-by-case basis** — for each medical device submission
- **Now** w/ creation of the voluntary MDDT Program - we are creating both efficiency & transparency in the review process for submitters and reviewers:
  - Qualifying tools for a specific use, FDA facilitates application for multiple medical device submissions and manufacturers
  - Qualified MDDT used in a regulatory submission can be relied upon in device evaluation and to support regulatory decision-making **without the need to reconfirm** the suitability and utility of the MDDT tool.
  - Submitters have assurance that a qualified tool used within its COU will be accepted by FDA **without the need to reconfirm the suitability and utility of the tool**.

# MDDT Qualified Tools

| Tool Name | Summary - Evidence & Basis for Qualification (SEBQ) | Product Area(s) | Tool Type | |
|---|---|---|---|---|
| Rubric for Applying CVSS to Medical Devices | Tool description | Cybersecurity | NAM | 10/20/2020 |
| BREAST-Q Reconstruction Module | Qualified COU | Plastic Surgery | COA | 08/20/2020 |
| Insulin Dosing Systems: Perceptions, Ideas, Reflections, and Expectations (INSPIRE) Questionnaires | Summary evidence to support qualification<br>Brief assessment | Automated Insulin Dosing (AID) | COA | 06/24/2020 |
| IMAnalytics with MRIxViP1.5T/3.0T And BCLib | advantages vs. disadvantages | Active implanted medical devices(AIMDs) | NAM | 12/12/2019 |
| Tissue Mimicking Material (TMM) for Preclinical Acoustic Performance Characterization of High Intensity Therapeutic Ultrasound (HITU) Devices | Tool developer contact information | Imaging | NAM | 07/10/2019 |
| OSIRIX CDE Software Module | | Imaging | NAM | 07/10/2019 |
| Minnesota Living with Heart Failure Questionnaire (MLHFQ) | | Neuro | BT | 03/12/2019 |
| Kansas City Cardiomyopathy Questionnaire (KCCQ) | | Cardio | COA | 03/19/2018 |
| | | Cardio | COA | 10/19/2017 |

# MDDT Qualification Process

| Proposal Phase | Qualification Phase |
|---|---|
| The goal of the proposal phase is to determine if the MDDT is suitable for qualification through the MDDT program. Those interested in seeking qualification should submit a complete ***Qualification Plan*** for collecting & gathering evidence for qualification of the tool a description of the MDDT, and context of use. | The goal of the qualification phase is to determine whether, for a specific context of use, the tool is qualified based on the evidence and justifications provided. In this phase the data collected according to the Qualification Plan is submitted as the ***Full Qualification Package*** and is reviewed for qualification decision. |

# Preliminary List of Tools for QoL

## *Increased physical function/ ambulation*

| |
|---|
| Nottingham Health Profile |
| SF-36 |
| 6 Minute-Walk Test |
| Post-surgical Walking Speed Lymphedema Life Impact Scale (LLIS)[4] ABC scale |
| BERG Balance Scale |
| Gait Speed test |
| Five Times Sit To Stand |
| TUG (timed get up and go) test Vestibular Screening |
| Oswestry score |
| Spinal Cord Injury Functional Index |
| WOUND-Q[20] (newest) |
| Wound QOL |

# Preliminary List of Tools for QoL

## *Odor and Depression*

| **Odor reduction** |
| --- |
| 10 cm Visual Analog Scale (VAS)[7] |
| Likert scale |
| **Reduced depression** |
| WHO-5 Well-being Index |
| PHQ-9 |
| CES-D |
| HADS (Hospital Anxiety and Depression Scale) |
| Lymphedema Life Impact Scale (LLIS)[4] Beck Depression Inventory, |
| Wound-QoL |
| Demoralization scale (DS) |

# Preliminary List of Tools for QoL

## *Reduced social isolation*

| |
|---|
| WOUND-Q[20] (newest) |
| Wound QOL |
| Nottingham Health Profile Lymphedema Life Impact Scale (LLIS)[4] SF-36 |
| VEINES_QOL/ Sym. |
| PAID |
| Diabetes Distress Scale |
| CWIS (Cardiff Wound Impact Schedule) -VU & DFU |
| TLQ-CVI |
| FLOA |
| Freiburg Life Questionnaire Assessment SF-12 |
| SF-MPQ |
| SRT |
| NHP |
| Charing Cross VU Questionnaire |
| WHO-5 Well-being Index |
| GHQ-12- 12-item General Health Questionnaire |

# For Panel Discussion: Challenges & Opportunities

**Challenges**

- Difficulty identifying all the wound measurement devices, apps
- Devices for wound measurement are regulated through FDA 510(k) process
- Fragmented wound care providers, caregivers and lack standardization
- Abundance of overlapping competing devices
- Lack of standardized RCTs complicate validation
- Need for consortia of stakeholders to better define device validation process

**Opportunities**

- FDA/CMS acceptance of a hybrid primary endpoint (e.g., PAR & PRO)
- Recognition of "chronic wound" as a disease process
- Advance reproducibility and robustness of research and clinical outcomes
- Trigger a greater involvement of chronic wound patients in their care
- Promote advancement of digital medicine and wearable devices

Mahmoudi M, Gould LJ. *Chronic Wound Care Mgmt & Res* 2020;7:27-36.