

Key Components to Assure Pharmaceutical Quality

Susan Rosencrance, Ph.D.
Acting Deputy Director of Science
Office of Pharmaceutical Quality
Center for Drug Evaluation and Research
U.S. Food and Drug Administration

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A close-up photograph of a person's hands. One hand is holding a yellow pill bottle, tilted as if pouring pills. The other hand is open, palm up, holding three white, oval-shaped pills. The background is blurred, focusing attention on the hands and the medication.

Everyone deserves
confidence in their *next* dose
of medicine.

Pharmaceutical quality
assures the
availability,
safety,
and efficacy
of *every* dose.

An Array of Quality



Pharmaceutical Quality

*Gives patients confidence in their **next** dose of medicine*

*Gives manufacturers confidence every batch will be **acceptable to release***

**QUALITY
MANAGEMENT**

Performance and patient focus identifies areas of improvement and implements changes

*Gives manufacturers confidence in every batch they **release***

**PROCESS
QUALITY**

Manufacturing risks are controlled to provide a quality drug product

*Gives patients confidence in every dose they **take***

**PRODUCT
QUALITY**

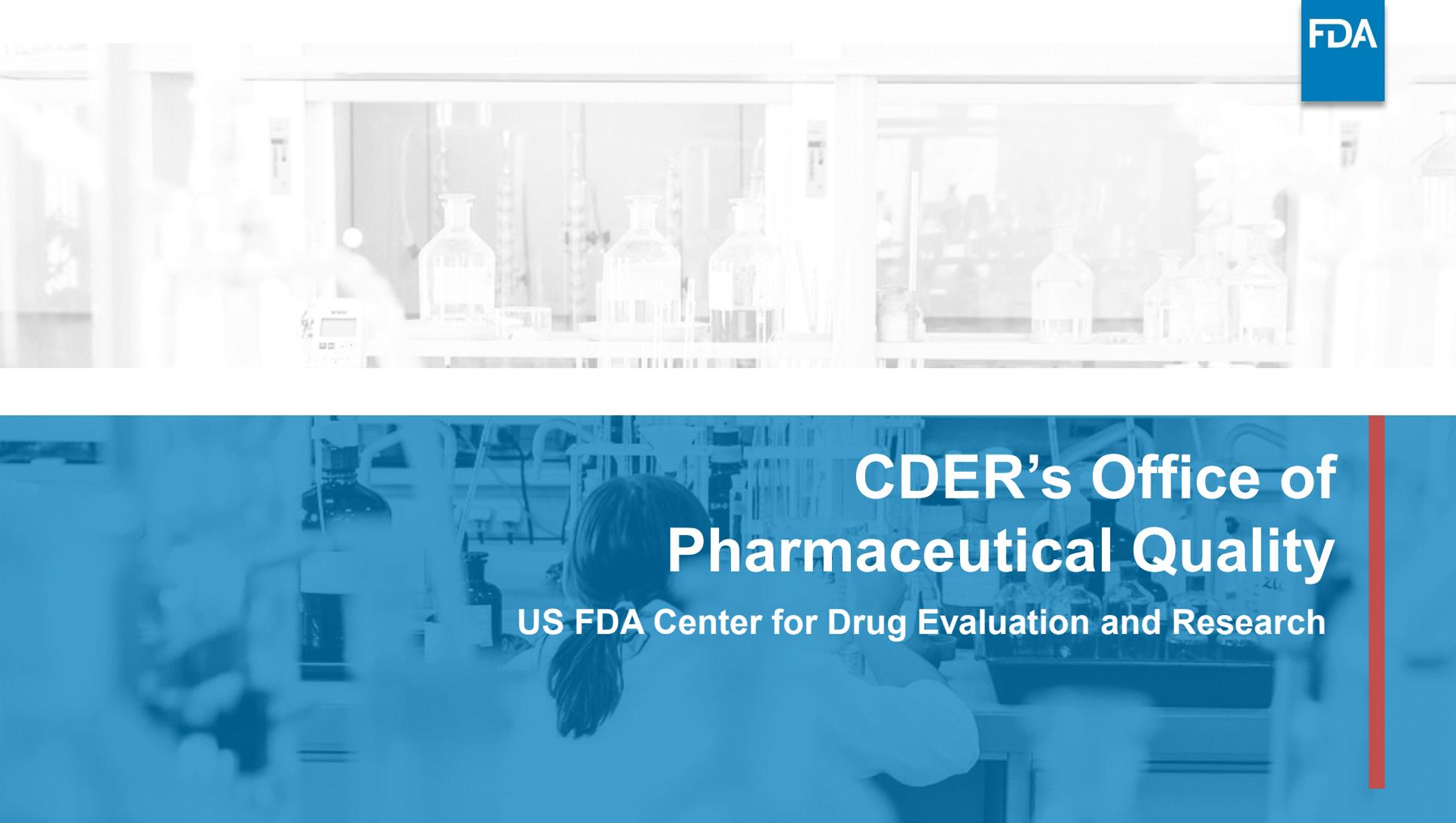
Every dose is safe and effective and free of contamination and defects

Key Components of Pharmaceutical Quality



- **CDER's Office of Pharmaceutical Quality**
- **Quality Communication**
- **Quality Innovation**





CDER's Office of Pharmaceutical Quality

US FDA Center for Drug Evaluation and Research

CDER's Office of Pharmaceutical Quality

Established in 2015

Assessment

Inspection

Surveillance

Policy

Research

One Quality Voice

Uniform human drug quality program across all product types and manufacturing sites

OPQ's New Organizational Structure



Interacting with OPQ

OPQ's reorganization will have little to no impact on how we interact with industry.

User fees facilitate the **timely availability** of human medicines **without compromising** FDA's **commitment** to **scientific integrity, patient safety, and transparency**.

Generic Drug User
Fees Amendments
(GDUFA)

Prescription Drug User
Fee Amendments
(PDUFA)

Biosimilar User Fee
Amendments
(BsUFA)

The background of the slide is a blurred photograph of a laboratory. In the foreground, a person with dark hair tied back is seen from behind, looking towards a laboratory bench. The bench is cluttered with various pieces of glassware, including several large glass bottles and smaller containers. In the background, other laboratory equipment and possibly other people in white lab coats are visible, though they are out of focus. The overall lighting is bright and clinical.

Quality Communication

US FDA Center for Drug Evaluation and Research

State of Pharmaceutical Quality

Sites:

- Surveillance inspections of human drug sites tripled from FY2021 to FY2023
- More than **4,800** manufacturing sites (>40% in the U.S.)

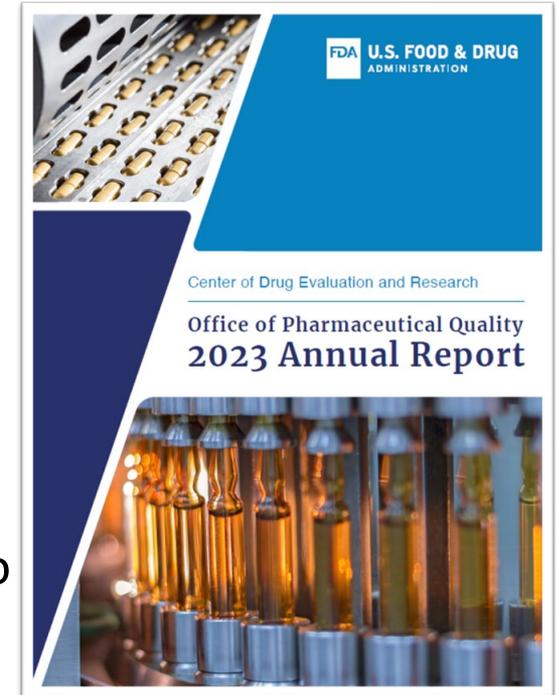
Products:

- **>140,000** application and nonapplication products
- **12,835** ANDAs
- **3,538** NDAs
- **325** BLAs



2023 OPQ Annual Report

- OPQ performed quality assessment of more than **1,100** approved product applications, including:
 - **118** new drug applications,
 - **956** generic drug applications,
 - **29** biologics license applications (including biosimilars)
- Supported **55** novel drug approvals
- Performed **359** expedited quality assessments to address drug shortages and **28** priority assessments to address orphan diseases



GDUFA III Program

OPQ's GDUFA III efforts will help ensure that the American public has access to safe, effective, and high-quality generic drugs.

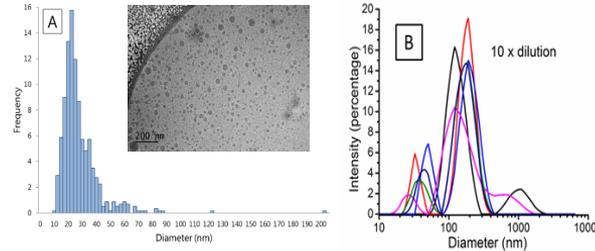
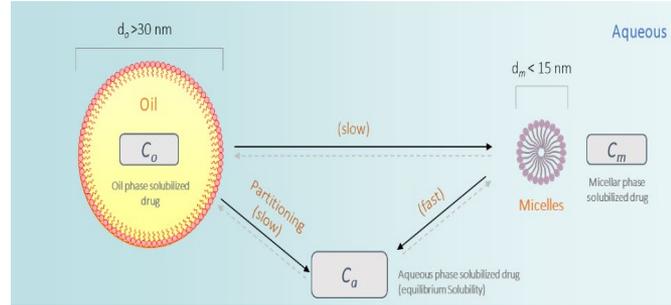
- High-quality communication
- Submission of high-quality applications
- Availability of high-quality drug products



Product-Specific Guidance



PSG outlines FDA's current product-specific thinking on the development and approval of a **safe**, **effective**, and **high-quality** generic drug product.



Example: cyclosporine ophthalmic emulsion

- 9 years research
- 20+ publications and presentations
- Supported draft and revision of the PSG
- First generic approval in Feb 2022

Quality-led Policy in GDUFA III



Facility Readiness: Goal Date Decisions Under GDUFA Guidance for Industry

DRAFT GUIDANCE

ANDAs: Pre-Submission Facility Correspondence Related to Prioritized Generic Drug Submissions Guidance for Industry

DRAFT GUIDANCE

Review of Drug Master Files in Advance of Certain ANDA Submissions Under GDUFA Guidance for Industry

DRAFT GUIDANCE

MANUAL OF POLICIES AND PROCEDURES
CENTER FOR DRUG EVALUATION AND RESEARCH MAPP 5021.5 Rev. 1

POLICY AND PROCEDURES

OFFICE OF PHARMACEUTICAL QUALITY

Assessment of Facility-Based Deficiency Major-to-Minor Reclassification Requests

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Quality Management Maturity

US FDA Center for Drug Evaluation and Research

Quality Management Maturity

Quality Metrics

Leadership Commitment to Quality

Business Continuity

Quality Culture

Communication and Collaboration

Sustainable Compliance

Customer Experience

Enhanced Pharmaceutical Quality System (PQS)

Advanced Analytics

Employee Ownership and Engagement

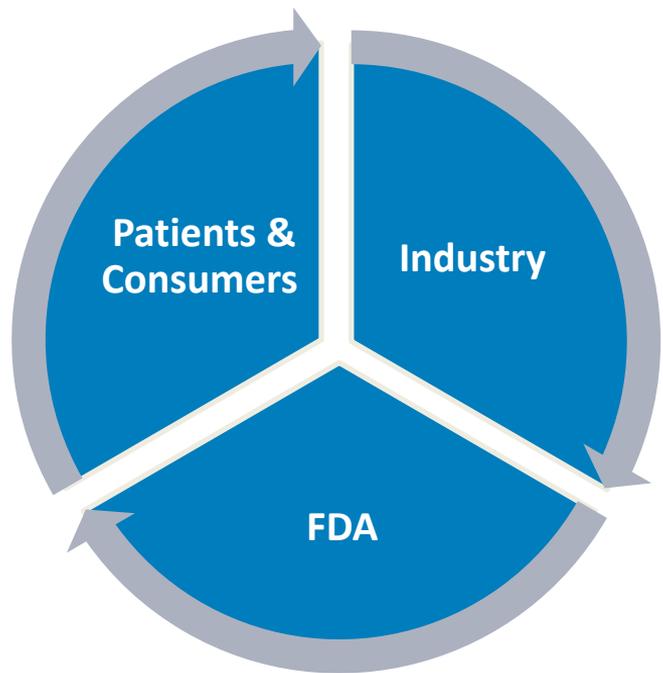
Continual Improvement

Risk Management

Manufacturing Strategy and Operations

Productivity Optimization (5S)

The Benefits of QMM



Patients and Consumers

- **Increases access** to reliable drug products

Industry

- **Improves** pharmaceutical quality systems
- **Rewards** “good actors”

FDA

- **Provides insight** to deploy surveillance tools and inspections

QMM Program Development

The AAPS Journal (2023) 25:14
<https://doi.org/10.1208/s12248-022-00777-z>

COMMENTARY

Lessons from CDER's Quality Management Maturity Pilot Program

Jennifer Maguire¹ · Adam Fisher¹ · Djamilia Harouaka¹ · Nandini Rakala¹ · Carla Lundt¹ · Marcus Alex Viehmann¹ · Neil Stiber¹ · Kevin Gonzalez¹ · Lyle Canida¹ · Lucinda Buhse¹ · Michael Kopch

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Abstract
 Between October 2020 and March 2022, FDA's Center for Drug Evaluation and Research (CDER) programs to assess the quality management maturity (QMM) of drug manufacturing establishments. It promote proactive detection of vulnerabilities, prevent problems before they occur, and foster a culture of system improvements. A CDER QMM program may help to advance supply chain resiliency and prevent drug shortages. One pilot program evaluated seven establishments located within the U.S. that produce products marketed in the U.S. A second pilot program evaluated eight establishments located outside the U.S. The execution of these pilot programs provided an opportunity to learn important lessons about the establishment QMM assessment process, assessment behaviors, and perceptions of the assessment questions, reports, and ratings. Many of the parties reported that the QMM pilot assessments helped to identify their strengths, weaknesses, and new areas for improvement which they had not previously identified through internal audits or cGMP inspections. There has been interest in the outcomes of CDER's QMM pilot programs and this paper describes, for the first time, the results and will continue to feed in the development of a QMM program.

Keywords Manufacturing · Quality management · Regulation · Supply chain · Pharmaceutical quality

Introduction
 Current Good Manufacturing Practice (cGMP) requirements establish systems that assure proper design, monitoring, and control of manufacturing processes and facilities, including effective quality systems. Manufacturers can exceed these standards by implementing advanced quality management practices that promote sustainable compliance and enable reliable supply chains. Quality management practices mature as companies expand their focus from meeting the standard of compliance with cGMP to a continual emphasis on proactive process and system improvements. Advanced quality systems increase proactive detection of vulnerabilities, prevent problems before they occur, and foster a culture that rewards process and system improvements.

Drug manufacturers' achieve higher quality management maturity (QMM) when they invest in business and manufacturing operational excellence and technological advancement. Quality management practices, enhance supply chain resiliency, and drive continual improvement. Investing in mature quality management systems reduces the likelihood of disruptions or issues associated with poor quality and can lead to greater customer satisfaction, and operational efficiency. Over time, improvements to quality management can enhance the robustness of a manufacturer's operations and ensure a more consistent supply of products (1–5). Since the mid-twentieth century, the work of W. Edwards Deming and Joseph Juran have provided the roots of modern QMM. There are costs associated with poor quality.

✉ Jennifer Maguire
 jennifer.maguire@fda.hhs.gov

¹ Food and Drug Administration, Center for Drug Evaluation and Research, Office of Pharmaceutical Quality, 10903 New Hampshire Ave, Silver Spring, Maryland 20993, USA

FDA U.S. FOOD & DRUG ADMINISTRATION

CENTER FOR DRUG EVALUATION AND RESEARCH

CDER's Quality Management Maturity (QMM) Program: Practice Areas and Prototype Assessment Protocol Development

White Paper 1 2023

What's New

- QMM Prototype Assessment Protocol Evaluation Program:** Following announcement in the [Federal Register](#), the FDA accepted requests, during January 25 – March 25, 2024, to participate in a program involving the use of a prototype assessment protocol to evaluate Quality Management Maturity (QMM). A limited number of establishments will participate in this 2024 program.
 - [Additional Information for Interested Establishments](#) (PDF - 110 KB)
- Public docket for comments:** During September 15 – December 14, 2023, the FDA solicited comments on CDER's QMM program via a [public docket](#). The [comments](#) received will assist the Agency in developing a QMM program for establishments manufacturing human drugs, including biological products, regulated by CDER.



In Closing

US FDA Center for Drug Evaluation and Research

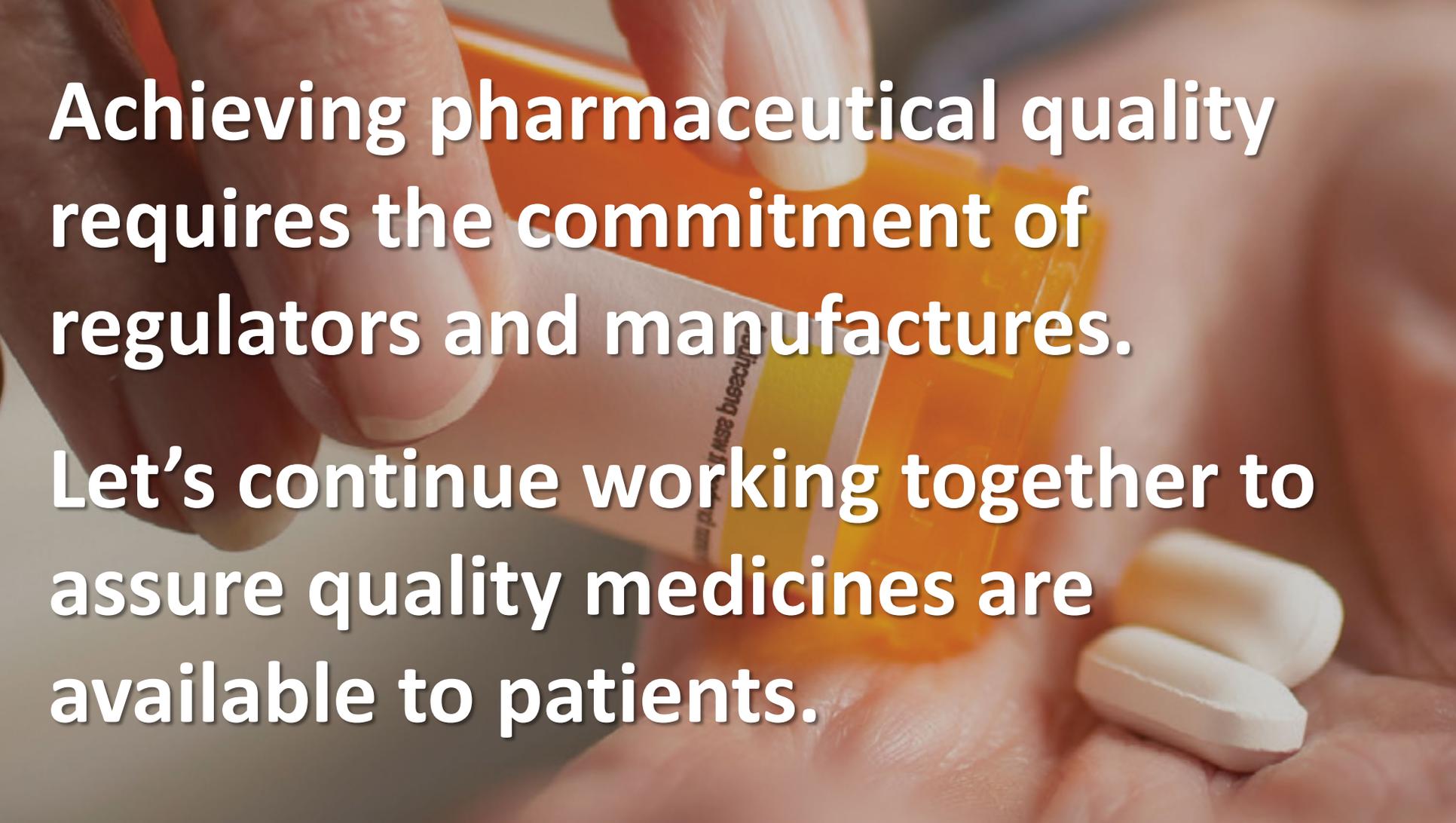


2024 Generic Drug Forum

Small Business and
Industry Assistance

Generic Drugs Forum (GDF) 2024

- **Controlled Correspondence**
- **ANDA Submission Best Practices**
- **Nitrosamines and Drug Master Files**
- **Post-approval changes**
- **Ophthalmic Products**
- **Extractables & Leachables**
- **Facility Assessments**
- **Advanced Manufacturing Technologies Designation Program**
- **Sterility Assurance**
- **Endotoxins**

A close-up photograph showing a hand holding an orange pill bottle, pouring white, oval-shaped capsules into another hand held below it. The background is blurred, focusing on the action of dispensing medication.

Achieving pharmaceutical quality requires the commitment of regulators and manufactures.

Let's continue working together to assure quality medicines are available to patients.



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ADMINISTRATION