



Global Expertise
Trusted Standards
Improved Health

A light gray world map is centered in the background of the slide, showing the outlines of continents and major landmasses.

Welcome

Overview of USP Activities and How to Get Involved

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Outline

- **Introduction to the USP**
- **USP Standard Setting Process**
- **Monograph Up-to-Date**
- **Opportunities for Involvement**

Introduction to the USP

About USP

Mission: USP's mission is to improve global health through public standards and related programs that help ensure the quality, safety, and benefit of medicines and foods.

- ▶ Founded in 1820, nonprofit, private, independent, and self-funded
- ▶ USP is cited in US Law
- ▶ US FDA (**product approval**)
- ▶ USP Documentary Standard and Reference Standards (**product compliance in US**)

- ▶ Internationally recognized and globally focused
- ▶ More than 900 employees worldwide
- ▶ Laboratory facilities in U.S., India, China, Brazil, and Ghana
- ▶ Offices in Switzerland, Ethiopia, Indonesia, the Philippines, and Nigeria

- ▶ Works with more than 900 scientists, practitioners, and regulators to revise standards that help protect public health
- ▶ Values-driven organization focused on empowering its staff and volunteers



USP: The Organization

What We Do:

- ▶ Establish and disseminate public written standards for the quality, purity, identity, strength, and labeling of medicines
- ▶ Provide physical Reference Standards to support tests and assays in the *USP–NF* and *FCC*
- ▶ Educate producers, practitioners, and others seeking information on quality and USP standards
- ▶ Verify products for manufacturers and award the USP Verified Mark to those that meet our standards
- ▶ Work with international health agencies to improve the quality of medicines worldwide



USP Standards-Setting Bodies



	= Election of Experts
	= Recommendation
	= Makes recommendation
	= Decisional body

Participants in Standards-setting Activities

- ▶ 724 volunteers serving on 24 Expert Committees, 58 Expert Panels
 - 415 Expert Committee members
 - 309 Expert Panel members*

- ▶ 144 Government Liaisons from FDA
 - CDER: 99
 - CFSAN: 8
 - CBER: 9
 - CVM: 20
 - ORA: 4
 - OC/ONDQA: 3
 - CDRH: 1

- ▶ 8 other Government Liaisons (US and international)

- ▶ Industry and consultants comprise almost 70% of volunteers

- ▶ 35% EC members are new, 25% are international

* Does not include Expert Committee members also serving on Expert Panels

Shared Goals ... but difficult to balance

FDA

- Public Safety (maximize)
- Unambiguous enforceable specifications
- Referee method(s)
- U.S. scope, participate globally



USP

- Public Standard (minimum)
- Align w/ FDA as much as possible
- Broad brush approach
- Work globally

Industry / Professional groups (SNMMI)

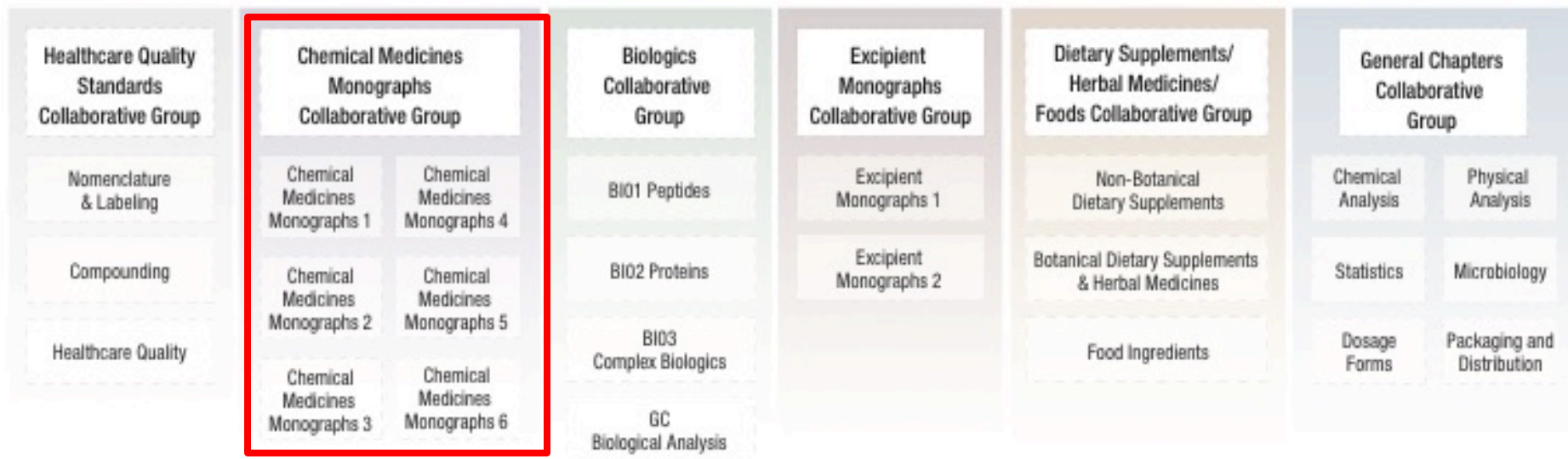
- Commerce
- Practical, meaningful, balanced
- Requirement clarity, but flexibility
- U.S. focused, but global scope



- ▶ FDA reviews proposed standards in *Pharmacopeial Forum* and provides comments
- ▶ Participates as delegates, provides resolutions, provides members to the council of the Convention and other Convention committees
- ▶ Provides FDA liaisons to USP's expert committees
- ▶ Participates in workshops and stakeholder forums
- ▶ Works with USP through cooperative research and development agreements
- ▶ Collaborates with USP through quarterly meetings, pharmacopeial discussion group and special topics such as OTC monograph modernization, compounding, structured product labeling, pharmacologic classes

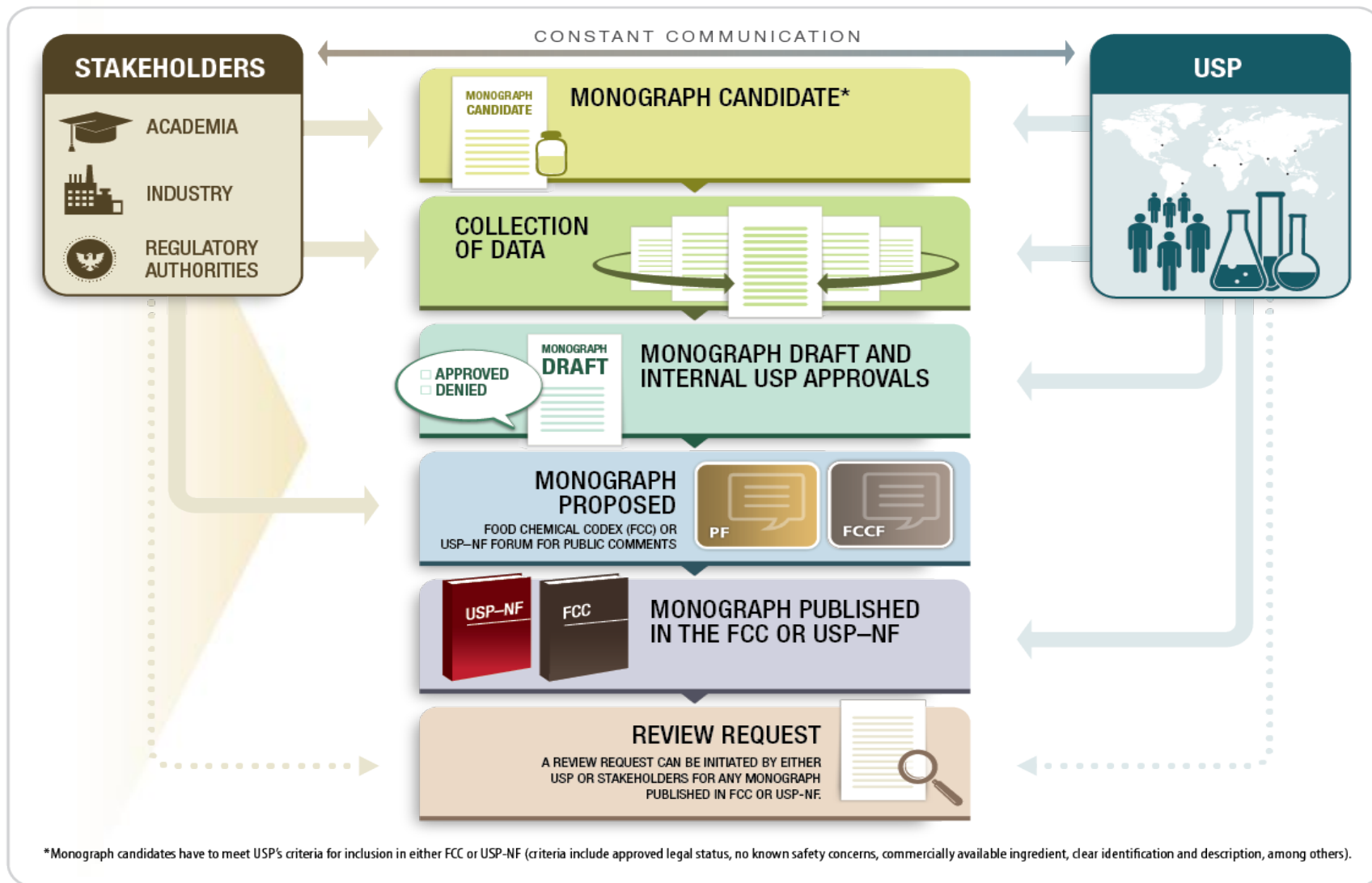
Council of Experts

2015–2020 COUNCIL OF EXPERTS EXPERT COMMITTEES AND COLLABORATIVE GROUPS



6 Collaborative Groups and 24 Expert Committees

USP Standard Setting Process



New monographs:

- ▶ Proposed tests, limits, and validation (according to <821>, <1821>, <823> and <1823>)
- ▶ Packaging, storage, and labeling requirements
- ▶ Reference Standard commitments as needed

Revisions:

- ▶ Reasonable justification
- ▶ Adequate supporting data for methods and specifications showing improvement

USP-initiated revisions:

- ▶ Modernizations and other revisions can be based on other pharmacopoeias' standards, ICH specifications, etc.

Monograph Development Timeline

- Depends on several factors such as the level of sponsor participation, complexity of the information, etc.
- Typically three to six months for preparation of draft
- Availability of the required RS bulks, inadequate information or lack of timely responses from sponsor may cause delays
- Publications process (3 – 4 months)
- It can take 18 to 24 months after publication in PF for a monograph to become official

Sources of Request for Revision

- Manufacturers with or without US-FDA approval
- US-FDA
- Expert Committee Members
- Expert Panels
- USP staff (scientific liaison, reference standard scientists, and others)
- Harmonization with other pharmacopeia
- Trade and other organizations

Monograph Up-to-Date

United States Pharmacopeia – National Formulary

A compendia of internationally recognized standards for drug substances, dosage forms, compound preparations, excipients, and dietary supplements.

It contains:

- More than 4,900 monographs with specifications for identity, purity, quality, and strength.
 - 2% of the monographs are related to radioactive articles
- More than 320 General Chapters, with step-by-step tests and methods.
 - 4 general chapters are related to radioactive articles
- Standards that when deemed official by USP, are FDA-enforceable for drugs manufactured or marketed in the U.S.



Chemical Medicines – Demographics

Expert Committees	Therapeutic Category	Number of Official Monographs	Total Number of Volunteers	% new volunteers
Chemical Medicines 1	Antiviral, Antimicrobials & Antibiotics	977	15	53
Chemical Medicines 2	Cardiovascular, Cough, Cold, & Analgesic	678	16	38
Chemical Medicines 3	Gastrointestinal, Renal, Endocrine and Ophthalmology, Oncology, Dermatology & Veterinary	959	17	41
Chemical Medicines 4	Psychiatric, Psychoactive, Neuromuscular, Aerosol, & Radioactive drugs, Imaging agents	799	18	39
Chemical Medicines 5	Pulmonary & Steroids	570	16	38
Chemical Medicines 6	Over the Counter (OTC)	475	18	27

USP Convention Resolution 2:

USP will meet the needs of U.S. Food and Drug Administration (FDA), industry, and other stakeholders for modern monographs within USP–NF.

USP will work to:

- **eliminate the existing backlog of monographs in need of modernization, and**
- **proactively evaluate and update monographs to maintain their relevance given scientific advances and evolving manufacturing and regulatory approaches.**

USP will work with industry and FDA to explore new strategies for sharing analytical methods and specifications needed to modernize monographs.

USP-NF Up to Date

What does “USP-NF Up to Date” mean?

Current:

Add new monographs & general chapters in timely manner.

Omit monographs / general chapters that are no longer needed

Relevant:

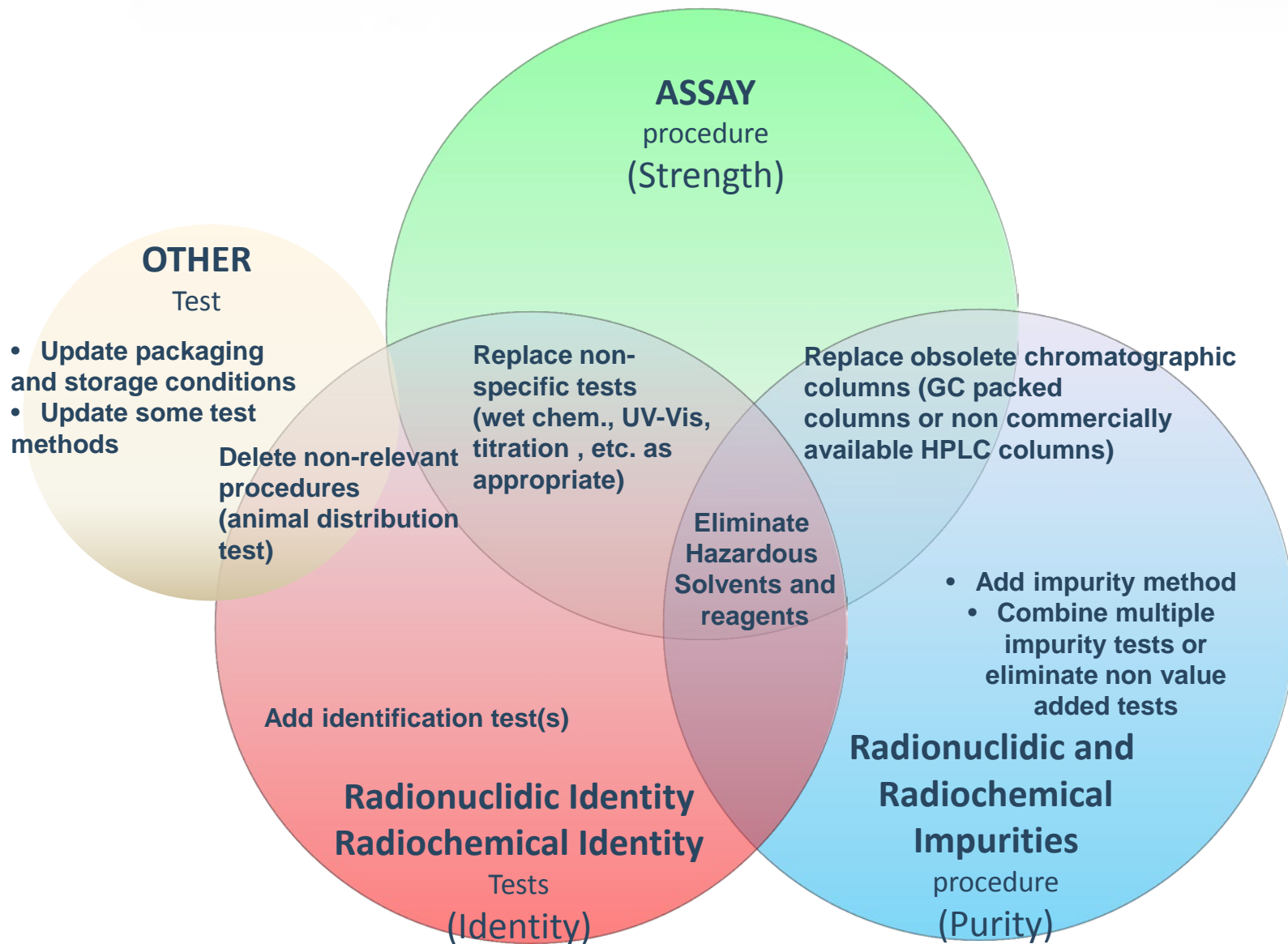
Modernize and/or revise monographs & general chapters to reflect “state of the industry” practices.

Ensure availability of Reference Standards

Suitable for their intended use:

All components clear, complete and correct.
Remove unnecessary tests.
Appropriate selection of reference standards

Monograph Up to Date Prioritization Scheme



Monograph Modernization - Identification, Assay, Organic Impurities, Other Sections

- Add Identification Test
- Add Organic Impurities
- Replace HPLC with TLC or vice versa
- Eliminate hazardous procedures and materials such as solvents, reagents, and other chemicals
- Delete non value added procedures
- Update on Reference Standards

Up-to-date

- Omission
- Reagents tagging
- Additional monograph information (e.g., chemical structure, chemical name. etc.) where appropriate

Updated Identification Test

- ▶ A. Radionuclidic Identity
(See *Radioactivity (821)*, 5. Identification of Radionuclides, 5.1 Half-Life Determination.) 1S (USP41)
 - Its half-life, determined using a suitable detector system (see *Radioactivity (821)*, Half Life Determination), is 9.5–10.5 min.
The half-life of ¹⁸F is 105-115 min. 1S (USP41)

- ▶ • B. Radiochemical Identity: ~~The R_f value of Fludeoxyglucose F 18 in the Sample solution corresponds to the R_f value of USP Fludeoxyglucose RS in the Standard solution, as obtained in the Radiochemical purity~~
- ▶ Acceptance criteria: The R_F value of fludeoxyglucose ¹⁸F in the Sample solution is 90%–110% of the R_F value of fludeoxyglucose as determined in the Standard solution in the test for Radiochemical Purity. 1S (USP41)

Other Updates

- ▶ Deleted the Specific activity
- ▶ pH : ~~(791) 4.5–7.5~~
- ▶ Replace the requirement of using pH meter with pH paper
 - Analysis: Apply a suitable volume of Injection on a suitable pH indicator paper, short-range.
 - Acceptance criteria: 4.5–7.5 1S (USP41)

USP-NF Up to Date

Opportunities and Challenges

- **Opportunities:**

- Stakeholder collaborations and global expert panels can stimulate additional avenues for both update and harmonization.
- Sourcing procedures from other compendia, literature, etc.
- Use of global USP laboratory facilities to develop and validate procedures.
- With FDA involvement, prioritizing and requesting submissions - the hope is that industry is much more likely to submit a proposal.

- **Challenges:**

- Prioritization of monographs and chapters in need of updating
- Obtaining procedures and acceptance criteria from sponsors
- Balancing the need to introduce modern methodology with the feasibility to implement by users

Opportunities for involvement

- ▶ Provide test procedure with validation data and approved specifications
- ▶ Get your own free online subscription to PF
<http://www.usp.org/usp-nf/pharmacopeial-forum>
- ▶ Review PF proposals and send your comments
- ▶ Submit your application on-line for panel consideration

- ▶ Contact USP rr@usp.org 301-816-8330
- ▶ Periodically visit the site
<http://www.usp.org/usp-nf/key-issues/standards-radioactive-articles-usp-nf>



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Questions



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Thank You