

# Building Stakeholder Relationships to Facilitate Expanded Application of Non-Targeted Analysis Methods

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*The views expressed in this presentation are those of the authors and do not necessarily reflect the views of policies of the US Environmental Protection Agency.*



A consensus-based working group formed to address challenges in Non-Targeted Analysis studies using mass spectrometry

Chairs:

Christine Fisher (FDA)

Ruth Marfil-Vega (Shimadzu)



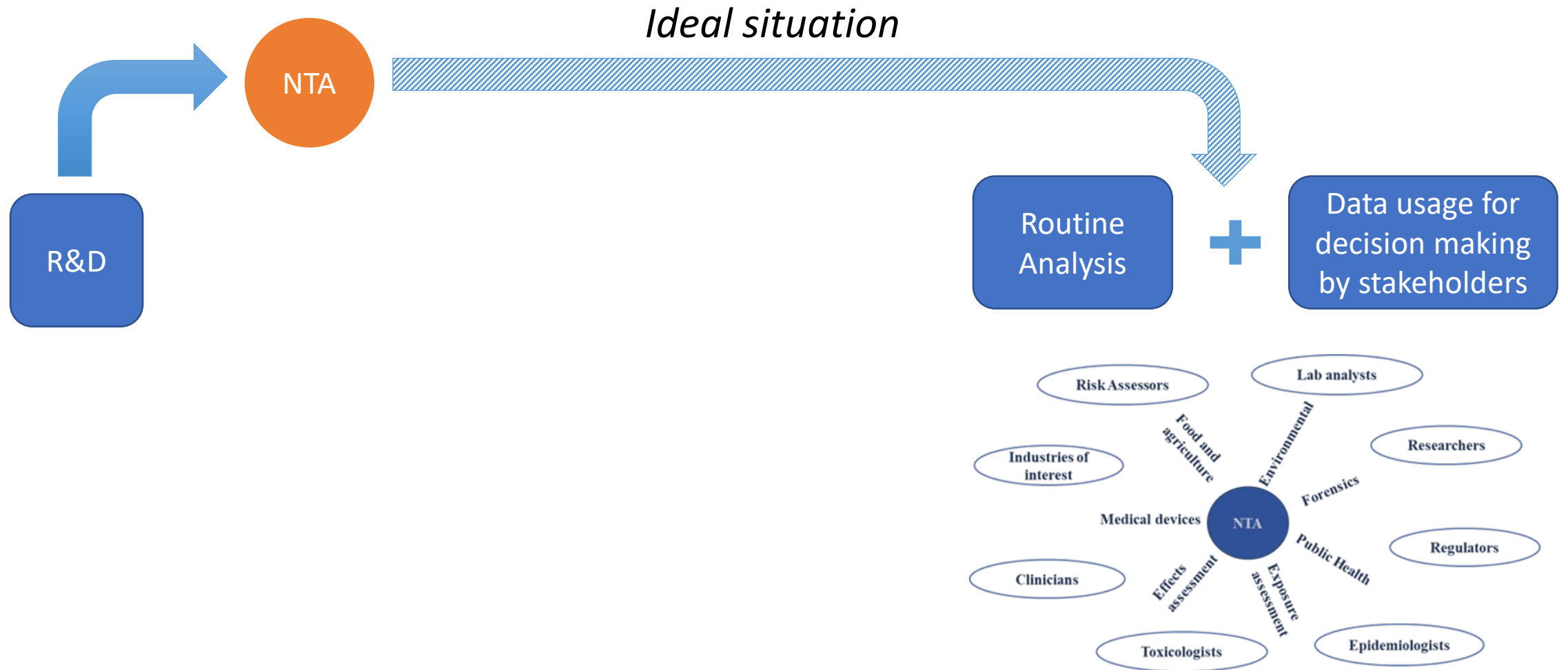
<https://nontargetedanalysis.org/>

# Organization

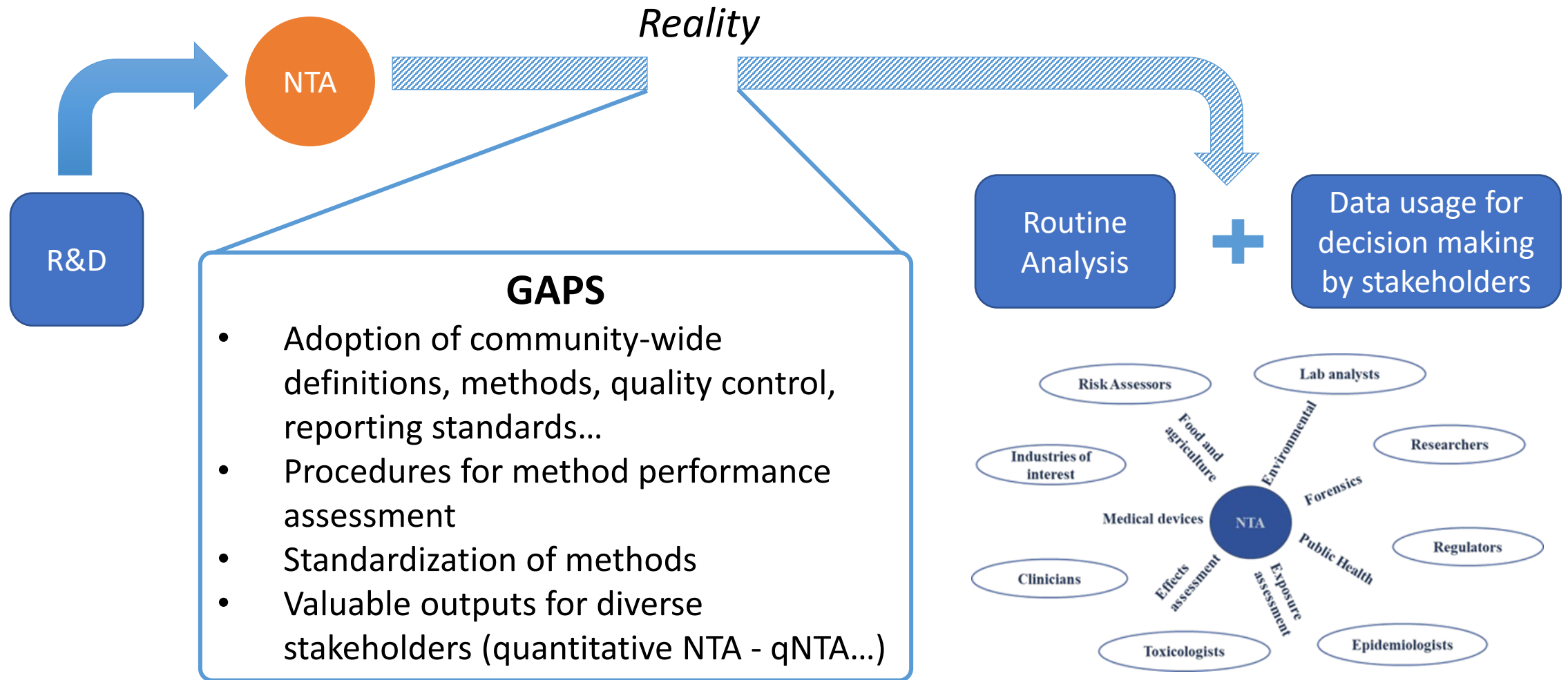


- >170 international members from government, industry and academia
- Organized into Sub-committees, with chairs from each group forming the Steering Committee
- Monthly meetings, alternating business discussions with presentations by Non-Targeted Analysis practitioners (including non-BP4NTA members)
- **Join us the 3<sup>rd</sup> Tuesday of every month, at 12 pm EST (non-members welcome!)**

# Motivation



# Motivation



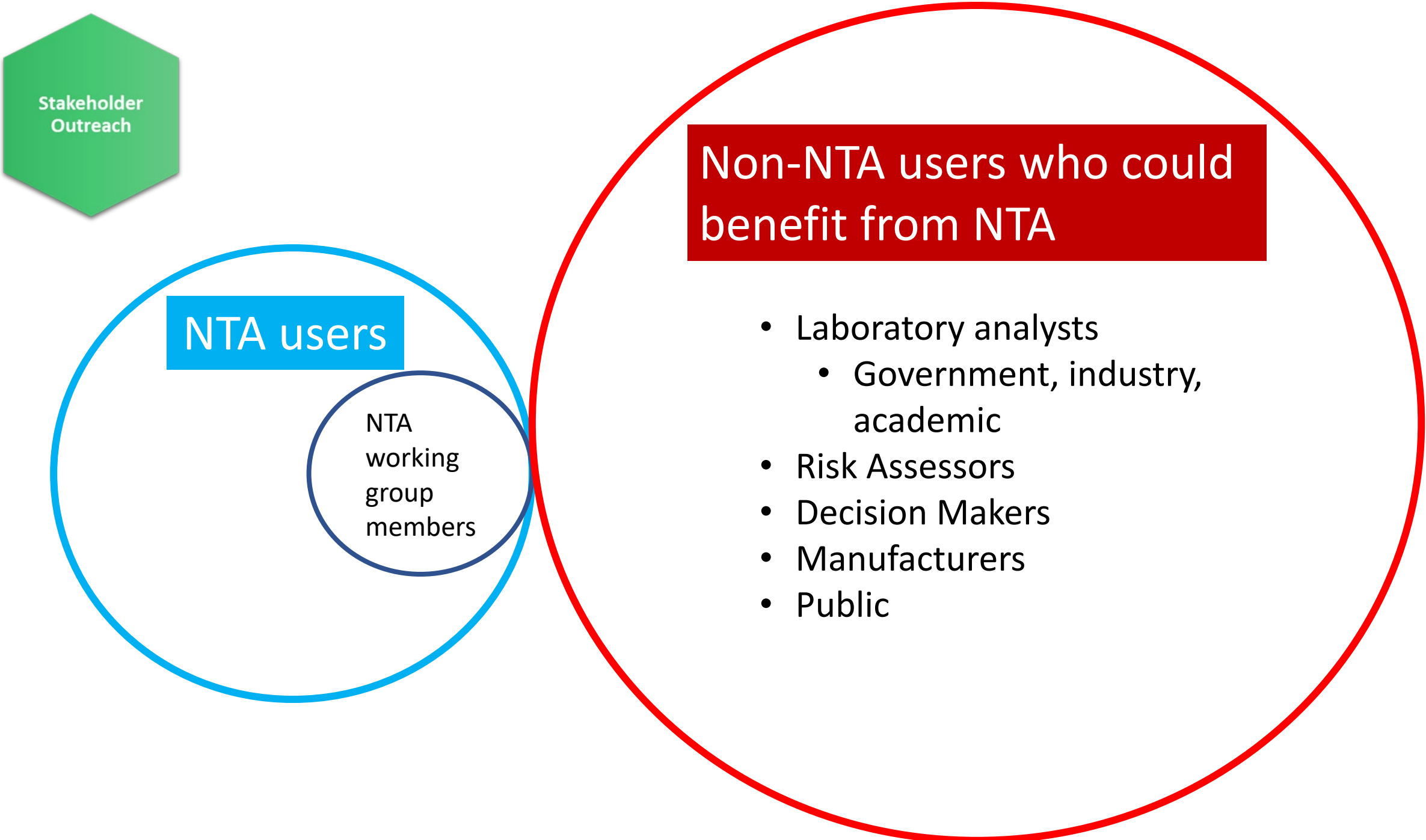
Stakeholder  
Outreach

NTA users

Stakeholder  
Outreach

NTA users

NTA  
working  
group  
members



Stakeholder  
Outreach

The diagram illustrates stakeholder outreach through a series of nested and overlapping shapes. A green hexagon in the top left is labeled 'Stakeholder Outreach'. A large blue circle on the left is labeled 'NTA users'. Inside this circle is a smaller dark blue circle labeled 'NTA working group members'. To the right of the blue circle is a large red circle. A red rectangular box is positioned at the top of the red circle, containing the text 'Non-NTA users who could benefit from NTA'. Below this box, within the red circle, is a bulleted list of user groups: Laboratory analysts (with a sub-bullet for Government, industry, academic), Risk Assessors, Decision Makers, Manufacturers, and Public.

NTA users

NTA  
working  
group  
members

Non-NTA users who could  
benefit from NTA

- Laboratory analysts
  - Government, industry,  
academic
- Risk Assessors
- Decision Makers
- Manufacturers
- Public



Stakeholder  
Outreach

NTA users

NTA  
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Non-NTA users who could  
benefit from NTA

- Laboratory analysts
  - Government, industry, academic
- Risk Assessors
- Decision Makers
- Manufacturers
- Public

Stakeholder engagement



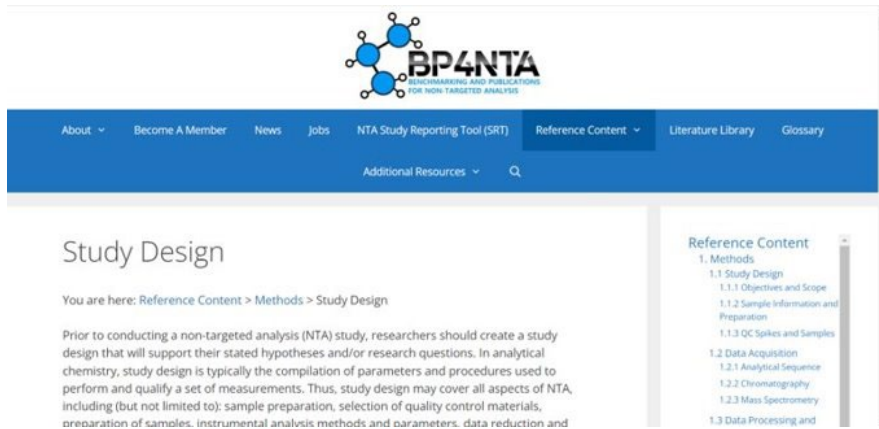


# Stakeholder Subcommittee

1. Engage with stakeholders who have limited to no involvement in R&D tasks related to NTA
  - e.g., regulators/decision makers, commercial labs, manufacturers of industrial and consumer products, utilities...
2. Identify common needs for implementing NTA among stakeholder groups to prioritize future BP4NTA efforts
3. Work together with stakeholders to create tools for facilitating implementation of NTA

# Engagement strategies

- Passive
  - Website
  - Videos
  - Fact sheets



The screenshot displays the BP4NTA website interface. At the top, the logo for BP4NTA (BENCHMARKING AND PUBLICATIONS FOR NON-TARGETED ANALYSIS) is visible. Below the logo is a navigation bar with links: About, Become A Member, News, Jobs, NTA Study Reporting Tool (SRT), Reference Content (highlighted), Literature Library, and Glossary. A search bar is located at the bottom of the navigation bar. The main content area is titled "Study Design" and includes a breadcrumb trail: "You are here: Reference Content > Methods > Study Design". The text explains that prior to conducting a non-targeted analysis (NTA) study, researchers should create a study design that will support their stated hypotheses and/or research questions. It further states that in analytical chemistry, study design is typically the compilation of parameters and procedures used to perform and qualify a set of measurements, and that study design may cover all aspects of NTA, including (but not limited to): sample preparation, selection of quality control materials, preparation of samples, instrumental analysis methods and parameters, data reduction and

Reference Content

- 1. Methods
  - 1.1 Study Design
    - 1.1.1 Objectives and Scope
    - 1.1.2 Sample Information and Preparation
    - 1.1.3 QC Spikes and Samples
  - 1.2 Data Acquisition
    - 1.2.1 Analytical Sequence
    - 1.2.2 Chromatography
    - 1.2.3 Mass Spectrometry
  - 1.3 Data Processing and

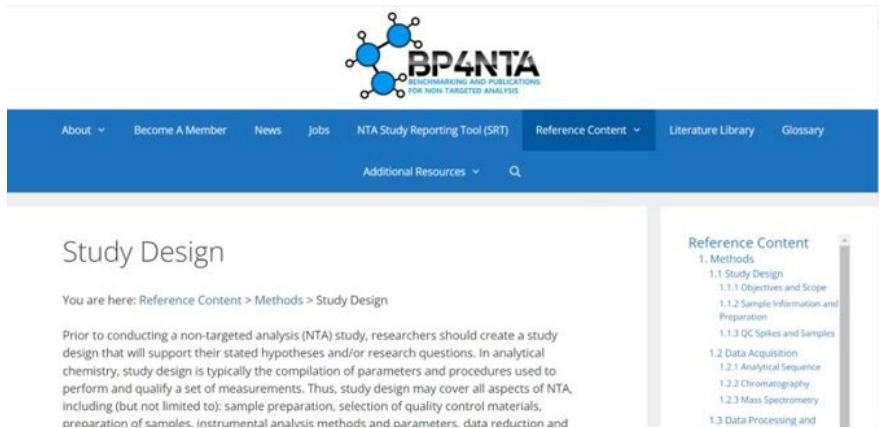
# Engagement strategies

- Passive

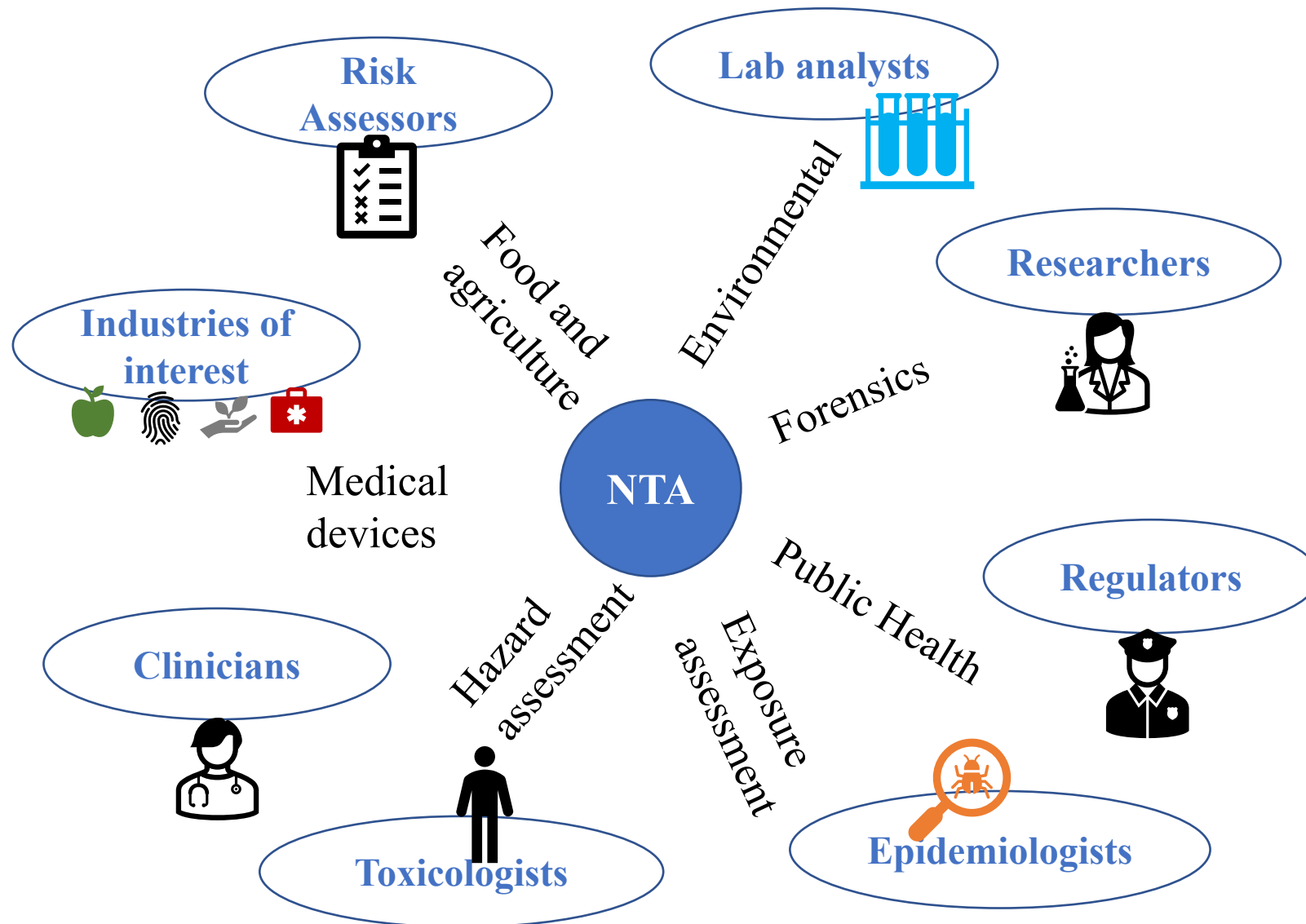
- Website
- Videos
- Fact sheets

- Active

- Informal conversation
- Meetings
- Workshops

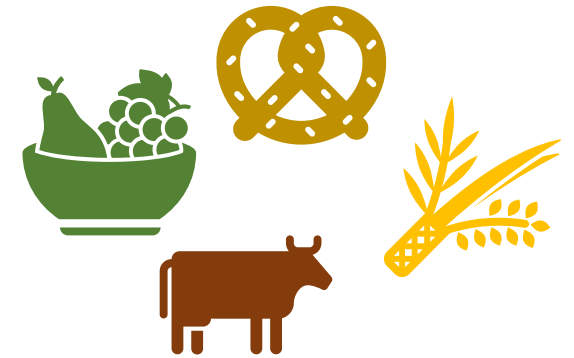


# Stakeholder Identification



# Meeting 1: Food and Agriculture Lab Analysts

- Attendee profile (6 stakeholder attendees):
  - Government lab analysts with HRMS experience
    - Most were US state employees
  - Work under ISO 17025 Accreditation
  - Use “screening” strategies in current work, but not full adoption of NTA
- Meeting goals:
  - Introduce BP4NTA and establish credibility
  - Listen to stakeholder opinions: reasons for using/not using NTA
  - Follow-up poll to collect additional thoughts and information



# Discussion Questions



- Do you currently use NTA in your work? How?
- What do you see as the biggest opportunities for using NTA in your field?
- What are the biggest barriers inhibiting NTA use in your lab?
- What resources would be useful for incorporating more NTA in your work?
- Are you interested in participating in the creation/testing of these resources?



# Findings: NTA Barriers

- Most regulatory analysis needs to remain targeted
  - Quantification is often necessary
  - Regulatory action almost always requires verification with a standard
    - NTA is useful for forensic/diagnostic work and for when standards are not available
- Current limitations on NTA:
  - Lack of ability to ensure data quality
  - Lack of high throughput data processing tools
    - Turn around time
  - Lack of understanding for end users of the data



# Findings: NTA Opportunities

- All attendees were interested in doing more NTA
- Topics of future interest
  - Method performance assessment
    - Performance evaluation tools
    - Multi-lab validation studies and performance testing opportunities
    - Preference for methods that avoid false negatives
  - Quantitative NTA approaches
  - Retention time prediction
- Interest in NTA training opportunities at conferences
  - ASMS, AOAC, NACRW recommended



# Lessons Learned

- The definition of NTA is debated!



- Even in a small group, it is difficult to get vocal input from everyone
  - Chat and follow-up poll were key for quieter participants



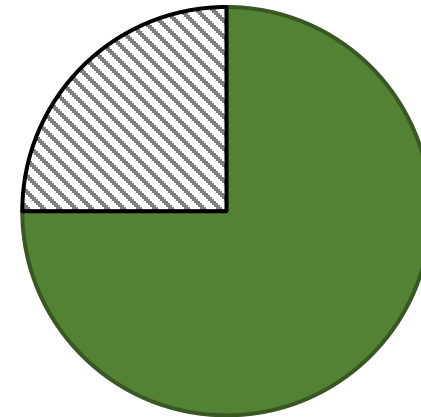
- A longer meeting time (2 h vs 1 h) might work better



# Materials Developed

- Meeting summary shared with BP4NTA members
- Meeting preparation materials
  - Invitation email
  - BP4NTA introduction slides
  - Discussion question list

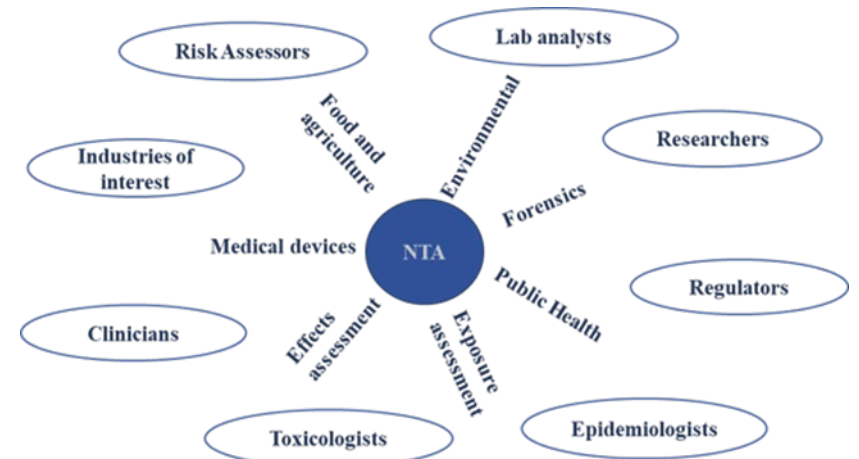
Are you interested in joining BP4NTA?



■ Yes ■ No

# Meeting Plans in Progress:

- **Medical device regulators**
  - Champion: Christine Fisher, US FDA
- **Rapid responders**
  - Champions: Alli Phillips, US EPA; Greg Johnson, University of North Carolina
- **Epidemiologist**
  - Champion: Krystal Pollitt (Yale)
- **Risk Assessors**
  - Champion: Yong-lai Feng (Health Canada)
- Others being considered: forensics, NGOs...



# PFAS Stakeholders – Piggyback with EPA Efforts



- October 2021 Virtual Conference:

## **Total PFAS Analysis for Public Health Protection: Science, Applications, Benefits and Challenges**

- Audience: regional/state/local regulators and government laboratories
    - ~900 registered attendees
  - Organizers: James McCord, Tim Buckley, Regina Poeske, Matt Small
- 
- Poll data on current NTA use and future barriers
  - Identification of vocal and interested stakeholders

# Meeting Plans in Progress:

- **Environmental stakeholders – commercial labs and utilities**
  - Champions:  
Ruth Marfil-Vega, Shimadzu; Greg Johnson, University of North Carolina

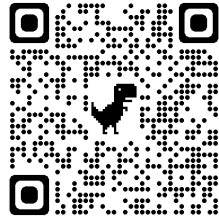
Details TBD  
Interested in participating?

# Broader activities affected by stakeholder input

- Planning of future BP4NTA activities
  - BP4NTA Standard Methods and Materials Committee
  - Choices of events for publicizing BP4NTA



Join us!



- Identify and engage with research, regulatory, and industry-based stakeholders
- Help organize stakeholder outreach meetings and events
- Create products to support outreach activities
- Identify needs and challenges for adoption of NTA workflows or use of NTA outcomes in stakeholder organizations



Fill out the “Become a Member” form at [nontargetedanalysis.org](https://nontargetedanalysis.org)



# Acknowledgements



## BP4NTA stakeholder committee members:

**Co-Chairs:** Yong-lai Feng and Sara Nason

Jon Sobus  
Ruth Marfil-Vega  
Krystal Pollitt  
James McCord  
Stephane Bayen  
Jessica Daniel  
Christine Fisher  
Alli Phillips  
Greg Johnson  
Matthew Newmeyer  
Chung Yang  
John Sloop



Health  
Canada



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