

FROM THEORY TO PRACTICE:

A Semi-Quantitative Assessment of the Biosafety Professional's Current Scope of Work and Core Competencies



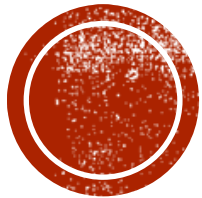
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National Biosafety and Biocontainment Training Program (NBBTP)

A National Institutes of Health (NIH) Program

October 5, 2016

DISCLAIMER



The views and opinions expressed in this presentation are those of the presenter and do not necessarily reflect the official policy or position of the National Institutes of Health (NIH).

■ ISSUE

- The term “Biosafety Officer (BSO)” is referenced in several United States regulations and guidelines but there is **no “official” definition** as to what **duties** the BSO may perform.
- The NBBTP was asked to **author a survey**, on behalf of ABSA International, to assist in the **determination of duties** performed by biosafety professionals.

Literary Review and Interviewing

- CWA 16335 Biosafety Competency
- CDC/APHL Competency Guidelines for Public Health Laboratory Professionals
- Job Postings
- NRCM Task List, Specialist Microbiologist

Survey Development

- Develop Questions
 - Questions designed to address type(s) of activities undertaken and the time dedicated to each task.

ABSA Executive Council Review

- Critique and Revision
- Subsequent Review
- Approval

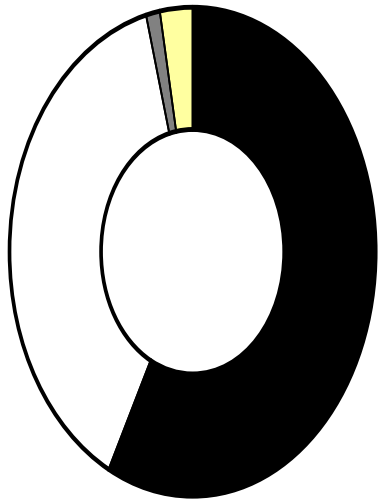
Survey Administration

- SurveyMonkey, Anonymous Questionnaire
- Duration: 2 Weeks

Survey Review

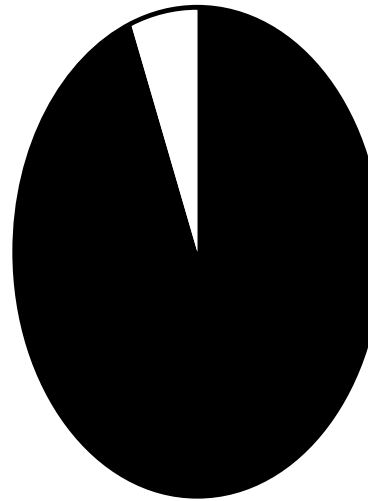
- Review Survey Results
- Presentation Preparation of Preliminary Analysis
- ABSA Annual Meeting Presentation

Survey Invitations



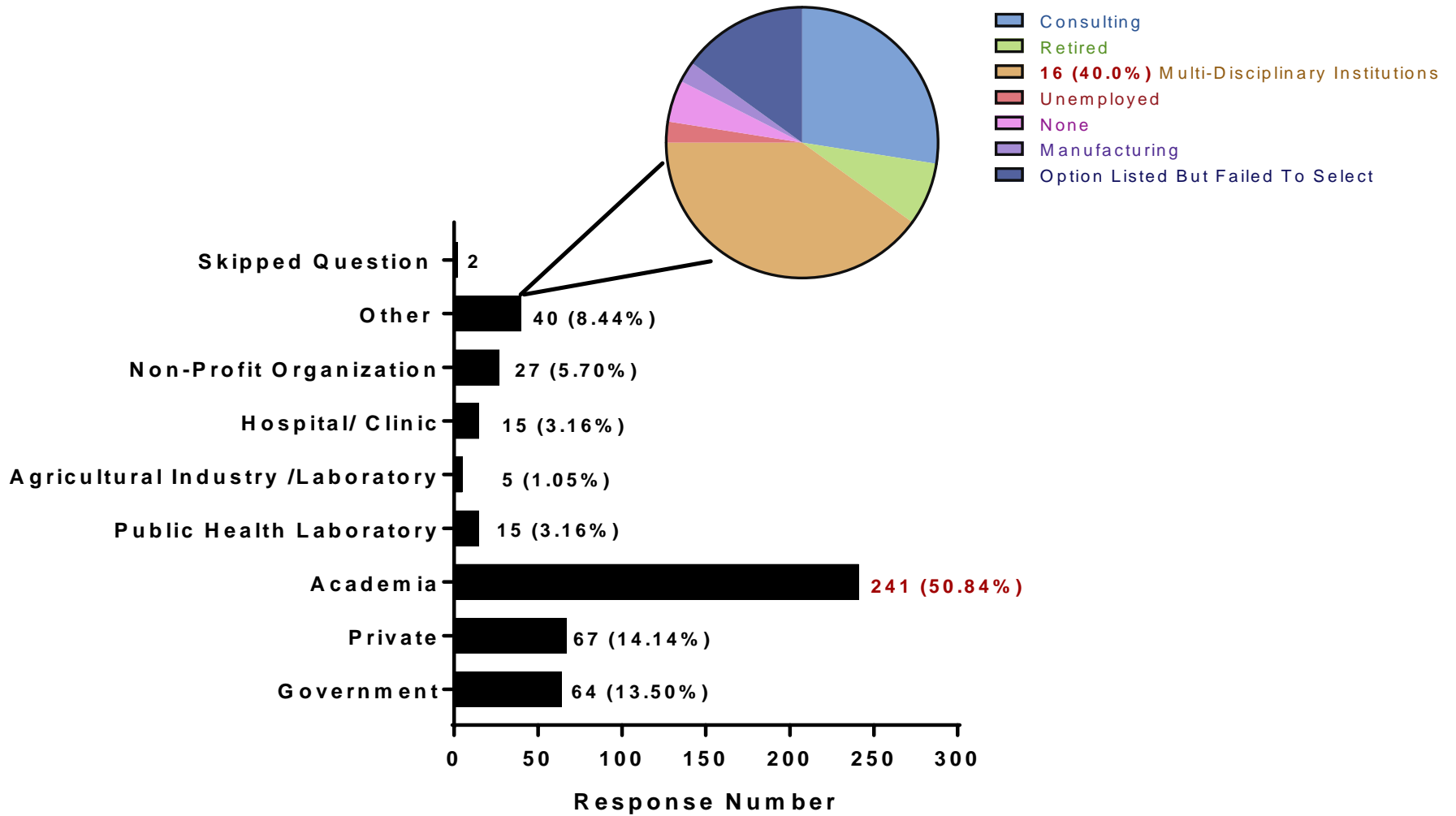
N=1393

Responses



N=475

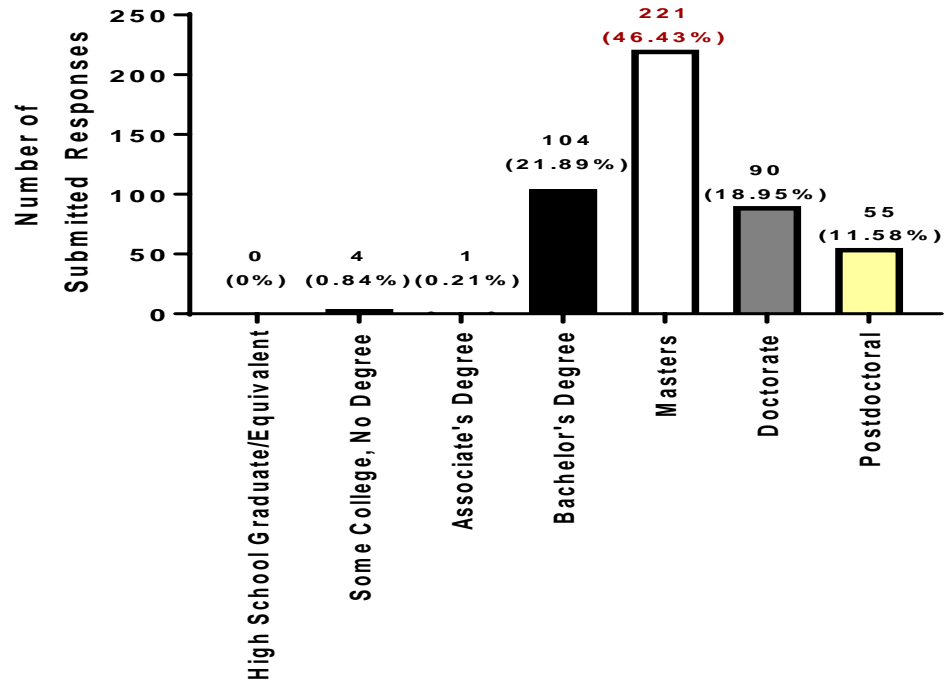
34.1% Invitation Response Rate



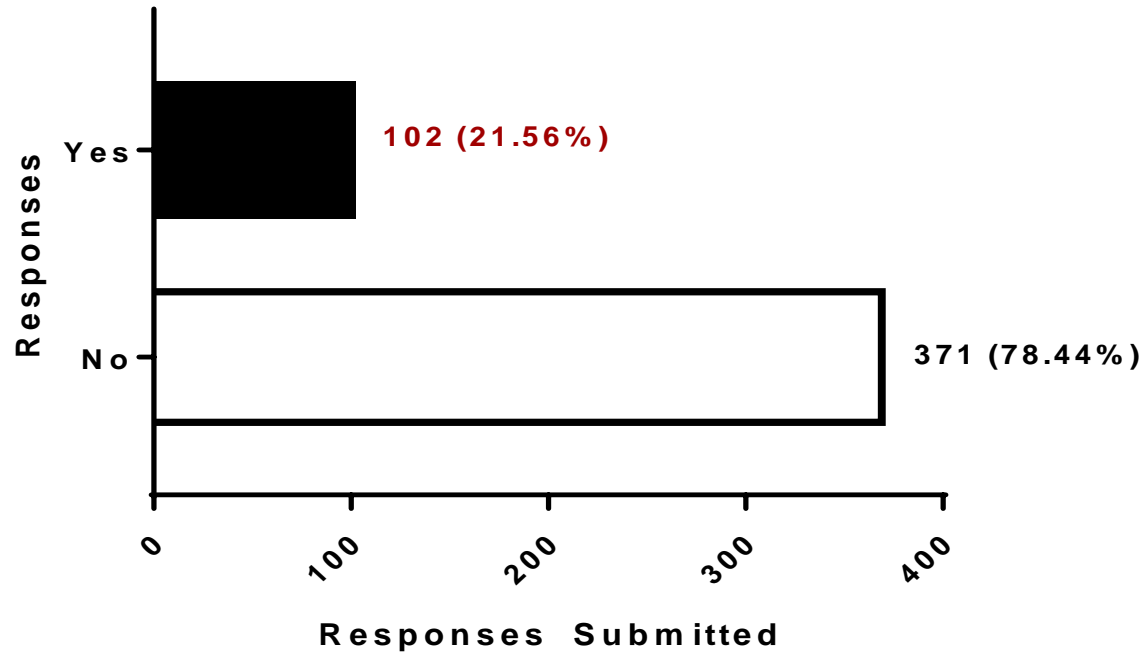
SURVEY RESPONDENT DEMOGRAPHICS



| Title | Responses | |
|--------------------------------|--------------|-------------------|
| | (Percent) | (Response Number) |
| Biosafety Officer (one site) | 36.76 | 175 |
| Biosafety Officer (multi-site) | 11.55 | 55 |
| Alternate Biosafety Officer | 5.88 | 28 |
| Biosafety Specialist | 13.66 | 65 |
| Industrial Hygienist | 3.15 | 15 |
| Environmental Hygienist | 0.21 | 1 |
| Engineer | 1.47 | 7 |
| Biorisk Management Advisor | 2.31 | 11 |
| Consultant | 5.67 | 27 |
| Other | 19.33 | 92 |



Retiring Within Five Years



Committee Involvement

Registration Review

Regulation Review Medical Surveillance

Incident Investigations

Training

Supervisory Roles

Select Agent Program

Emergency Plan Involvement

Waste Disposal Laboratory Inspections

Risk Assessments

Consulting Advising

Commissioning

Administrative Tasks

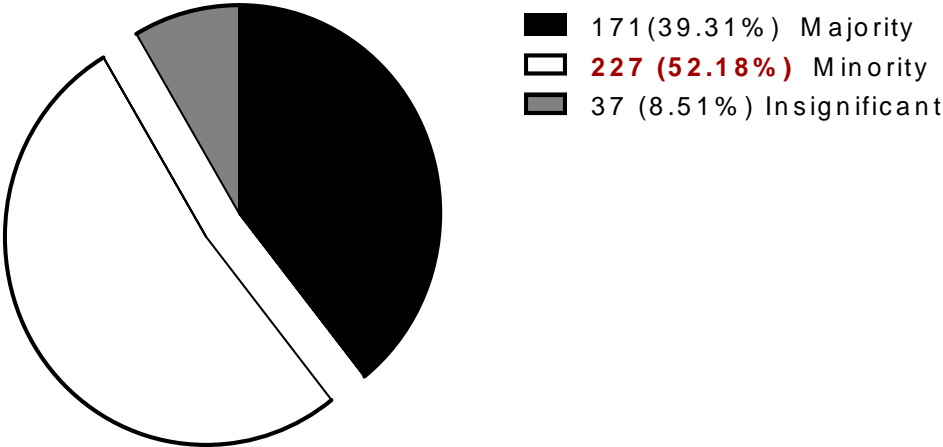
Writing Standard Operating Procedures

Guideline Review

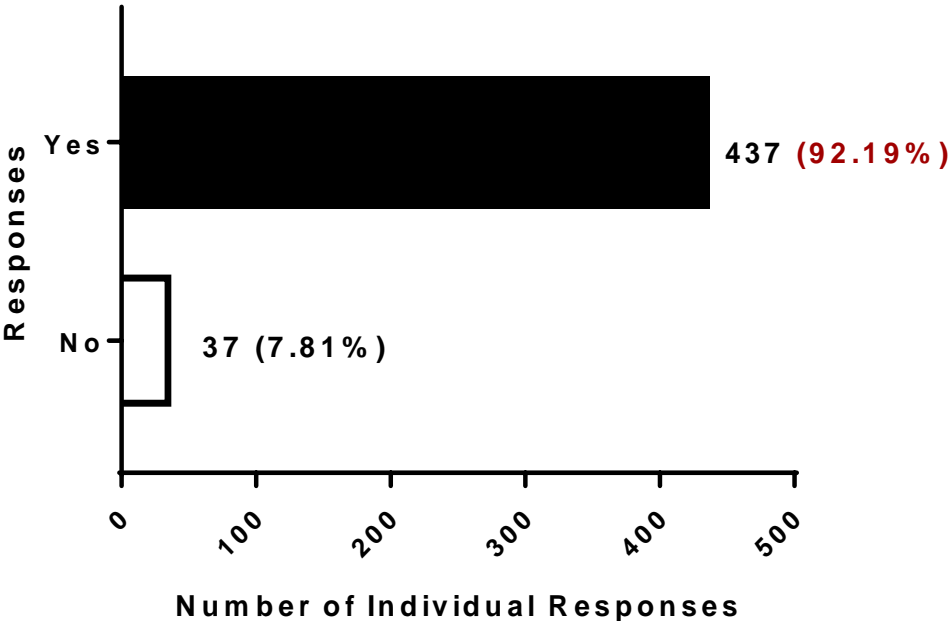
SCOPE OF WORK



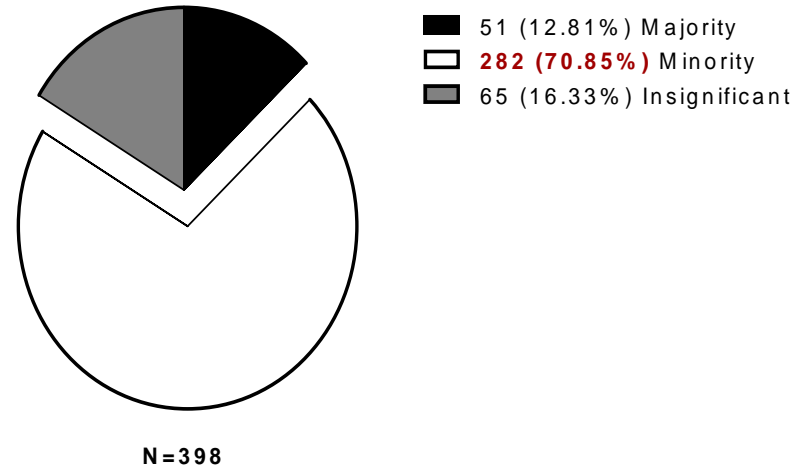
Annual Time Dedicated To Conducting Risk Assessments



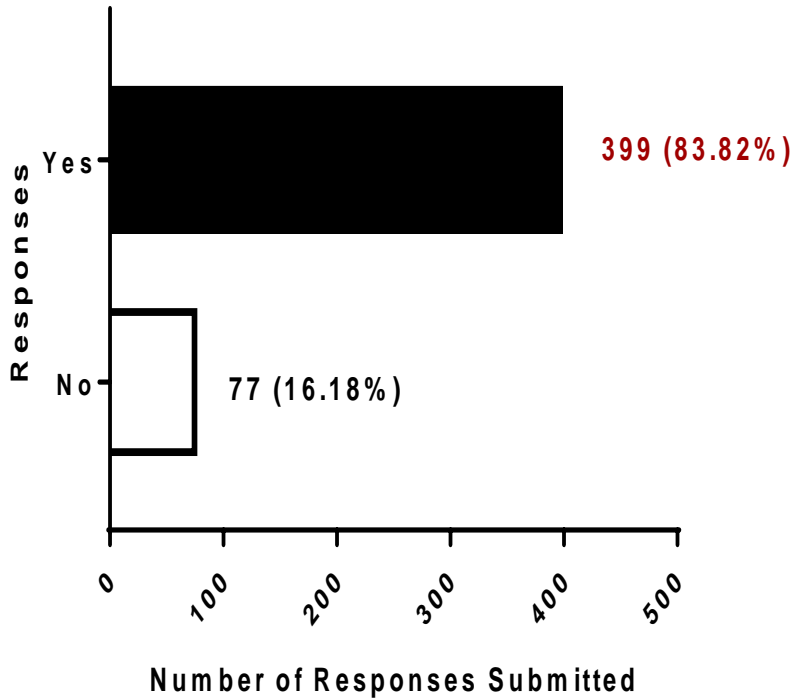
Perform Risk Assessments



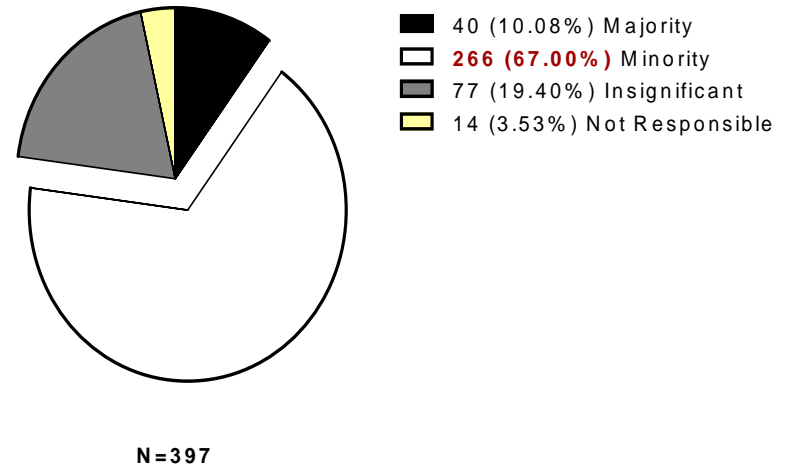
Annual Time Spent Conducting Inspections

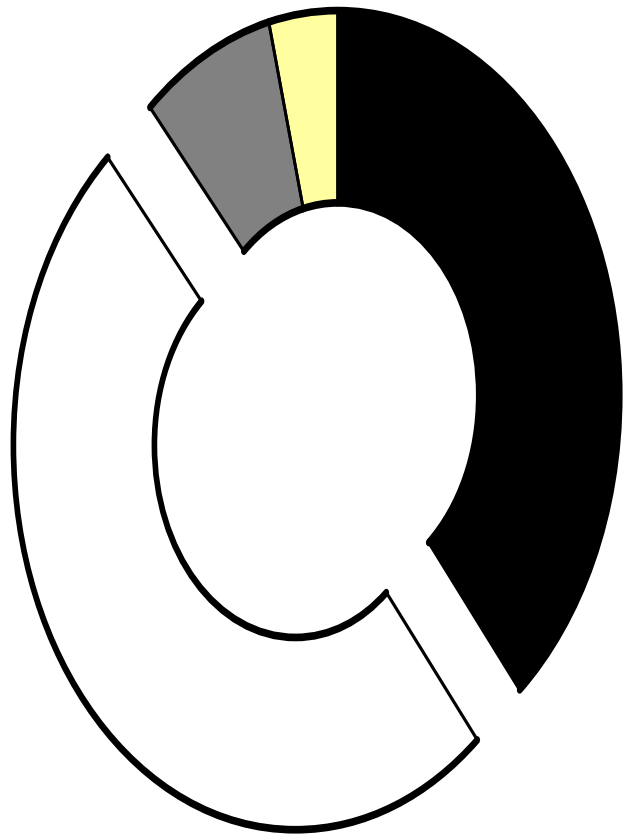


Perform Laboratory Inspections



Annual Time Dedicated To Laboratory Corrective Action





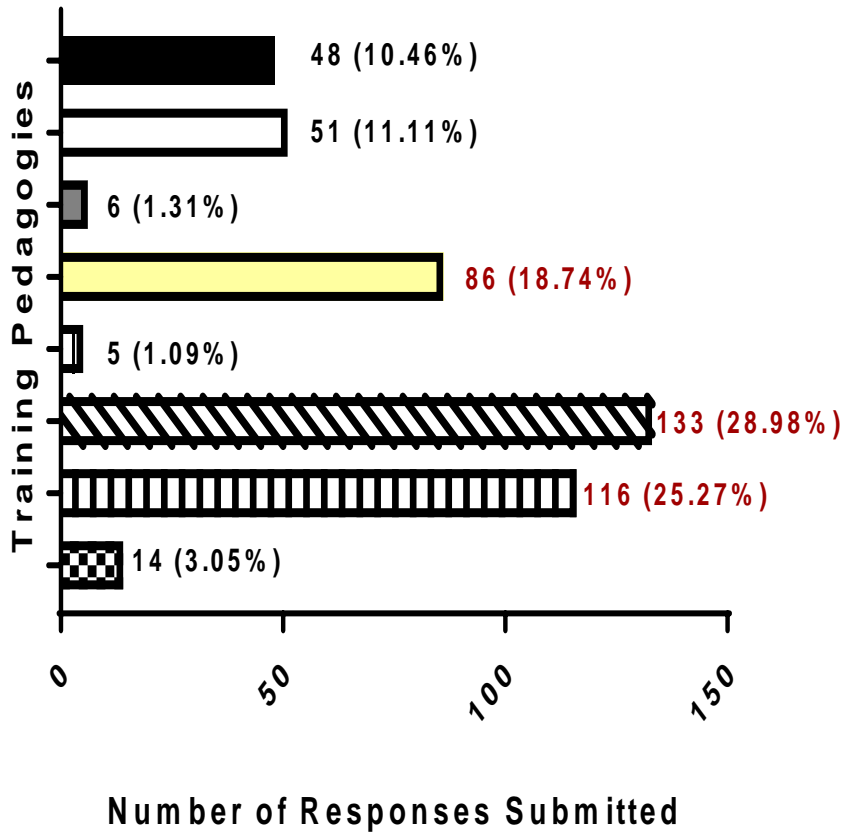
N=458

- 178 (38.86%) Majority
- 227 (49.56%) Minority
- 35 (7.64%) Insignificant
- 18 (3.93%) I Do Not Perform This Task

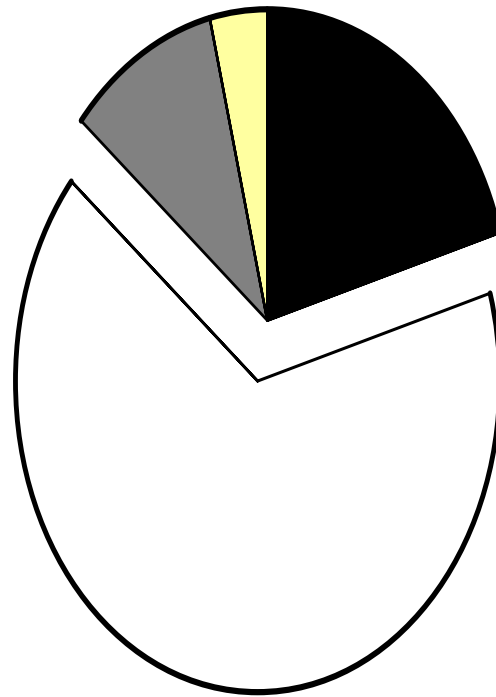
Safety Regulation and Guideline Examples

- OSHA Bloodborne Pathogen Standard
- Chemical Hygiene Standard
- Hazard Communication Standard
- CDC/NIH Biosafety in Microbiological and Biomedical Laboratories (BMBL)
- NIH rDNA Guidelines
- CDC/USDA Select Agent and Toxin Regulations

Training Pedagogies

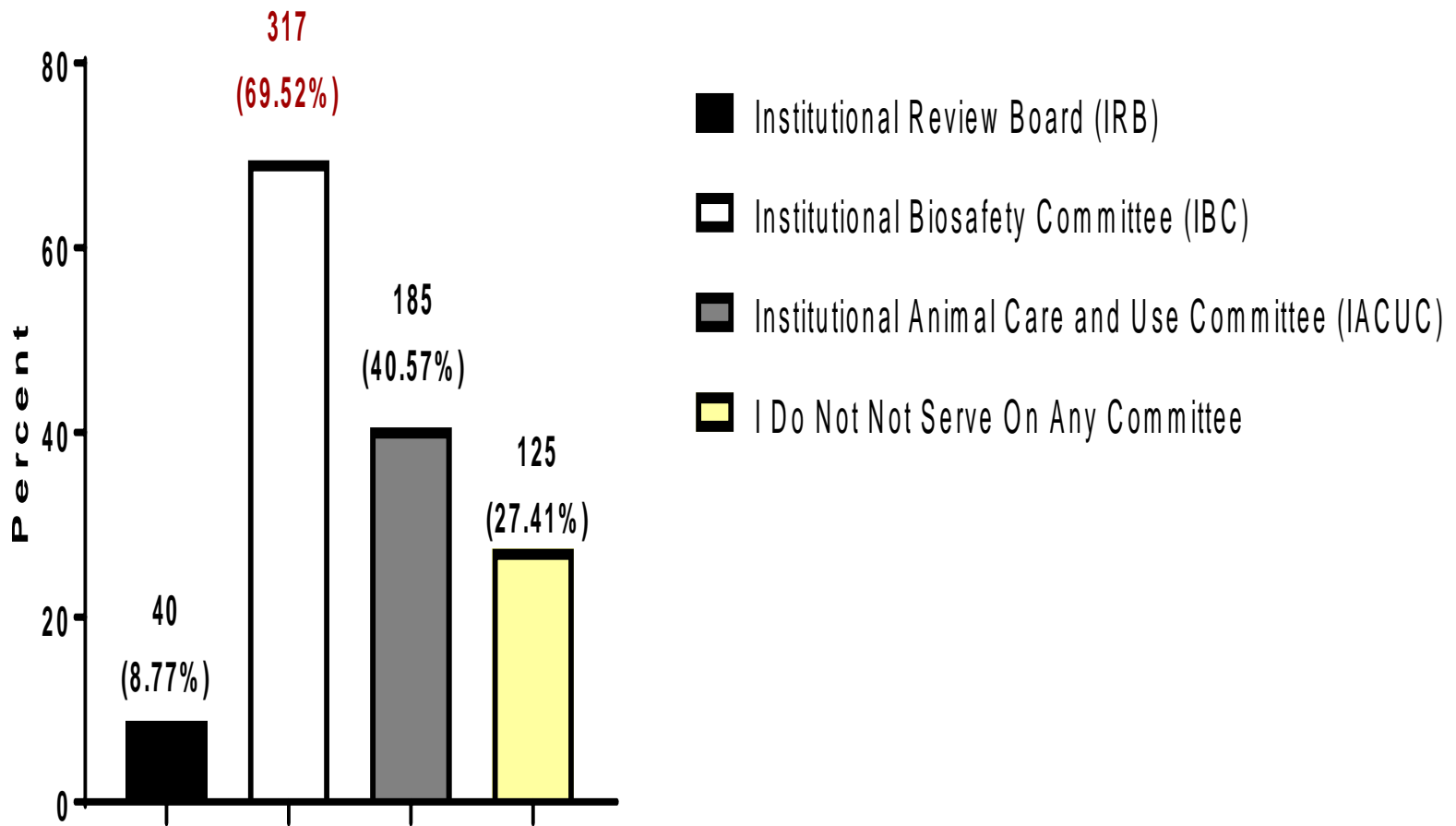


- 100% Web-Based
- 100% Face-To-Face Didactic
- 100% Hands-On Simulation
- 50% Web-Based/ 50% Face-To-Face Didactic
- 50% Web-Based/ 50% Hands-On Simulation
- >50% Web-Based/
Remaining Face-To-Face or Hands-On
- Equally Divided: Web-Based,
Face-To-Face, and Hands-On
- I Do Not Know



N=445

- 91 (20.45%) Majority
- 292 (65.62%) Minority
- 45 (10.11%) Insignificant
- 17 (3.82%) I Do Not Perform This Task

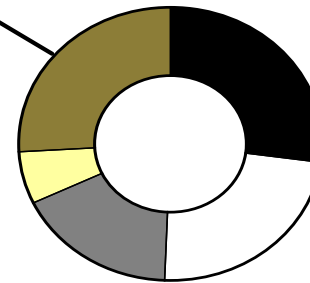


INSTITUTIONAL BIOSAFETY COMMITTEE (IBC)

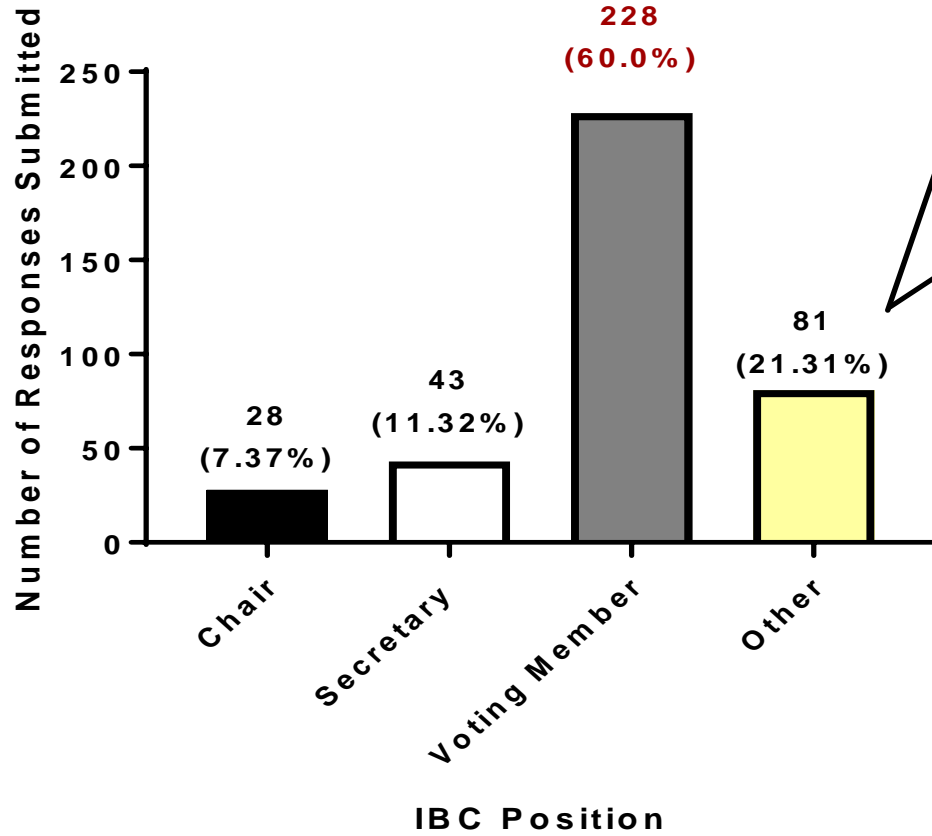


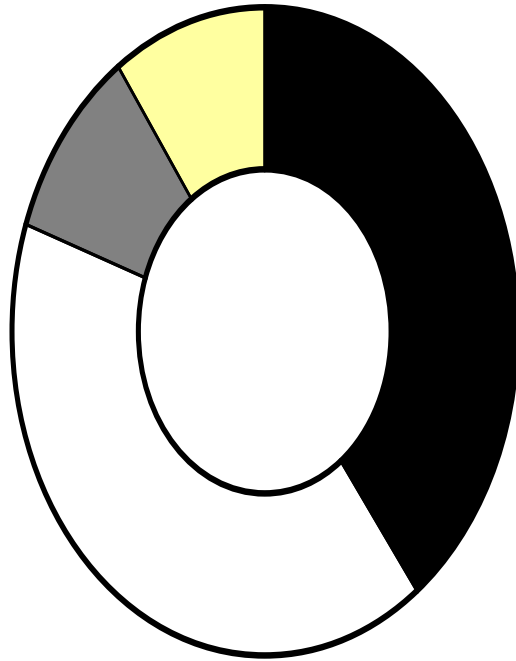
Examples
 Voting Member
 Safety Committee Member
 Not Employed
 Not Applicable

- 22 Non-Voting Member
- 19 BSO/Advisor
- 14 Manager/Coordinator/Admin
- 5 Vice-Chair/Co-Chair
- 21 Misc



Total=81

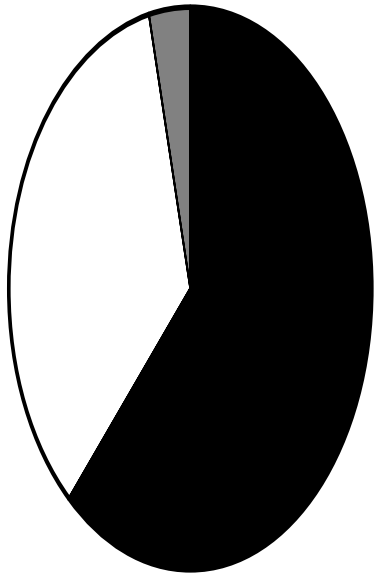




N=458

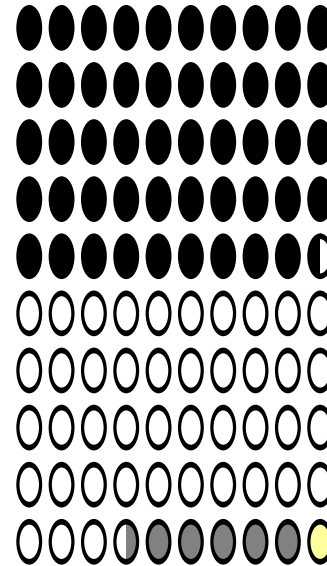
- 182 (39.74%) Majority
- 186 (40.61%) Minority
- 45 (9.83%) Insignificant
- 45 (9.83%) I Do Not Perform This Task

Annual Time Devoted To Administrative Tasks



N=464

Annual Time Devoted To Consulting/Advising Constituency



- 228 (49.67%) Majority
- 201 (43.79%) Minority
- 25 (5.45%) Insignificant
- 5 (1.09%) I Do Not Perform This Task

N=459



- This survey represents a **cursory exploration** into the current work scope of biosafety professionals.
- While the survey does provide a **practical representation** of the **types of activities** for which biosafety professionals are responsible, the tool is not without limitations.
 - Limitations
 - Demographical Breadth
 - Response Rate
 - Geographical Breadth
 - Semi-Quantitative Metrics (Ex: Majority, Minority, Insignificant)

ACTION: How Can This Information Be Useful?

- Development of **standardized position descriptions**
- Assist in the establishment/implementation of workforce **succession plans**
- Serve as the basis for detailed, quantitative scope of work **assessment tool development**
- Provide guidance for **professional development**
 - ABSA
 - Training tools and resources
 - Individual
 - Time management
 - Gap identification-professional training needs

- **American Biological Safety Association (ABSA) International**
 - Marian Downing, RBP, CBSP, SM(NRCM)
 - KariAnn DeServi, MEd
 - ABSA Executive Council

- **National Biosafety and Biocontainment Training Program (NBBTP)**
 - Deborah Wilson, RADM, DrPH, CBSP
 - Marcus Hodges, PhD
 - Ruth Distler

- **Interviewed Biosafety Professionals**

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DISCUSSION 