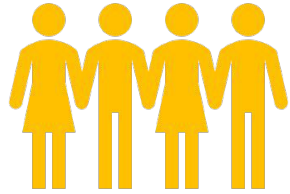


CDO Council - Summer 2023 Survey

**Neil Tseng,
Program Analyst (Data Scientist)
U.S. Department of Transportation
OST, DCIO, Office of Chief Data Officer**

Survey Response Statistics 2023 vs 2022



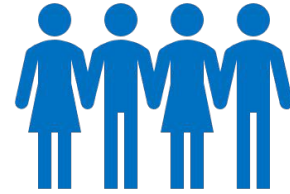
2023 Survey

35 Responses

20 from large agencies

9 from medium agencies

6 from small agencies



2022 Survey

38 Responses

23 from large agencies

9 from medium agencies

6 from small agencies

Overview- Key Takeaways 1

Chief Data Officer (Background)

- Identified your primary role as Chief Data Officer (CDO) of your agency
- Senior Executive Service (SES) or career General Schedule (GS-15) with over 10 years in public sector and focused on data and analytics (majority)
- Demographics: Distribution is demographically changing, with education range: bachelor's degree to PHD, no professional data and analytics certifications (most likely none existed at the time)

Overview- Key Takeaways 2

Chief Data Officer (Role)

- From 2022 to 2023, continued to identify CDO role as your primary responsibility (58% vs 57% respectively).
- Those of you that mentioned “Other” roles in 2022 also showed a decrease in “Other” roles in 2023
- From 2022 to 2023, ~14% overall increase from one-person CDO Office to Central Data Team (More Data Teams, 50% vs 36%)
- In 2023, number of resources increased on each Data Team
 - ~26% of the Central Data Teams had up to 5 FTEs in 2023 (compared to ~9% in 2022)

Overview- Key Takeaways 3

Chief Data Officer (Responsibility)

- In 2023, continued in Primary Roles in Data Governance, Data Strategy, Data Skills Development and Data evangelism / Ambassador
- Role changed from Primary Accountable Official to Partner in 2023 from 2022 in the following: Data Analytics, Information Collection/ Paperwork Reduction Act
- In 2023, from 2022, in the following areas there was a shift (> 10%) in roles from No Practical Responsibility to Partner : Data Integration, Research, Info Security, Operations Research, FOIA and AI

Overview- Key Takeaways 4

Chief Data Officer (Resources)

- From 2022 to 2023, ~14% overall increase from one-person CDO Office to Central Data Team (More Data Teams, 50% vs 36%)
- In 2023, number of resources increased on each Data Team
 - ~26% of the Central Data Teams had up to 5 FTEs in 2023 (compared to ~9% in 2022)
- Large Size Agencies had greater “personnel” resources than both Medium / Small Sized Agencies
 - Large Agencies, ~56% had 5-15 FTEs, 69% had 5-25 Contractors reporting to the CDO
 - Across Medium Agencies, ~43% had upwards of 5 FTEs, 57% had 0 Contractors
 - Small Agencies, 100% had one-person CDO Offices(0 FTEs and 0 Contractors)

Overview- Key Takeaways 4 (Continued)

Chief Data Officer (Resources)

CDO Offices: Business and Technical people

- Large/ Medium Size Agencies reported CDO Office containing business and technical people (65% / 78% respectively)
- Small Size Agencies: ~83% of CDO Offices reported no additional business and technical people

Overview- Key Takeaways 5

Chief Data Officer (Performance)

-Greatest Obstacles to using Data to support Agency Mission (2023)

- Data Culture is #1 for large and medium agencies
- Staff Skills is #2 for large and #1 for medium and small agencies
- Data Sharing is #3 for large and medium agencies
- Direct Funding is in the top 3 for agencies of all sizes
- Data Governance is #3 for large and #1 for medium agencies

Overview- Key Takeaways 5 (Continued)

Chief Data Officer (Performance)

CDO role / Data Team Needs to be Successful (2023)

Large / Medium / Small Size Agencies

- Additional Staff
- Additional Direct Funding
- Organizational Support
- Additional Training (Small Size Agencies in addition to above)

Overview- Key Takeaways 6

CDO Enterprise Analytics

CDO and Oversight of Enterprise Analytics (EA):

Large Size Agencies (Characteristics)

- Partner / Manager Responsibility in oversight of Enterprise Analytics
- Pilot implementation in EA platform across various components/ silos
- Pilot Integration of mission supported data (e.g. HR, finance, IT)
- Pilot Integration of mission specific data across divisions or component agencies at enterprise level.
- Pilot / Mature Implementation of enterprise-wide analytics and data dashboards

Overview- Key Takeaways 6 (Continued)

CDO Enterprise Analytics

CDO and Oversight of Enterprise Analytics (EA):

Medium Size Agencies (Characteristics)

- Mature implementation in EA platform
- Range from No Plans, Pilot – Planned – Mature Integration of mission supported data
- Mature integration of mission specific data across divisions or component agencies at enterprise level.
- Pilot / Mature Implementation of enterprise-wide analytics and data dashboards

Overview- Key Takeaways 6 (Continued)

CDO Enterprise Analytics

CDO and Oversight of Enterprise Analytics (EA):

Small Size Agencies

- Primary Accountable Official in oversight of EA
- Planned implementation in EA platforms for integrating/ analyzing data
- No Current Plans for Integration of mission supported data
- No Current Plans/ Pilot Integration of mission specific data across divisions or component agencies at enterprise level.
- No Current Plans / Planning Implementation of enterprise-wide analytics and data dashboards



CDO Council - Summer 2023 Survey



Chief Data Officer (CDO) + Additional Roles

Overall, all identified as Chief Data Officer of your agency
From 2022 to 2023, majority also identified this as your primary role
(58% vs 57% respectively).

Large Sized Agencies

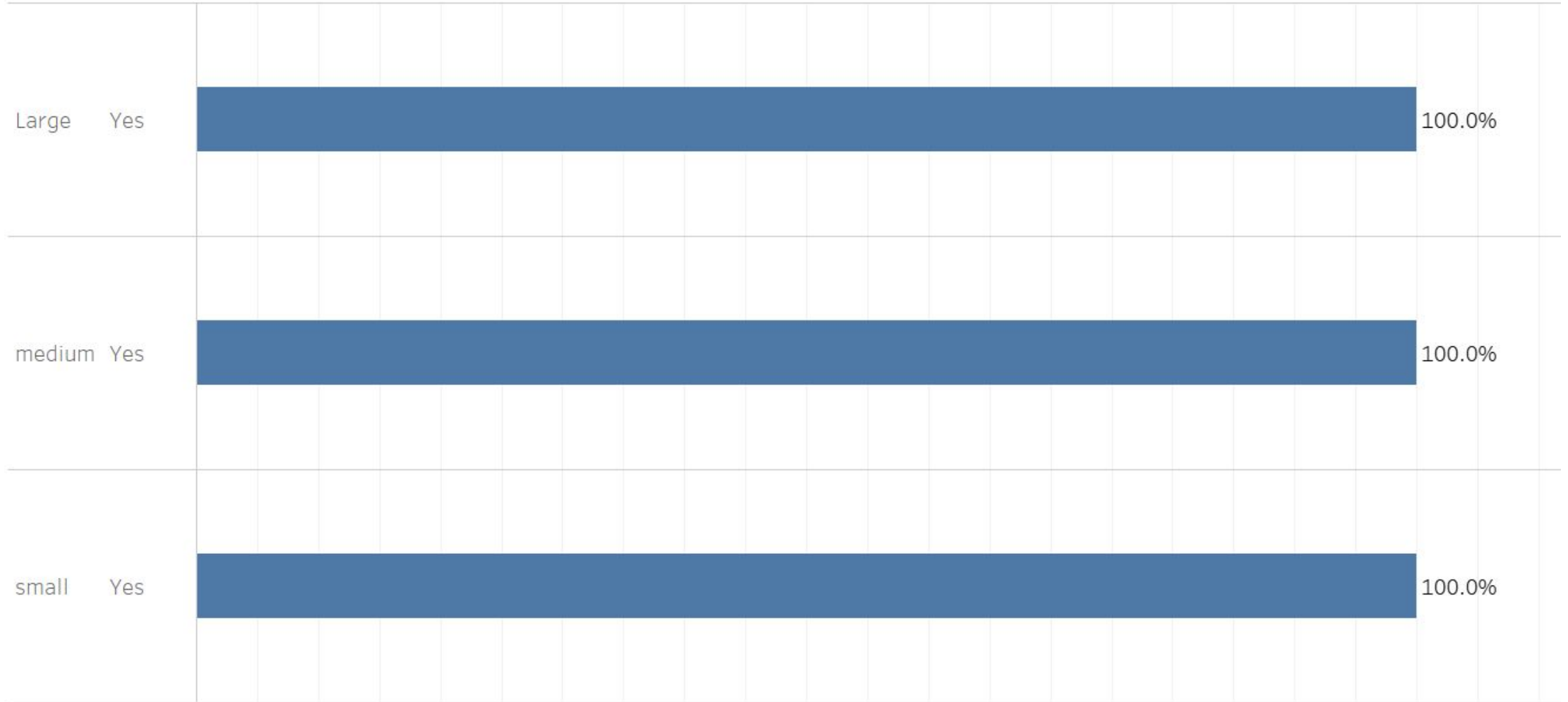
- While some did have additional roles, for the majority, this was your only role

Medium/ Small Agencies:

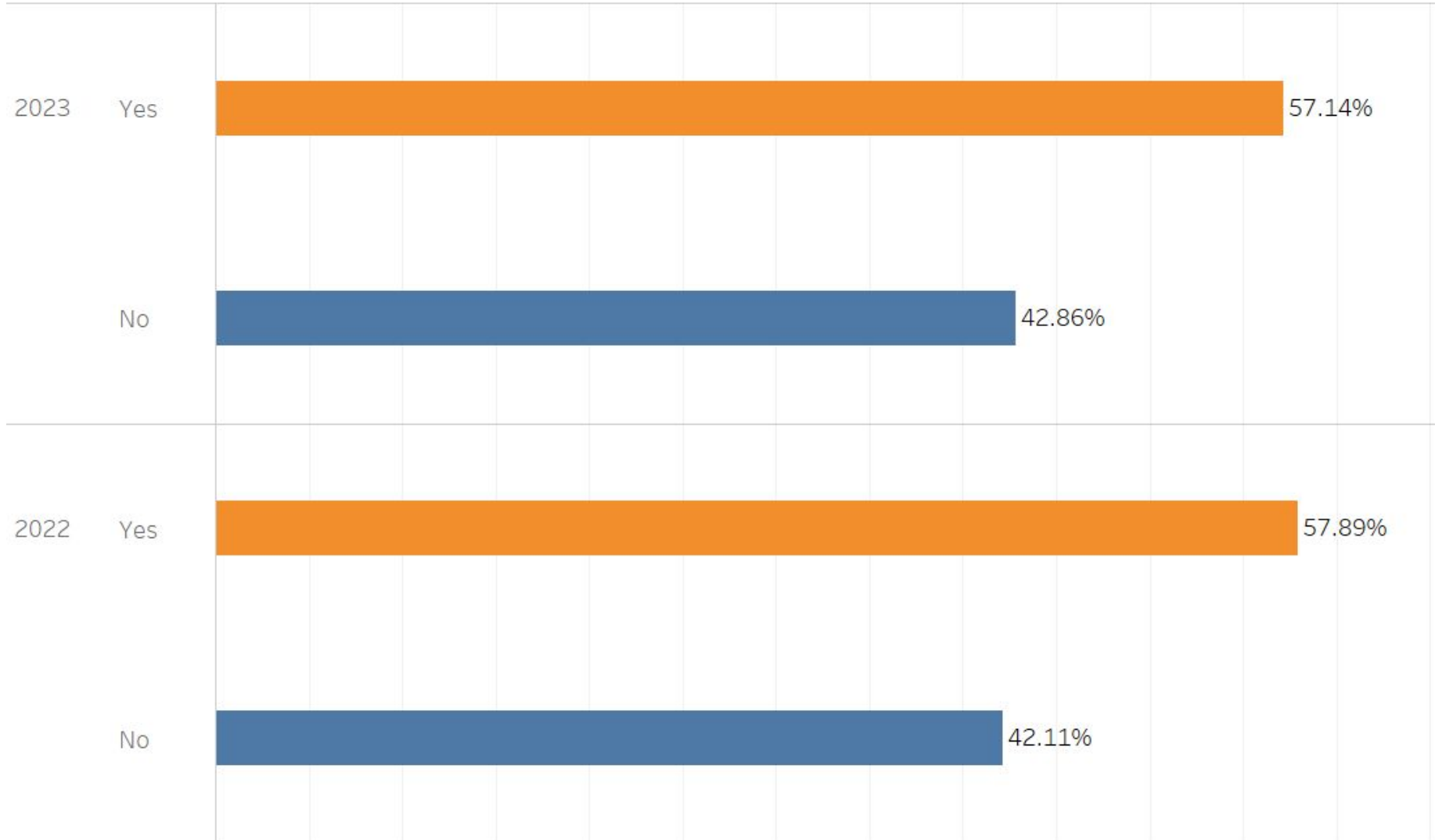
- Other roles including overseeing Artificial Intelligence, Evaluation Officer, Chief Info Officer, Agency Official overseeing records management, Geographic Info Officer

Q4. Are you the Chief Data Officer for your agency?

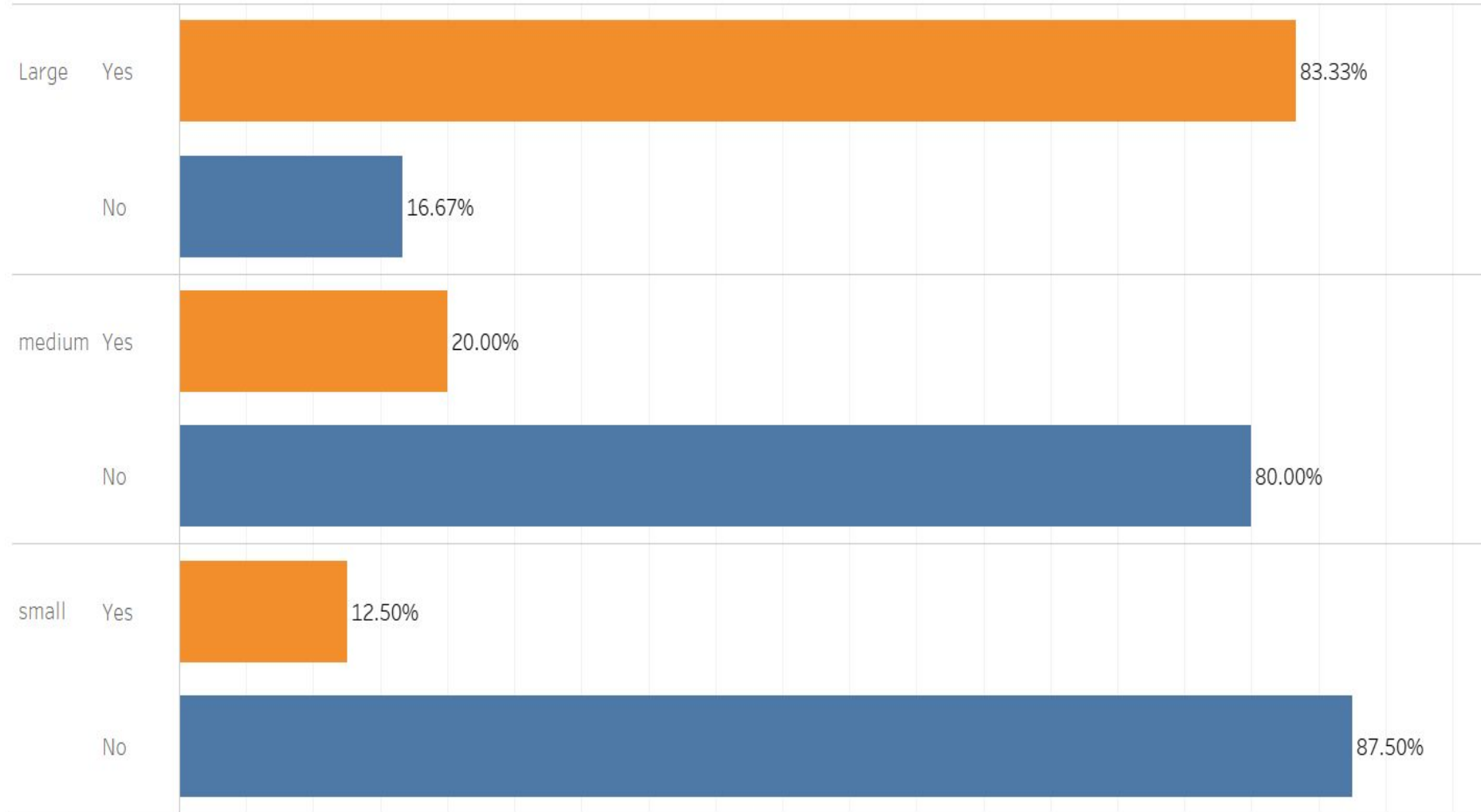
(N = 33)



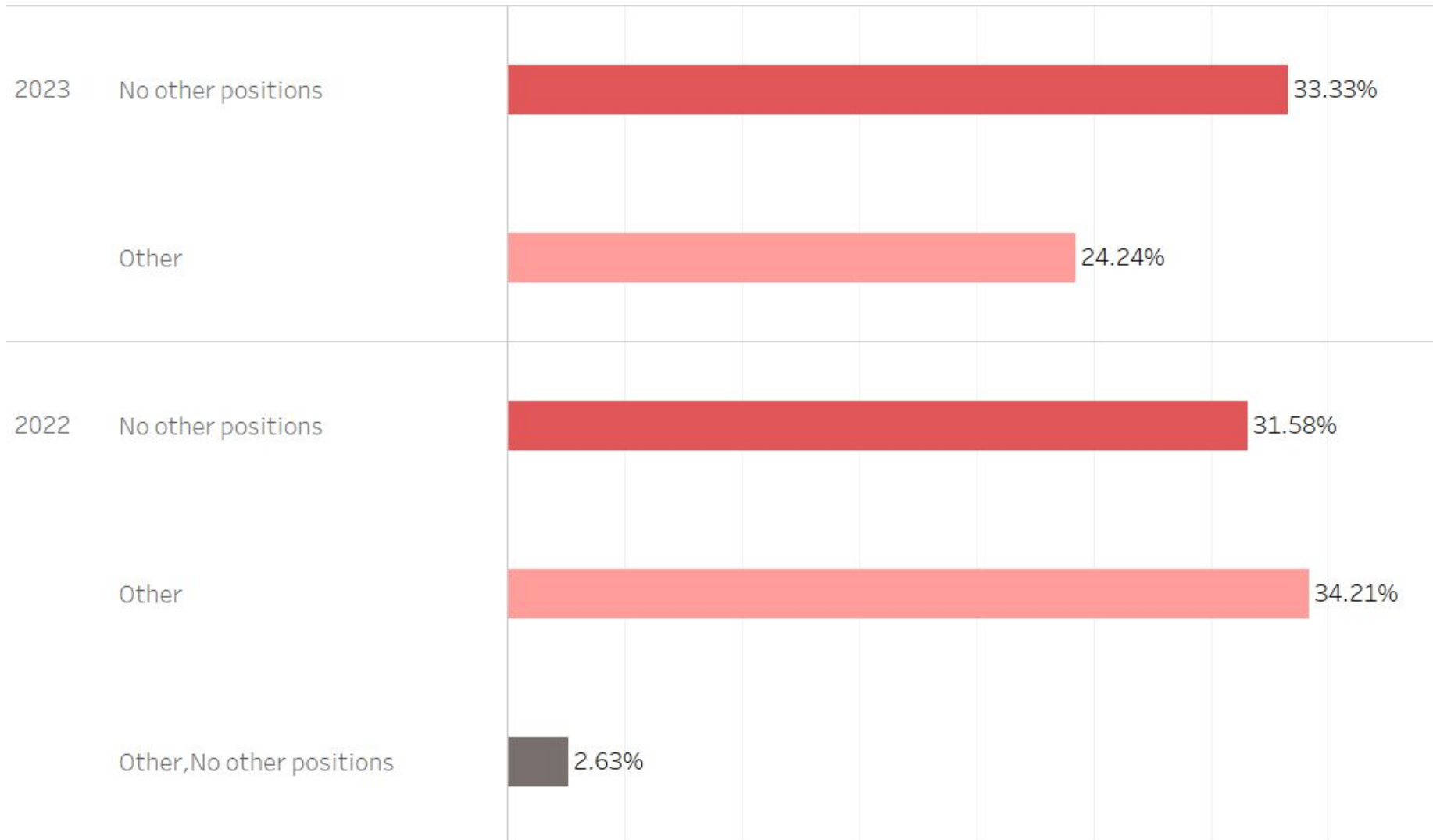
2023 vs 2022 Q6. Is the CDO role your primary responsibility? (N = 73)



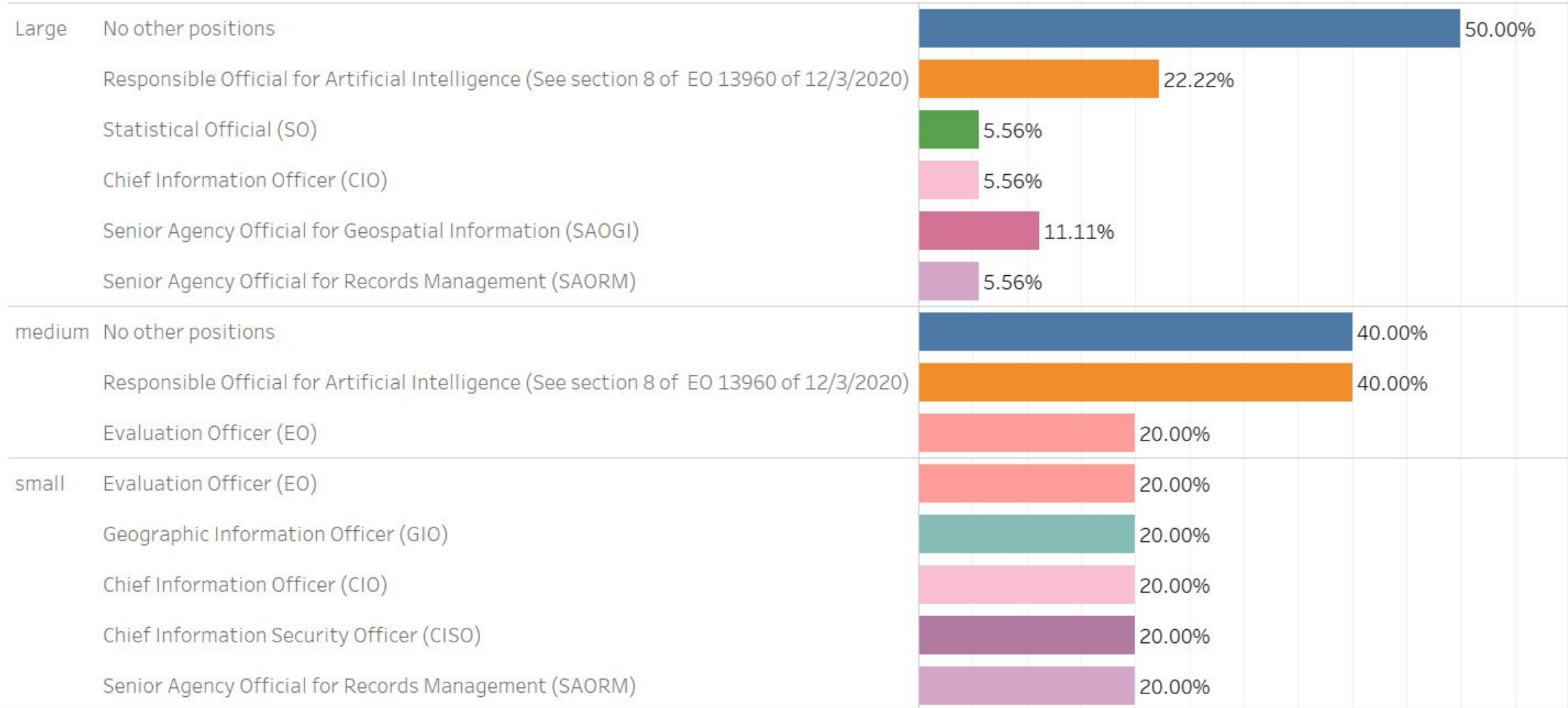
Q6. Is the CDO role your primary responsibility ? (N = 42)



2023 vs 2022 Q9. Other Official Roles (besides CDO) that you have (N = 71)



Q9. In addition to your CDO role, please select the other official titles that you have ? (N = 28)



Chief Data Officers: Professionally as a Group

Overall: SES or GS-15 with over 10 years in public sector and focused on data and analytics

Large Size Agencies:

- Been with your agency 5-10 years
- Majority: 1-5 years as CDO

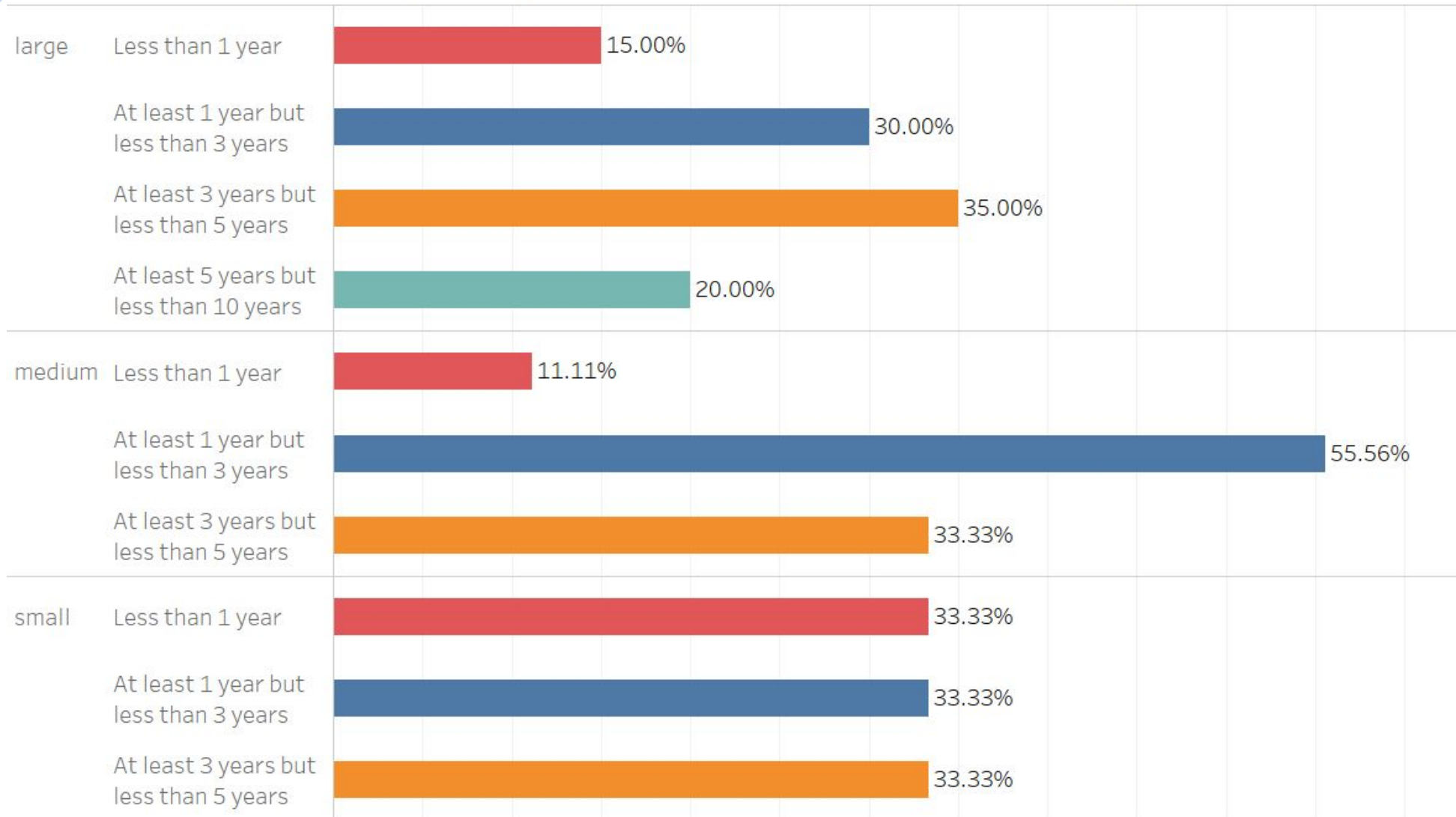
Medium Size Agencies:

- Been with your agency: majority: less than a year and over 10 years
- Majority 1-3 years as CDO

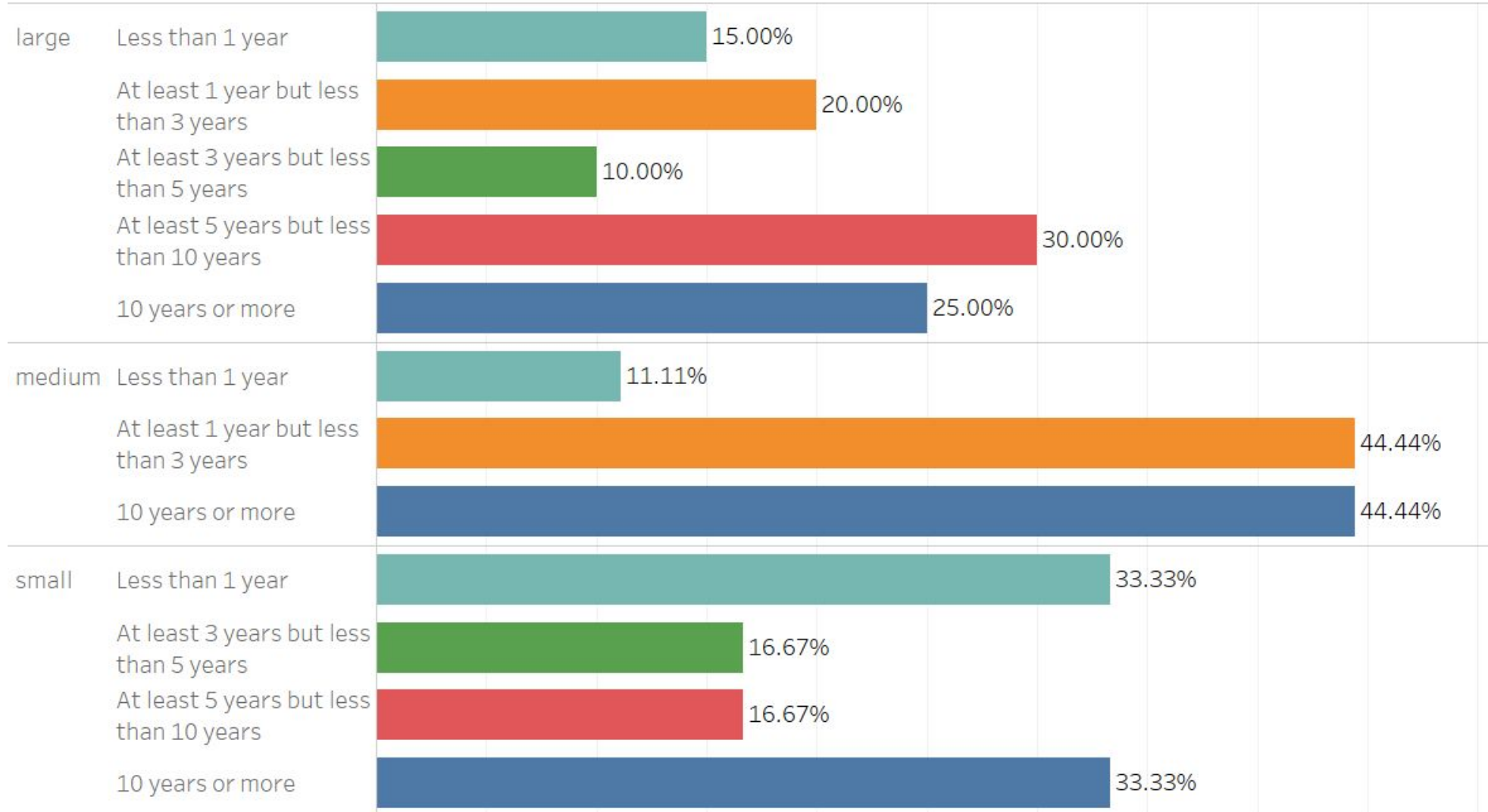
Small Size agencies:

- Been with your agency: majority: less than a year and over 10 years
- Ranged from less than a year to up to 4 years as CDO

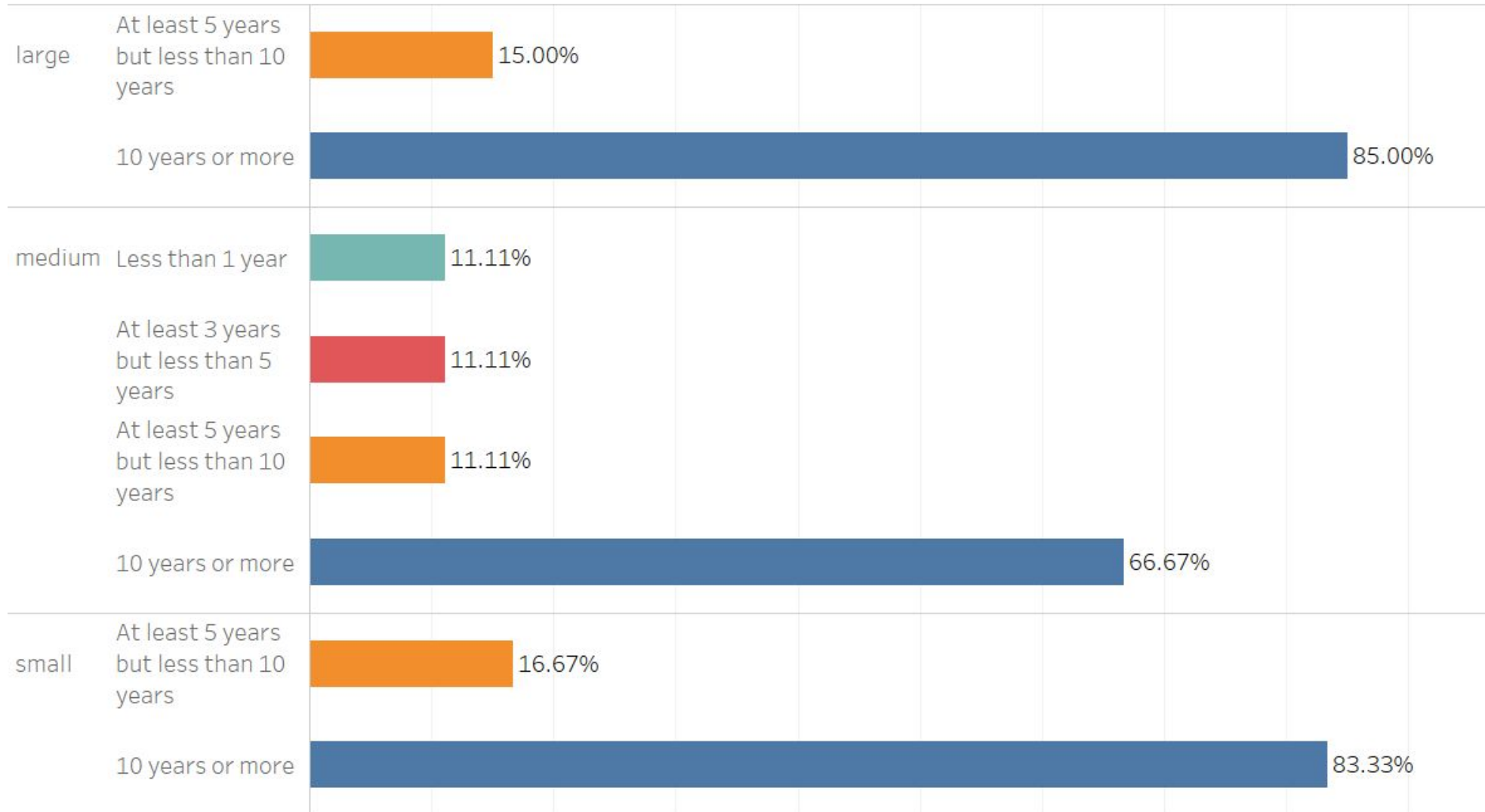
Q14: About how many total years of your career have been in the role of a CDO? (N = 35)



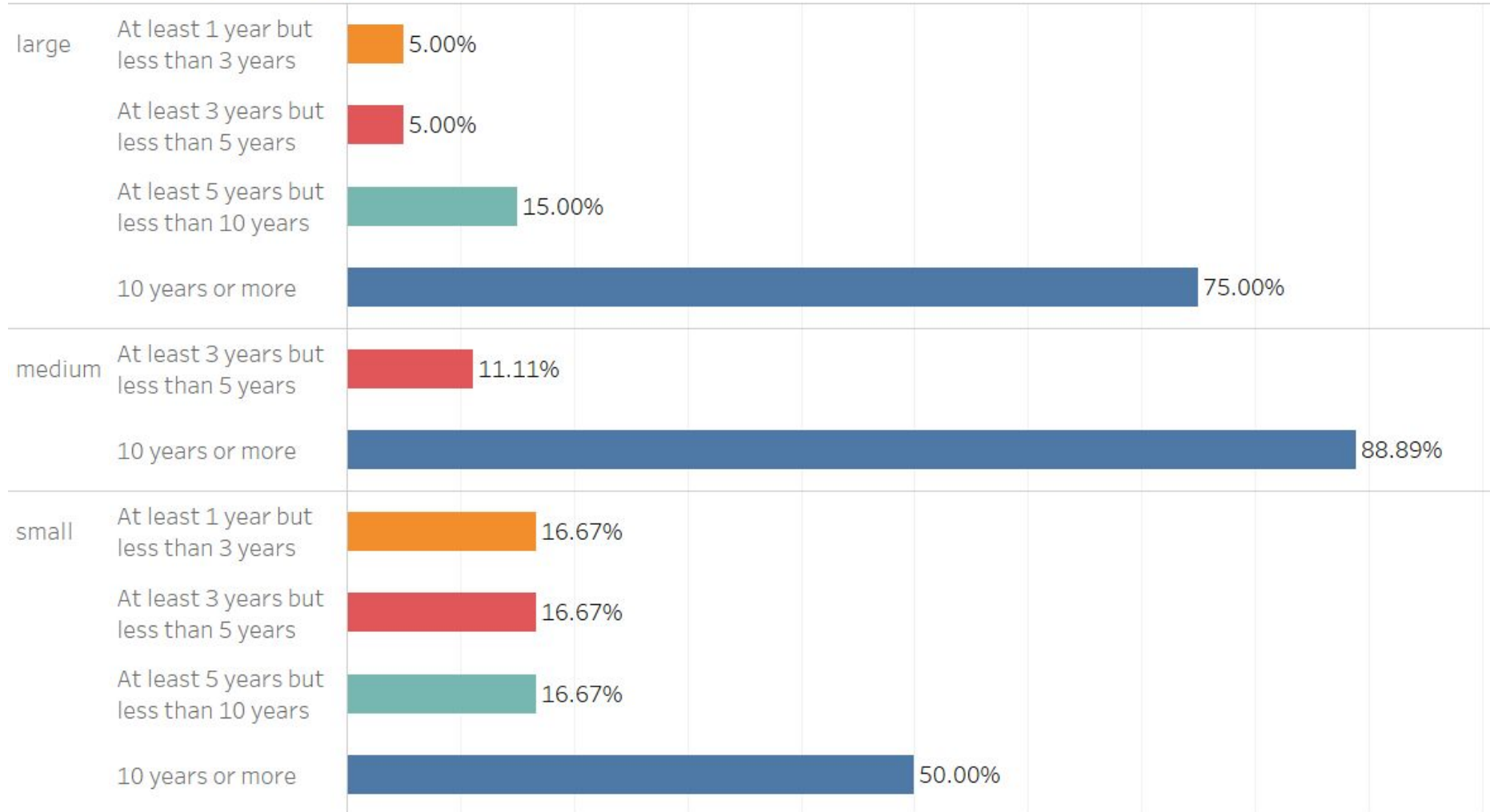
Q12: About how many years have you been with this organization? (N = 35)



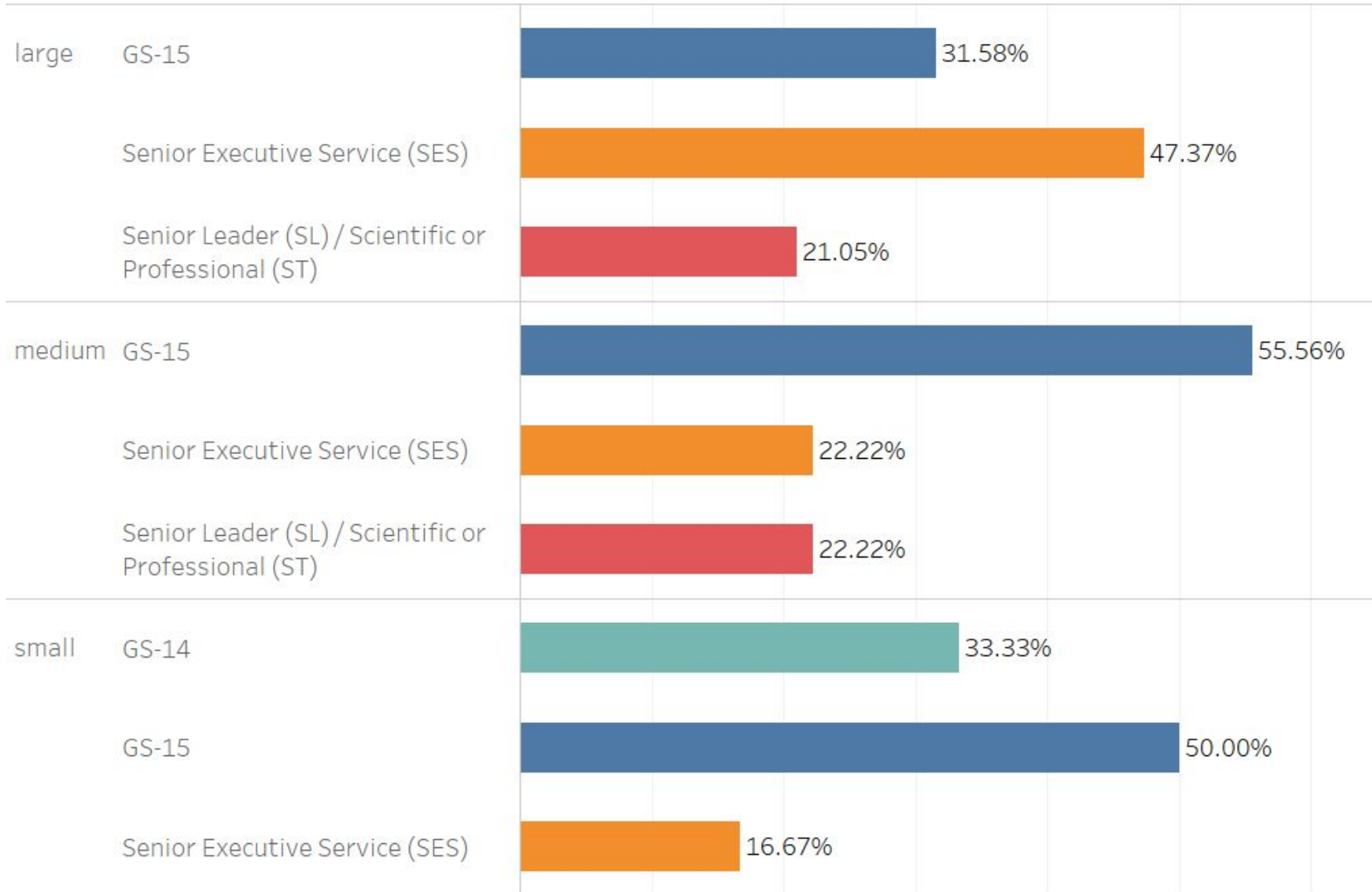
Q13: About how many years have you been in the public sector? (N = 35)



Q15. About how many total years of your career have been focused on data and analytics? (N = 35)



Q24: What is your current GS-level or equivalent? (N = 34)



Chief Data Officers: Demographics

Overall: Distribution is demographically changing, no professional data and analytics certifications (most likely did not exist at the time)

Large / Medium Size Agencies:

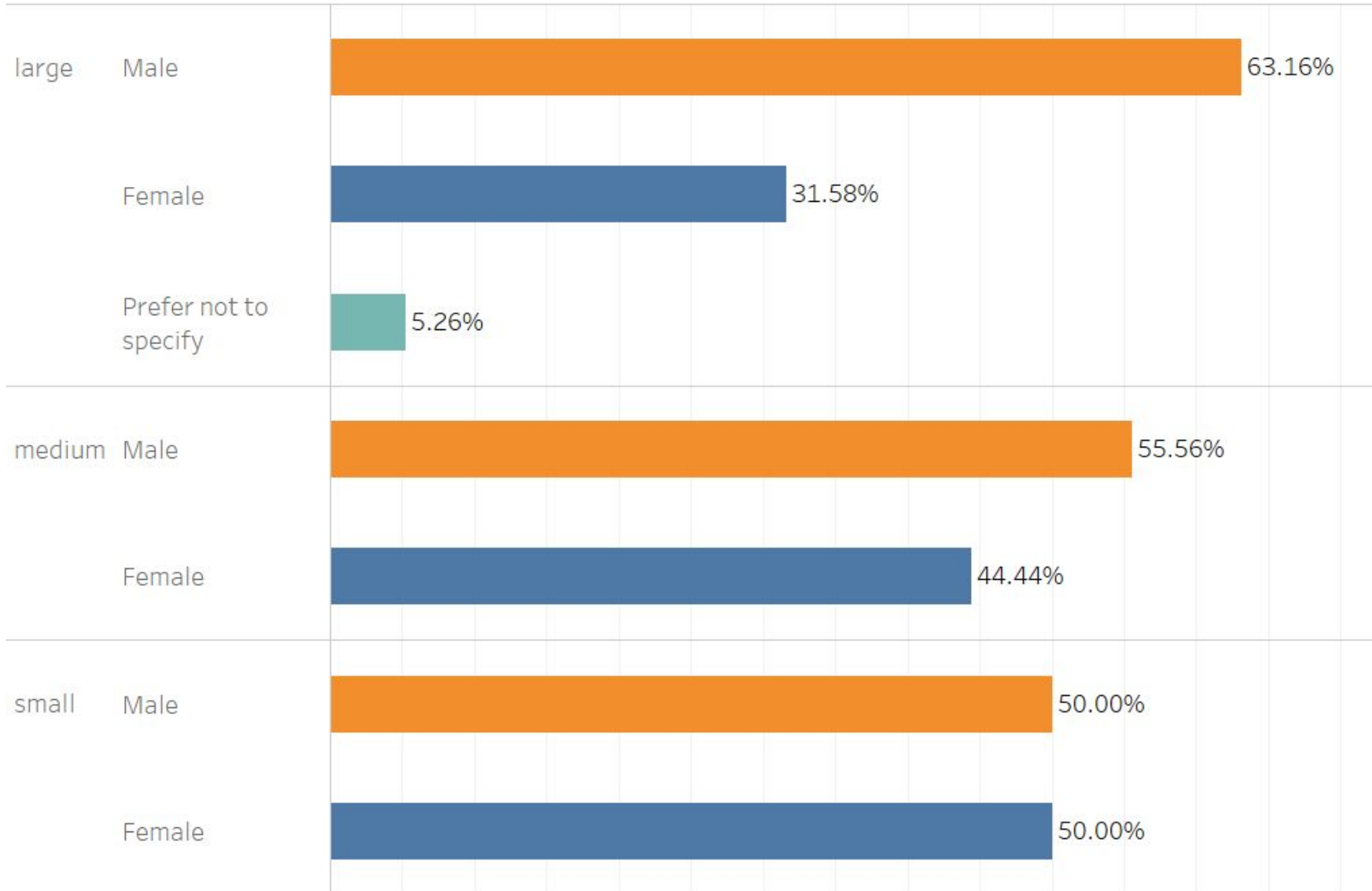
-Majority have Masters degree or Higher, degrees from Biological Sciences to Social Sciences, Law and Computer Science

Small Size agencies:

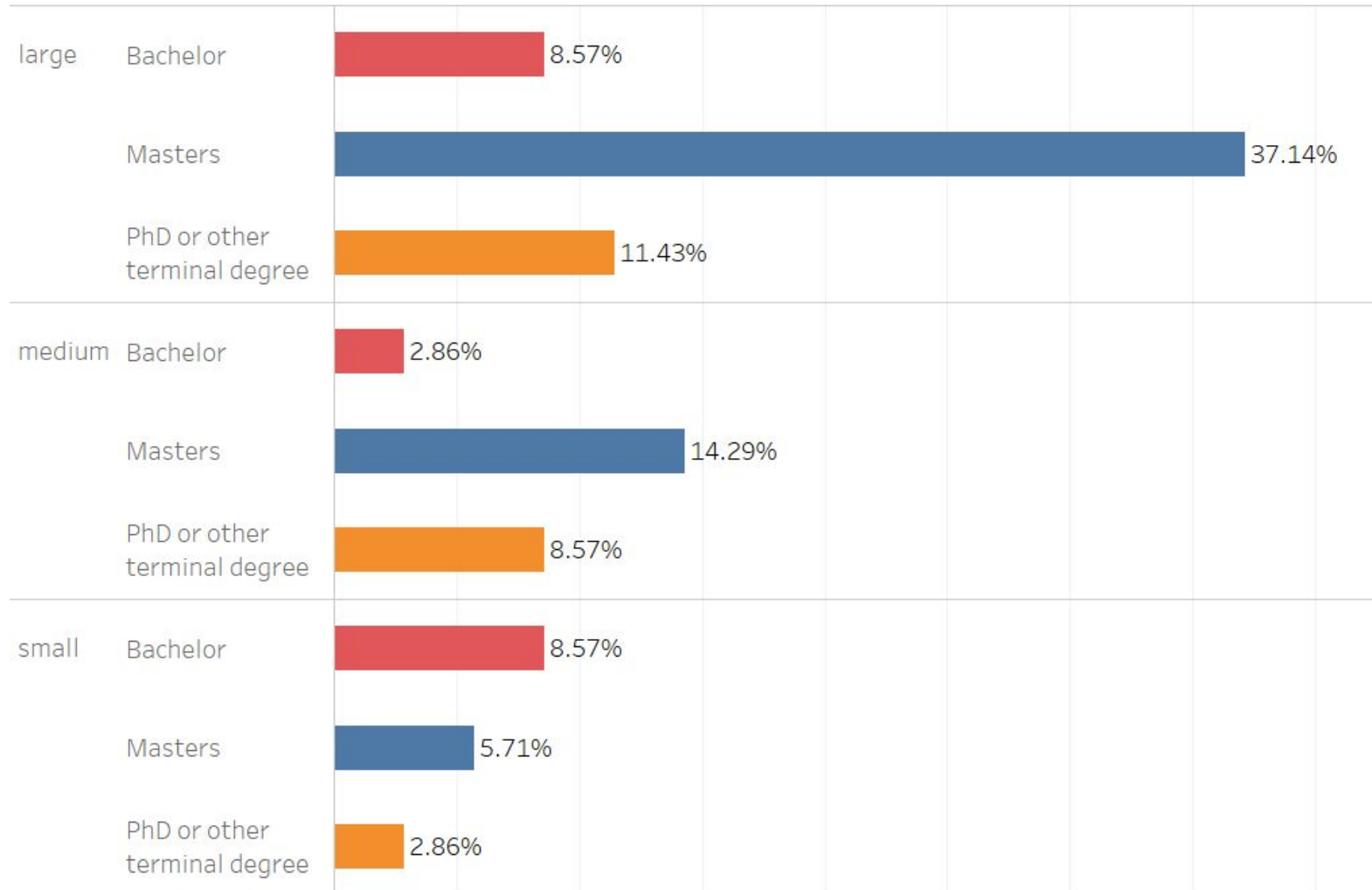
-Majority have a Bachelor's degree

-Small agencies: degrees range from political science, engineering to International Development and MBA

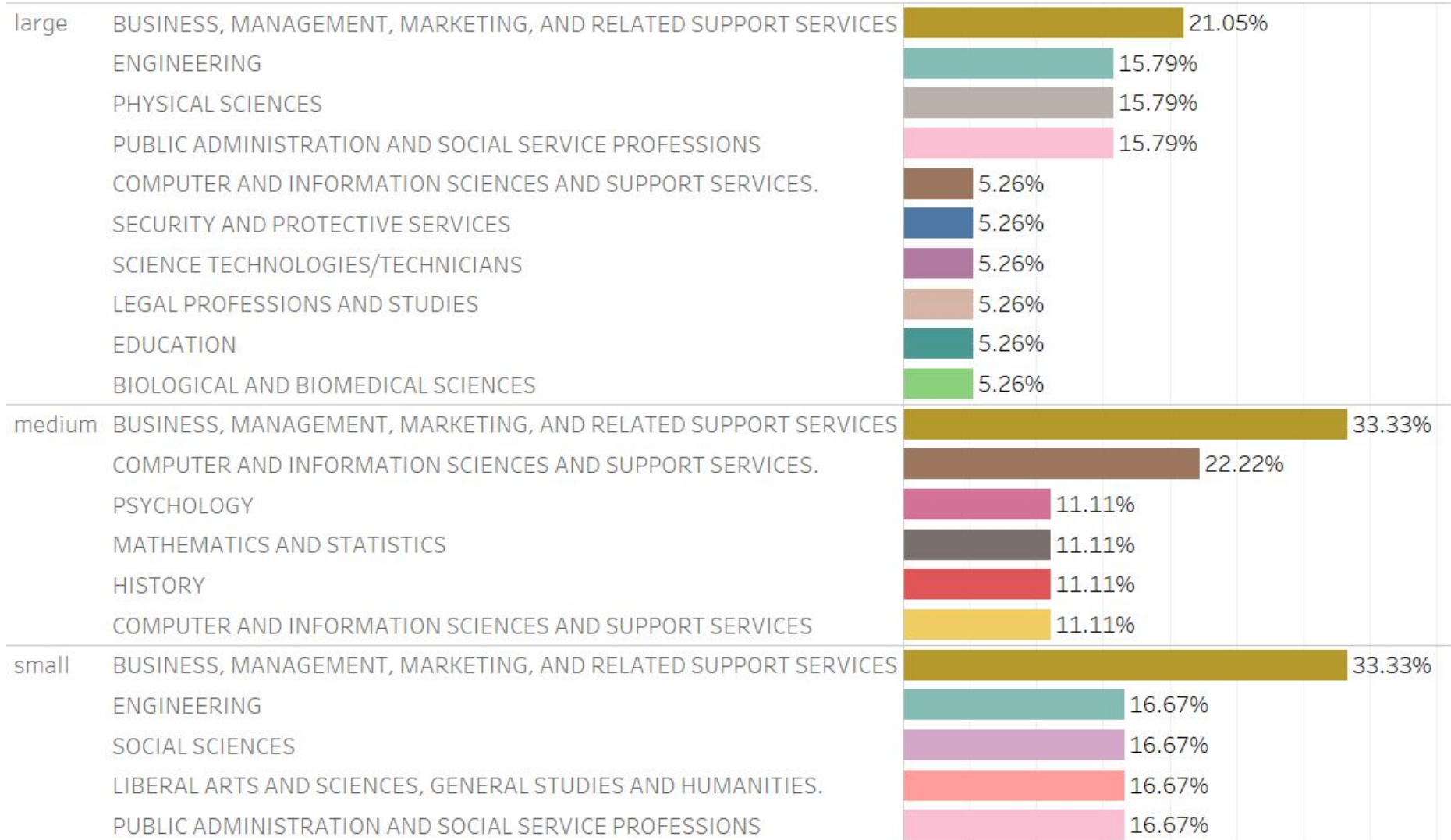
Q16: How would you describe your gender? (N = 34)



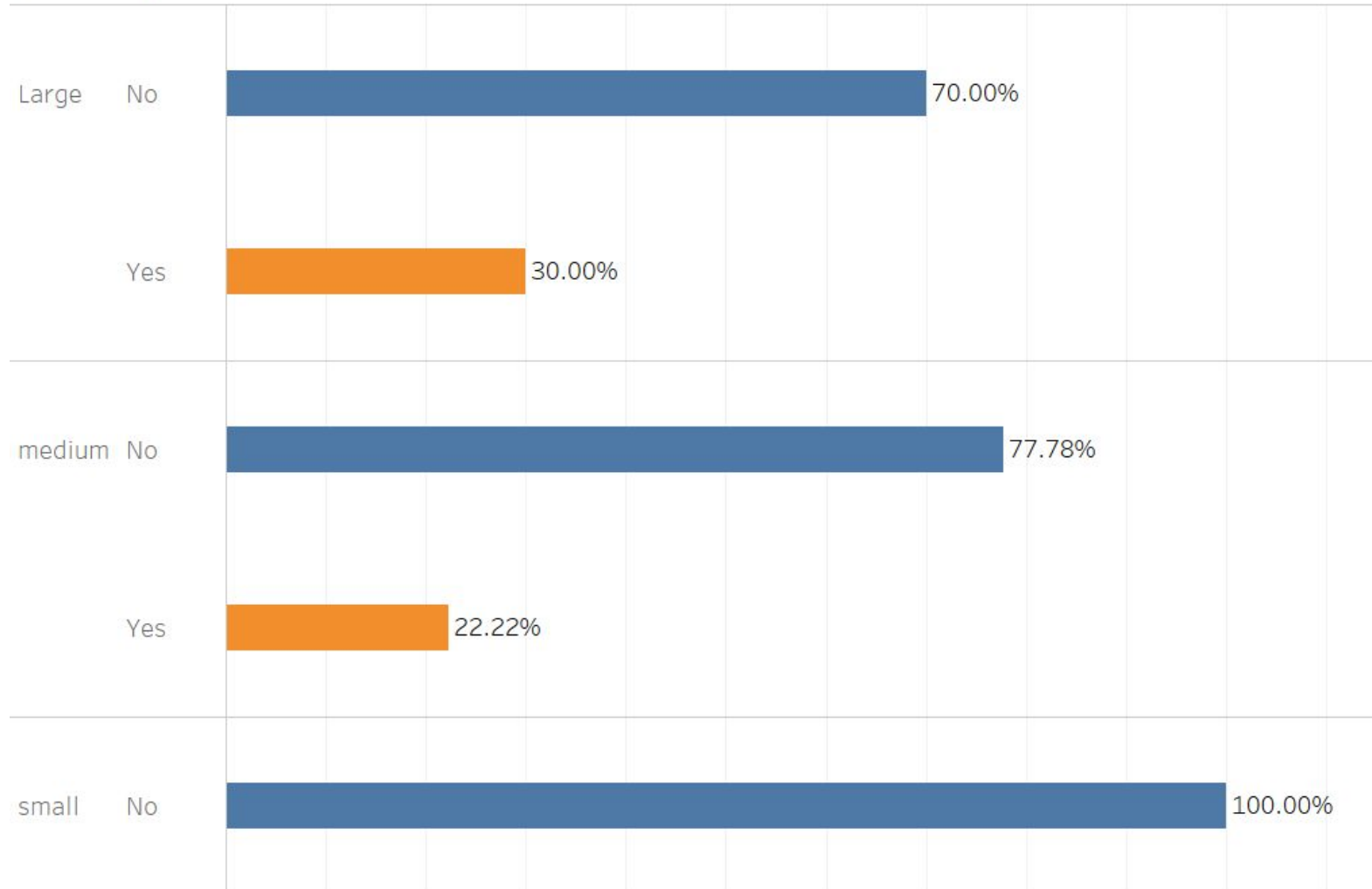
Q17: What is the highest level of education that you have completed? (N = 35)



Q18. What was your field of study(CIP Categories)? (N = 34)



Q19. Do you have other professional data and analytics certifications? (N = 35)



CDO in Agency Structure

Overall: No subcomponent CDOs at the agency, no separate Chief Analytics Officer (CAO) nor Chief Artificial Intelligence Officer (CAIO)

Large Size Agencies:

-Majority: CDO Office operates as a Central data team reporting to the Chief Info Officer (CIO)

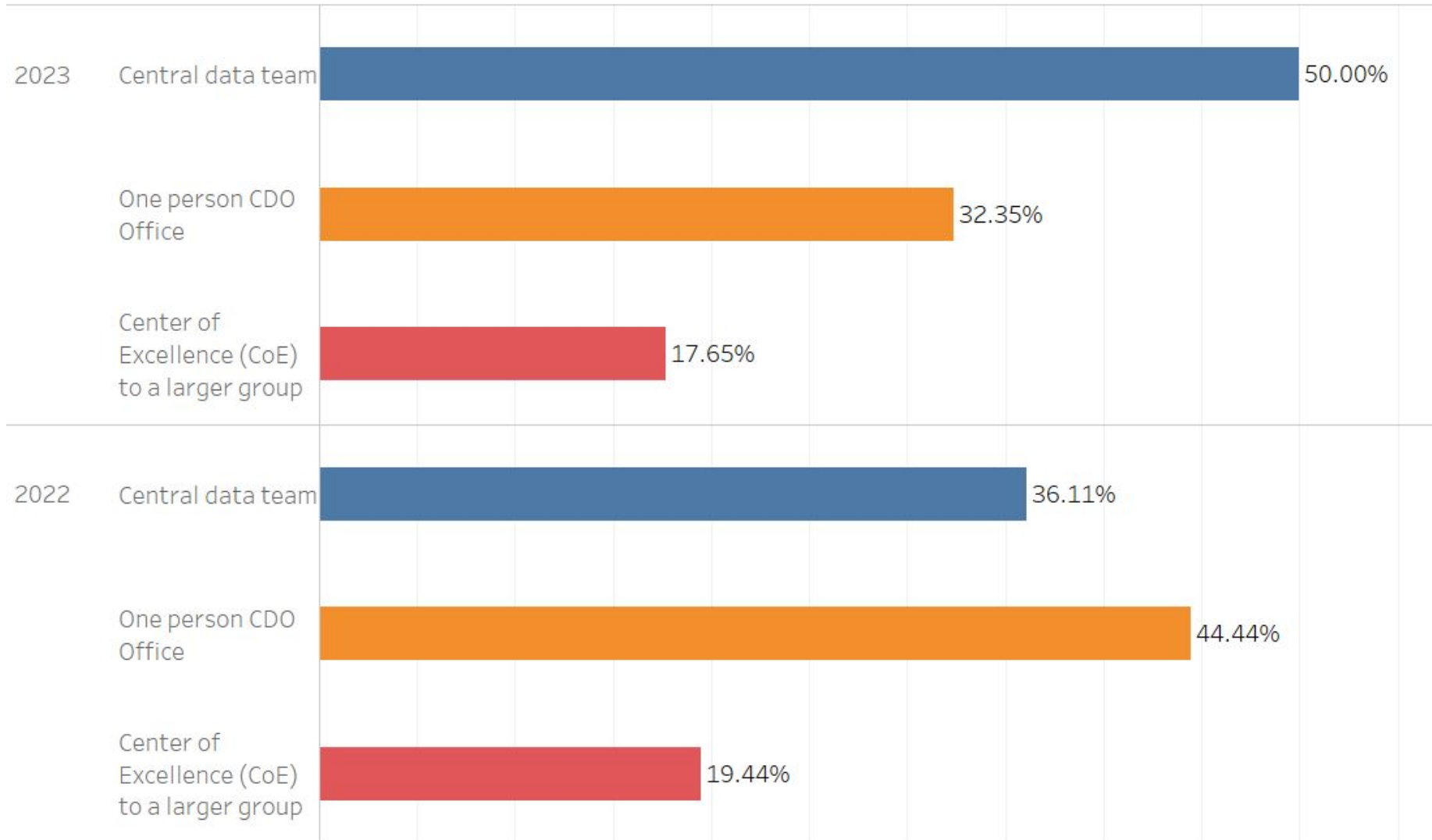
Medium Size Agencies:

-Majority: either 1 person CDO Office or Central data team reporting to either CIO/COO (Chief Operating Officer)

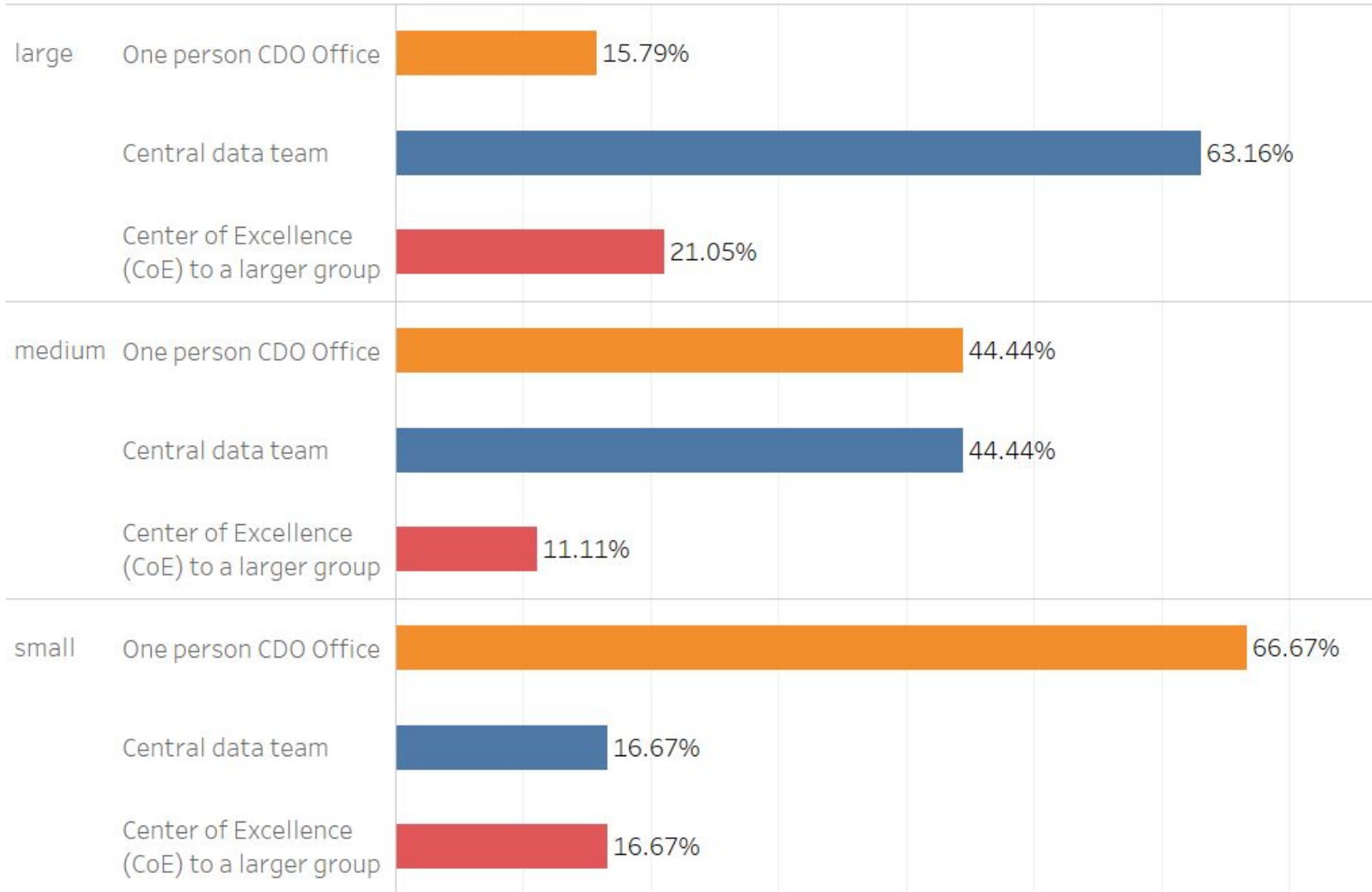
Small Size agencies:

-Majority are a 1 person CDO Office reporting to the Head / Deputy Head of the Agency

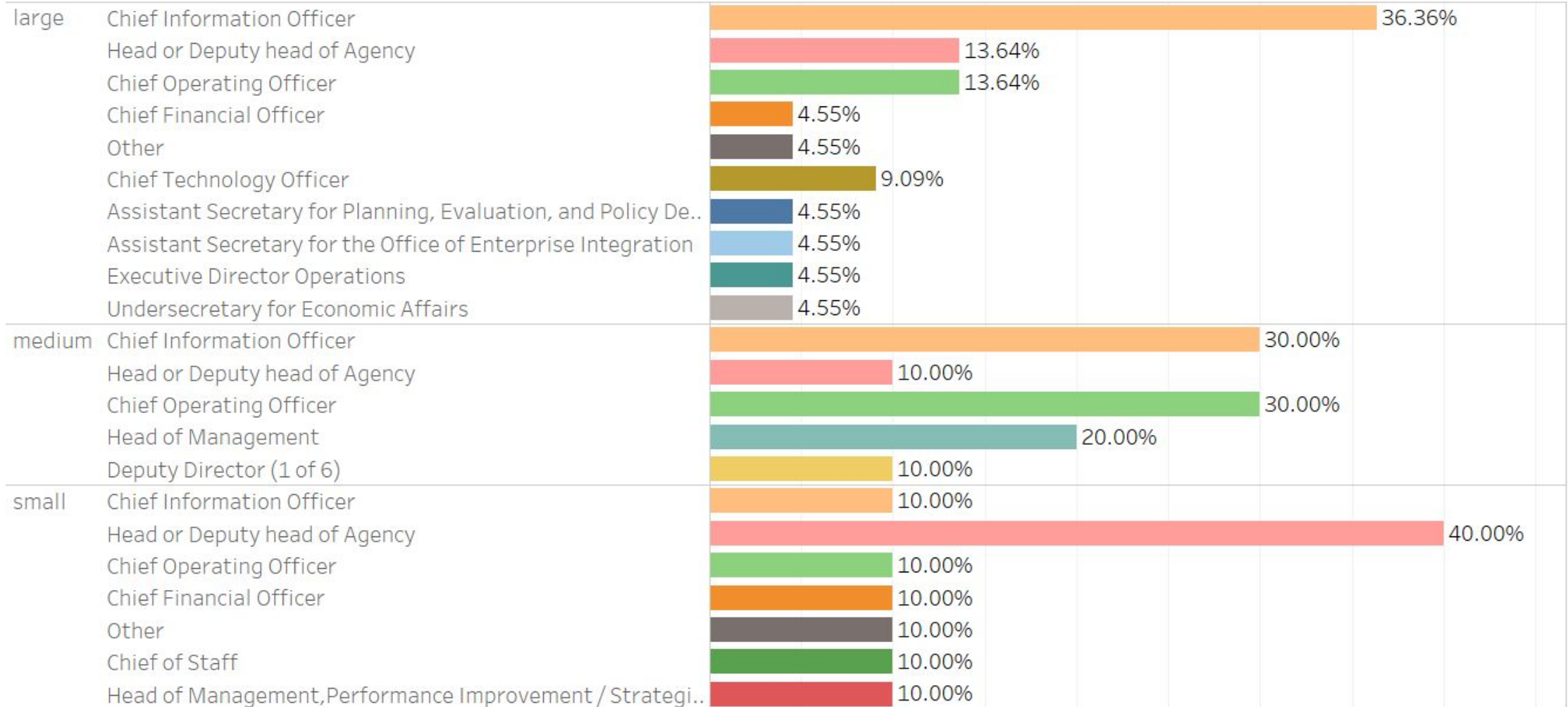
2023 vs 2022- 28. My CDO Office operates as a: (N = 70)



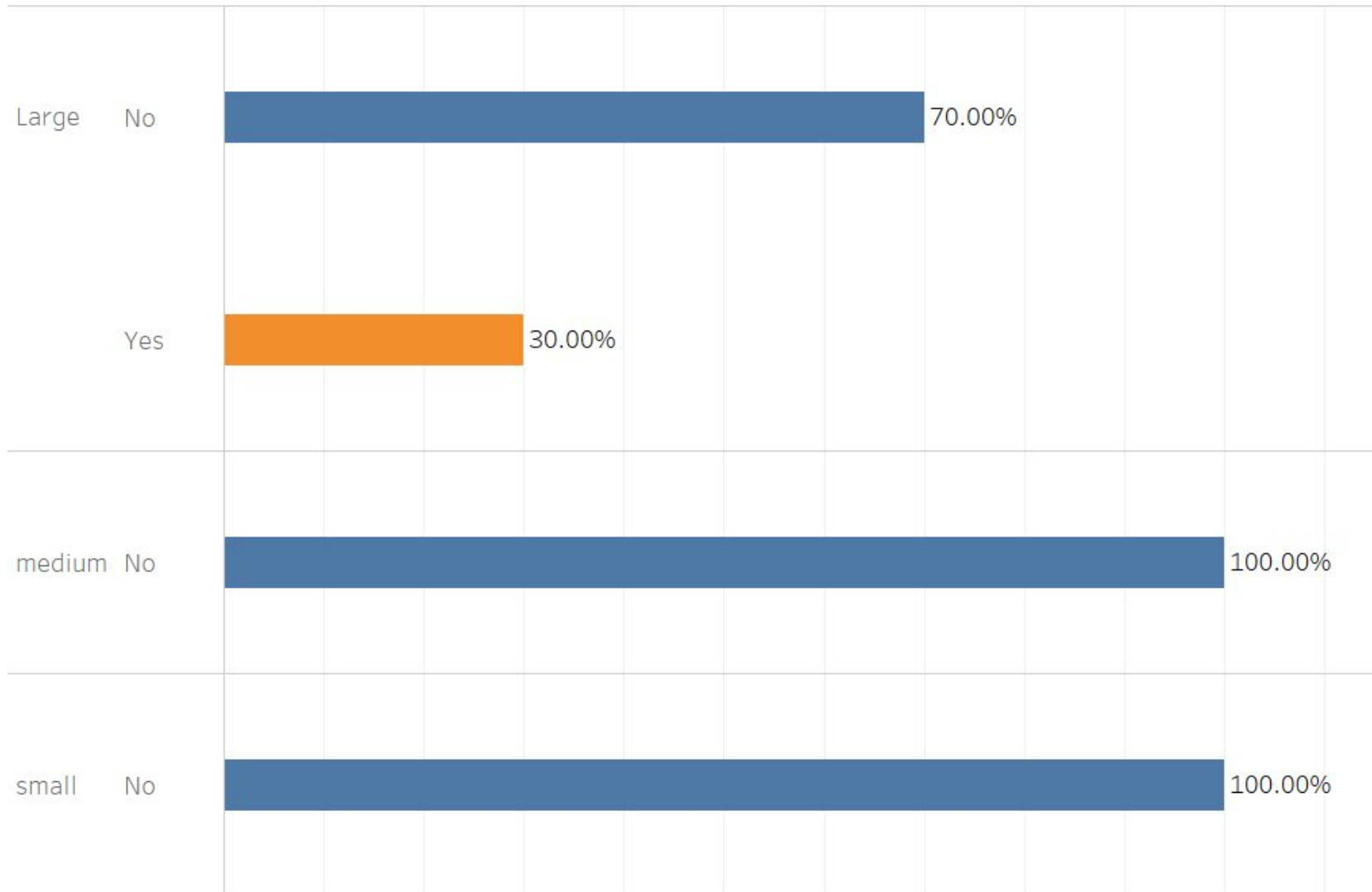
Q28. My CDO Office operates as a (N = 34):



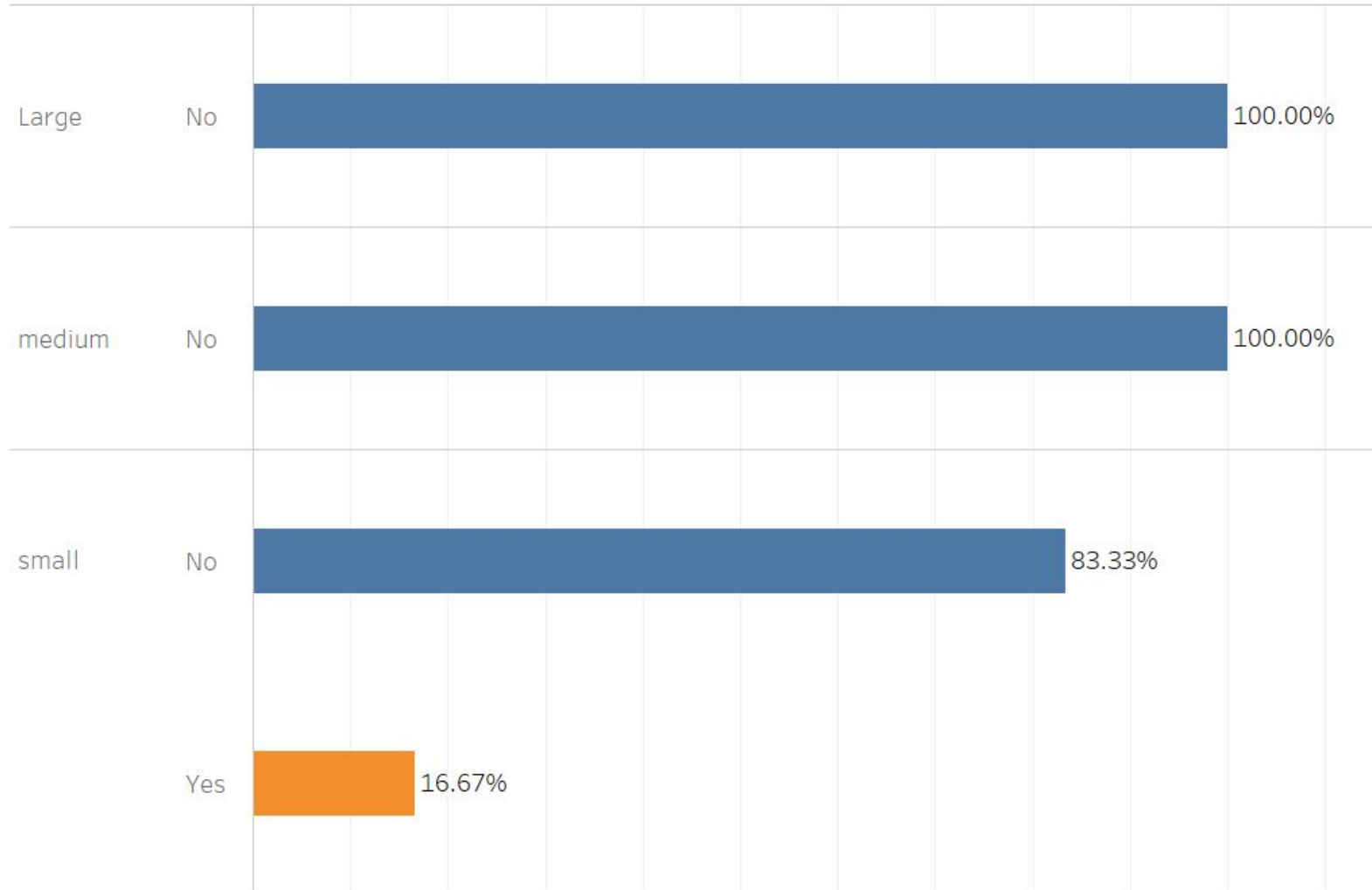
21. Who do you report to as CDO in your current agency structure? (check all that apply) - Selected Choice (N = 42)



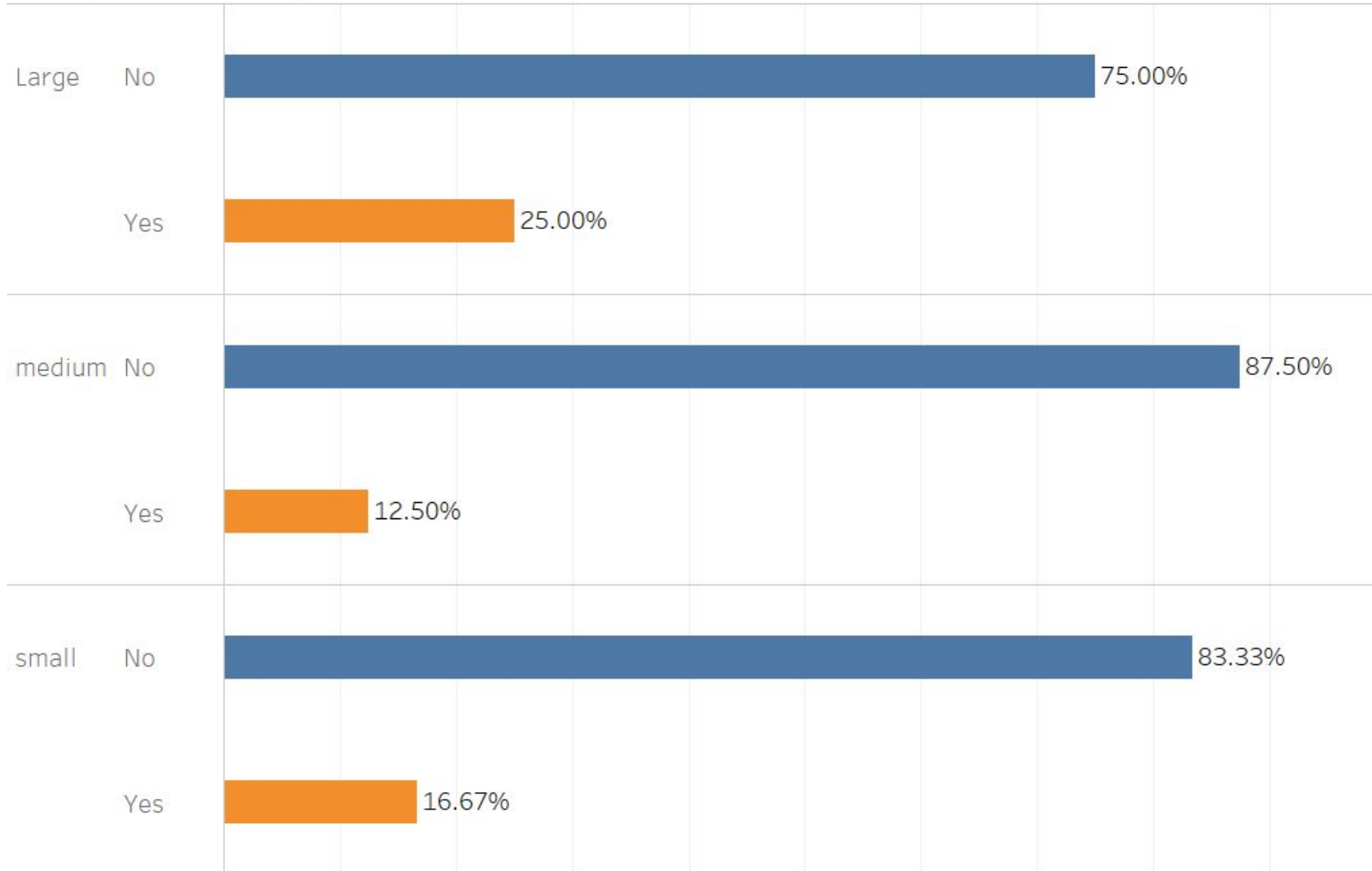
Q27. Do you have subcomponent CDOs at your agency? (N = 35)



Q25. Is there a separate Chief Analytics Officer / executive analytics role in your organization? (N = 35)



Q26. Is there a separate Chief Artificial Intelligence Officer role in your organization? (N = 34)

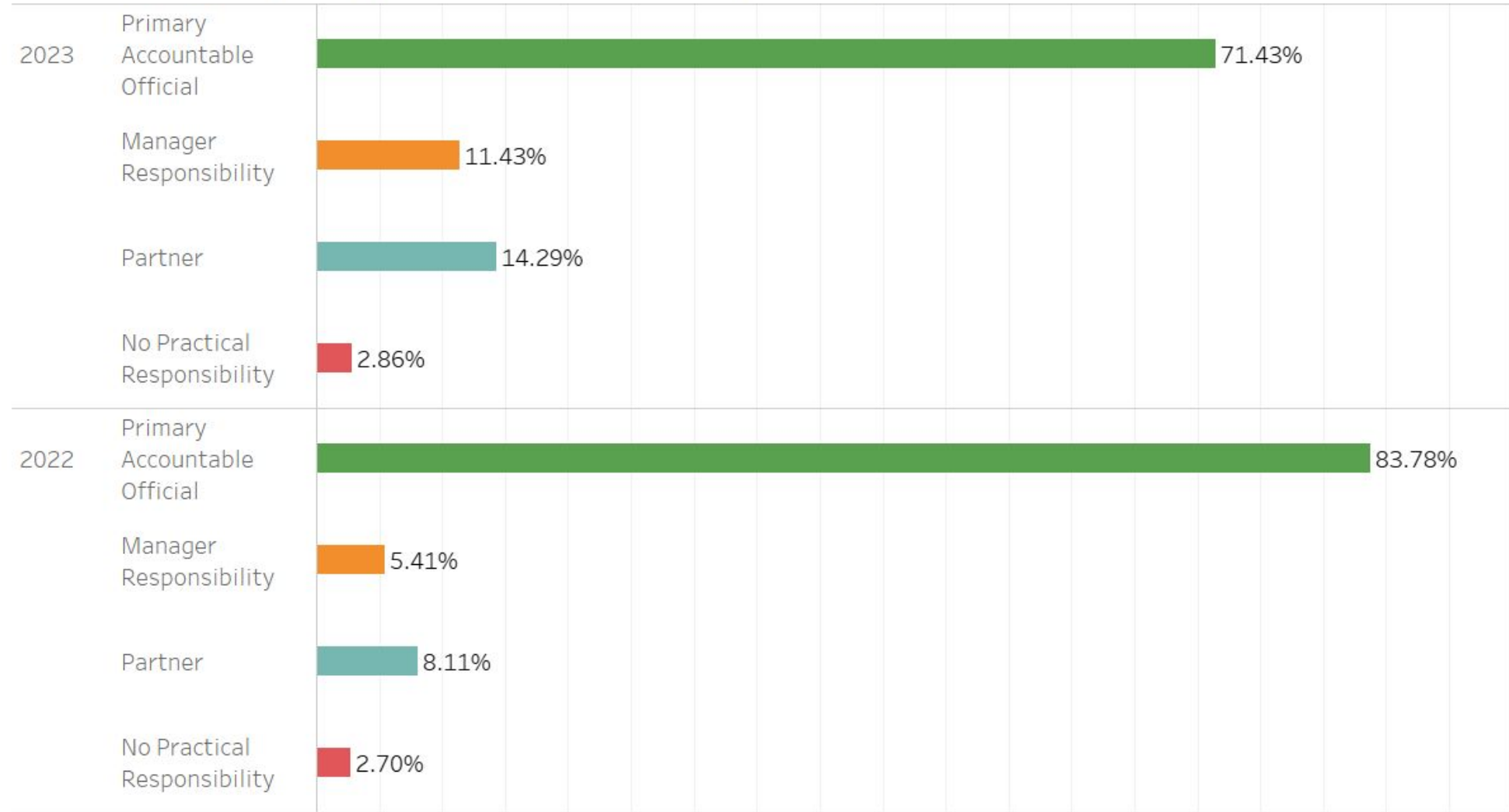


CDO as Primary Accountable Official

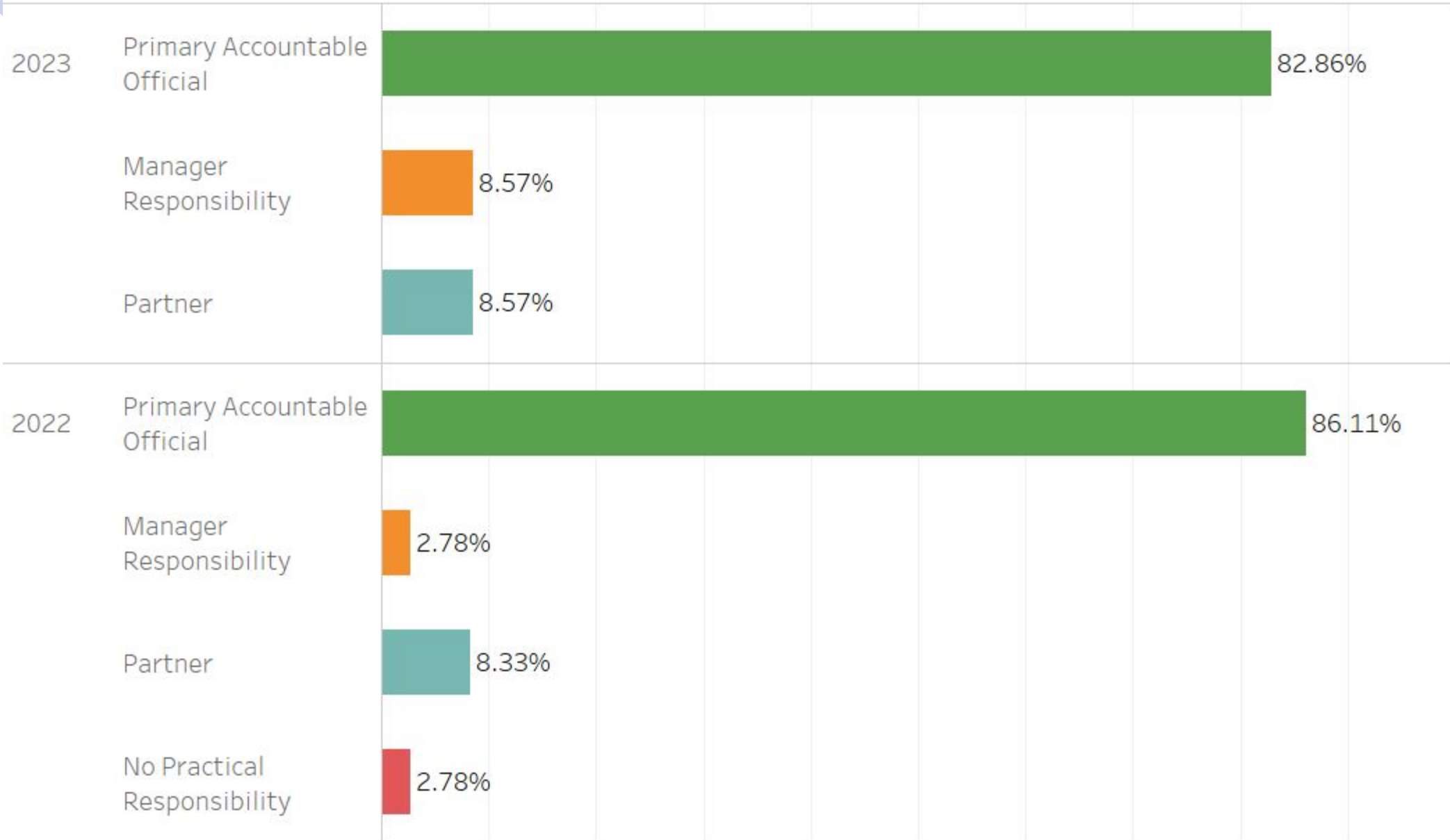
Continuing in 2023 (from 2022), across large, medium and small size agencies
Majority served as Primary Accountable Official for the following:

- Data Governance
- Data Strategy
- Open Data
- Data Evangelism
- Ambassador (from Partner role)

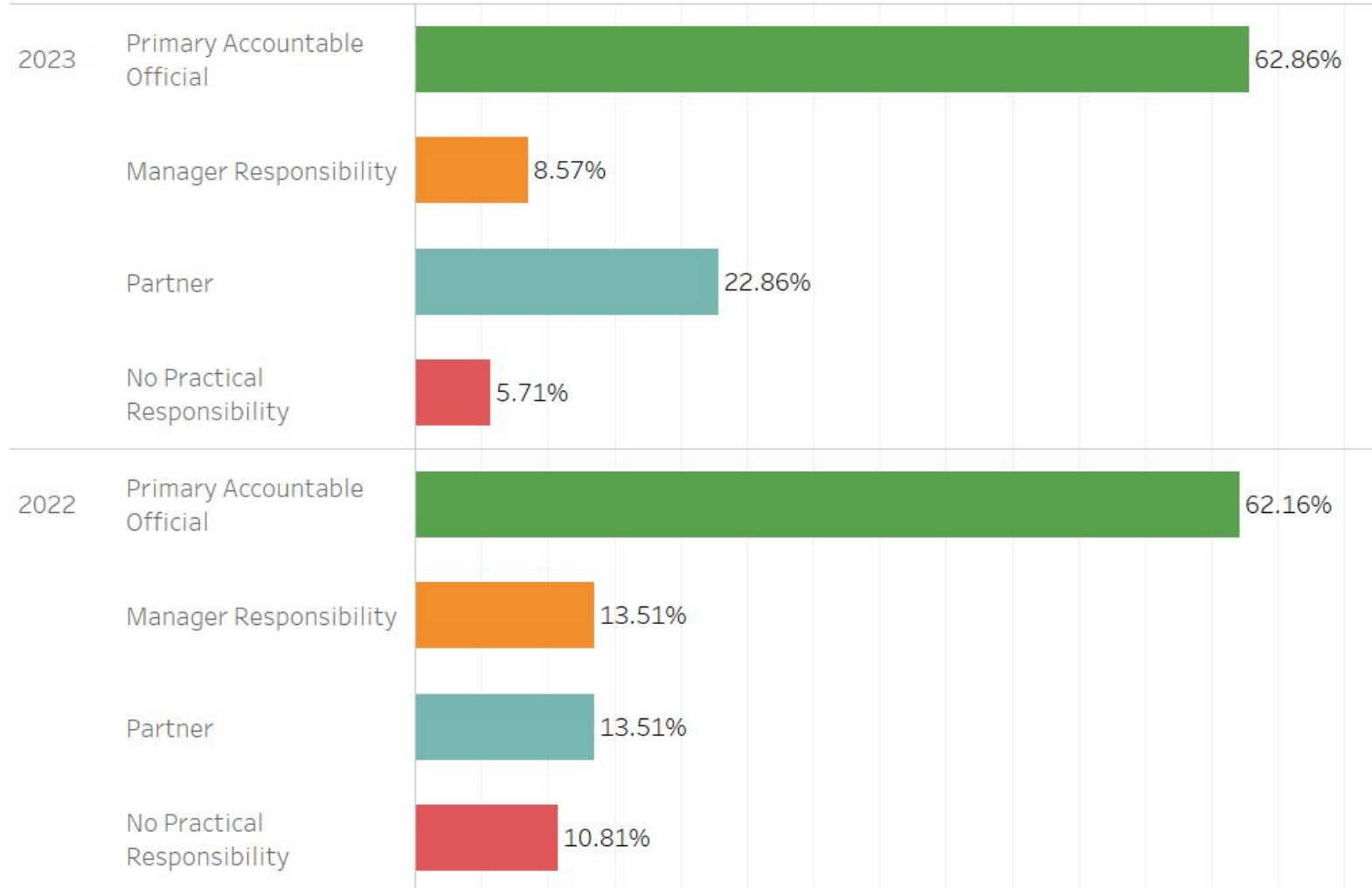
2023 vs 2022 Q29 (1): Data Governance (N = 72)



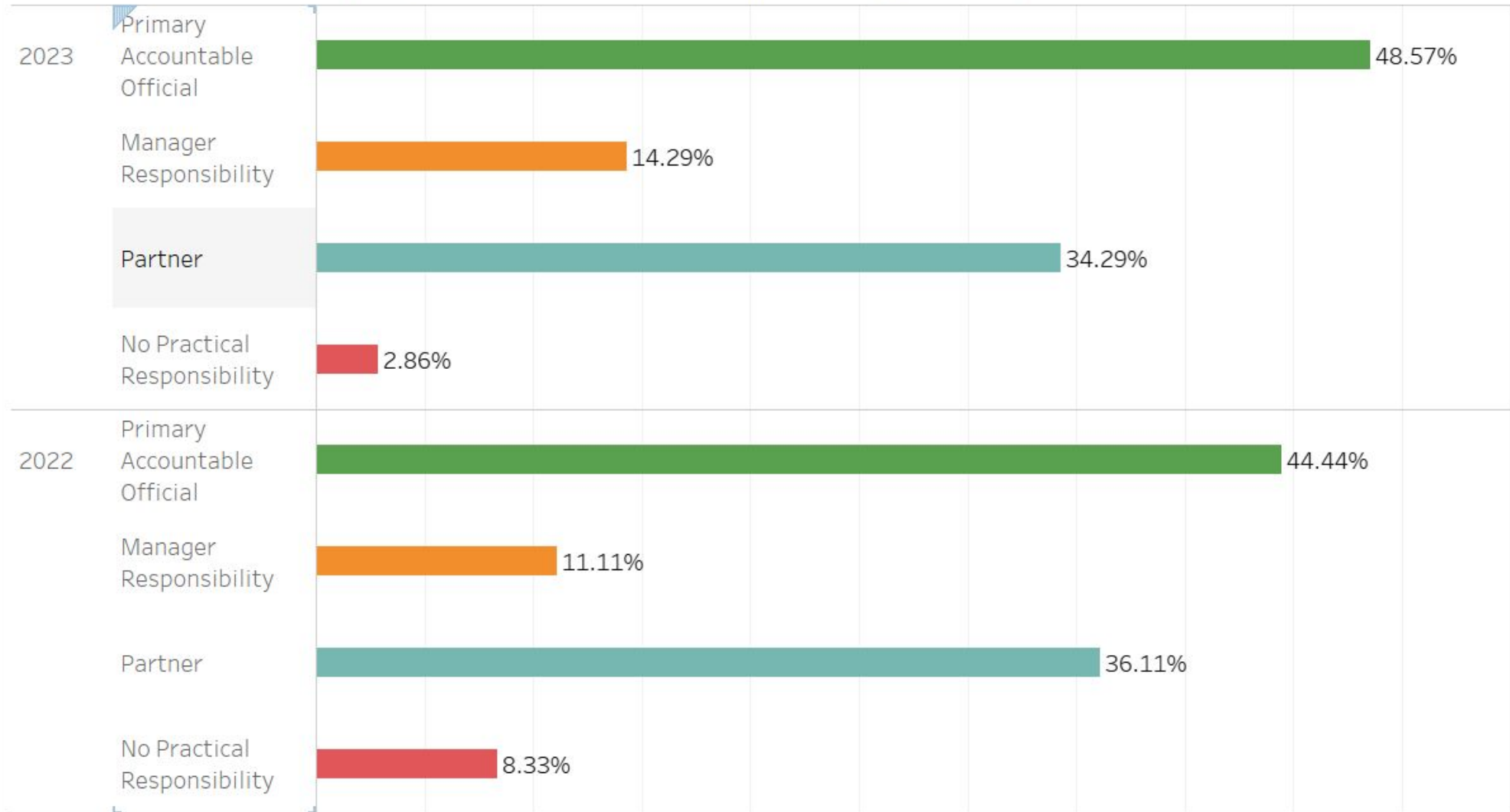
29a. What responsibility do you have in the following areas: - Data Strategy (N = 71)



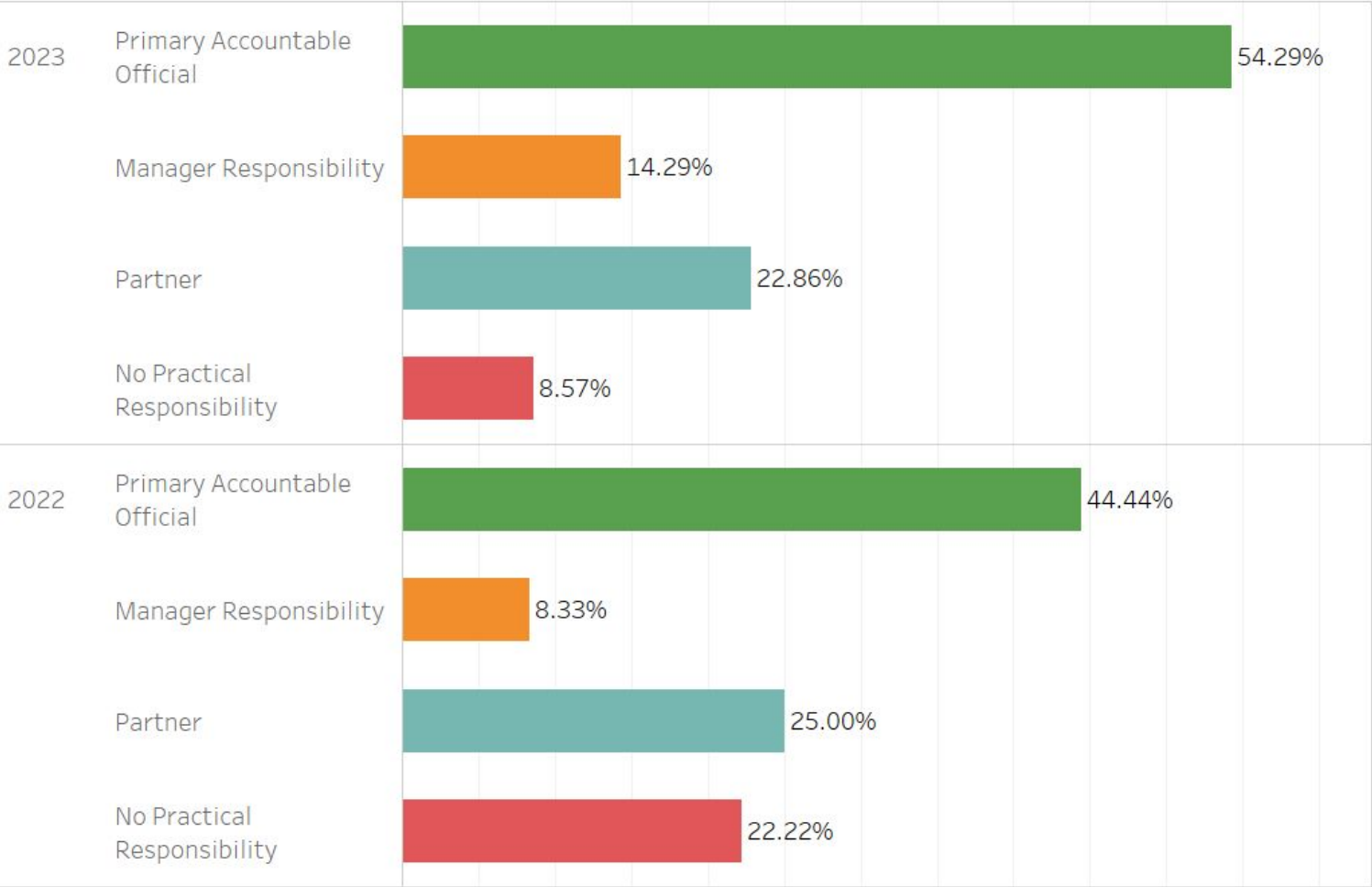
29a. What responsibility do you have in the following areas: - Open Data (N = 72)



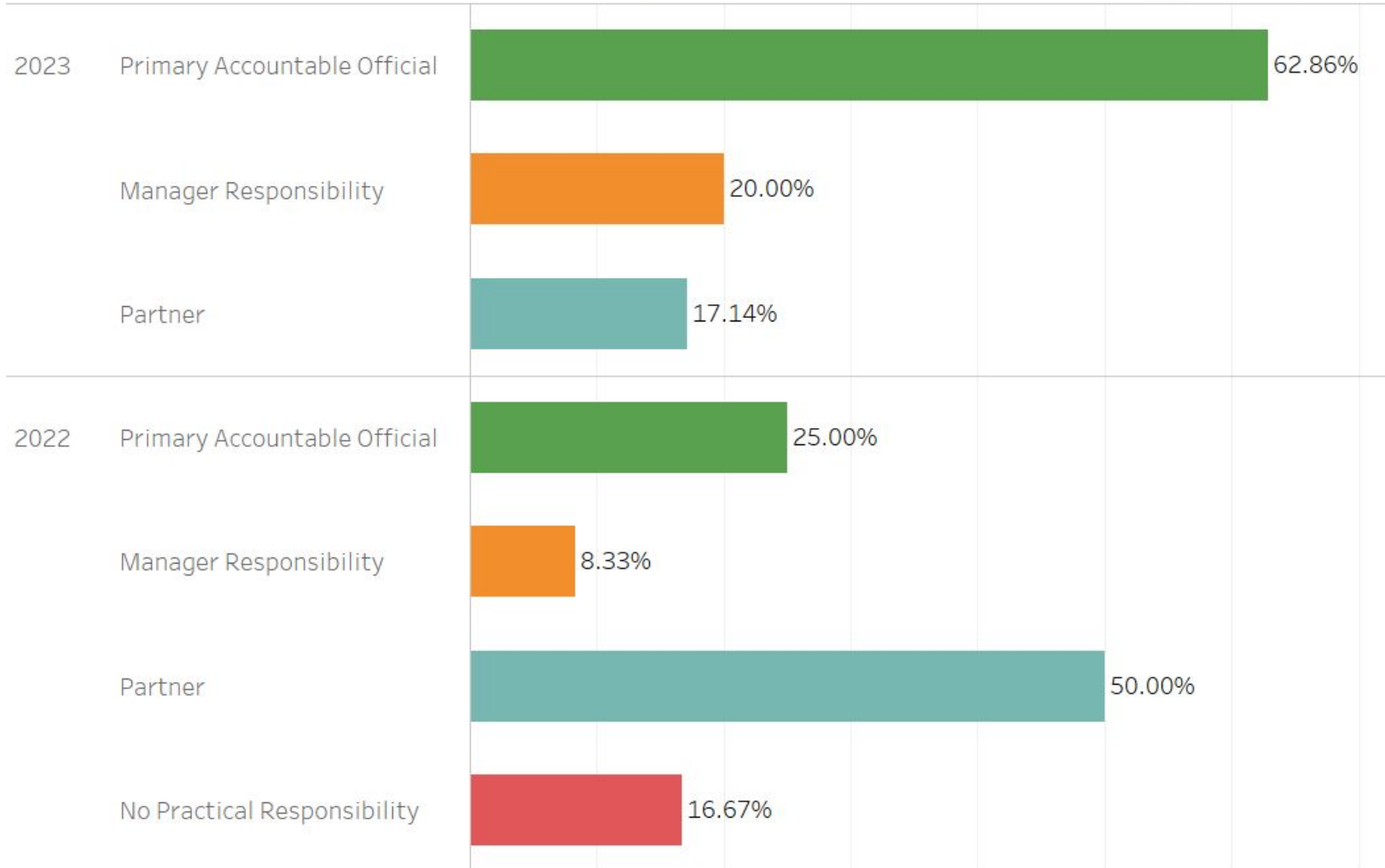
2023 vs 2022 Q29 (19): Data Skills Development (N = 71)



29a. What responsibility do you have in the following areas: -Data Evangelism
(N = 71)



29f. What responsibility do you have in the following areas: - Ambassador
(for data sharing, evidence based policy making, data culture) (N = 71)



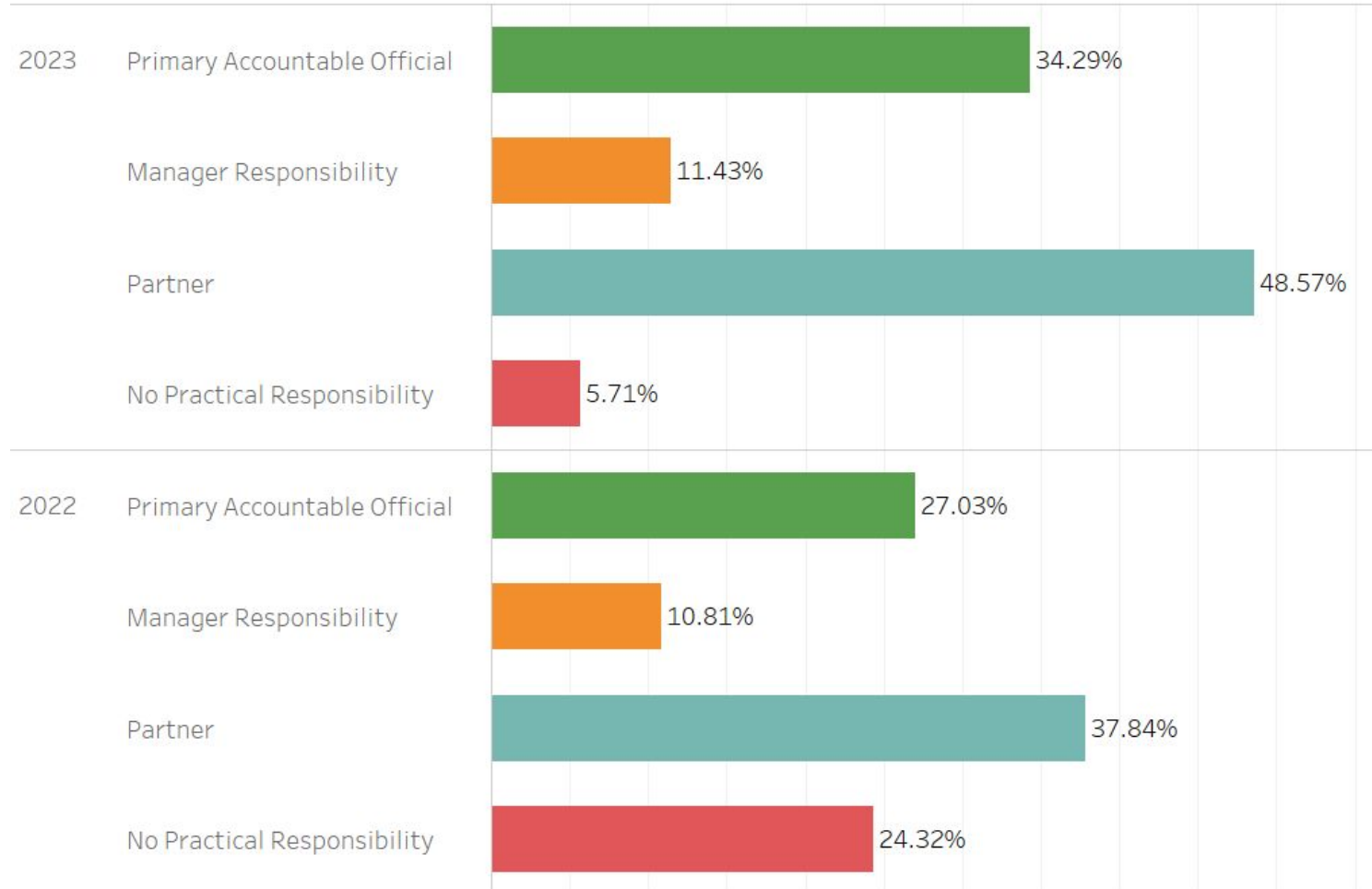
CDO as Partner

Continuing in 2023 (from 2022), across large, medium and small size agencies

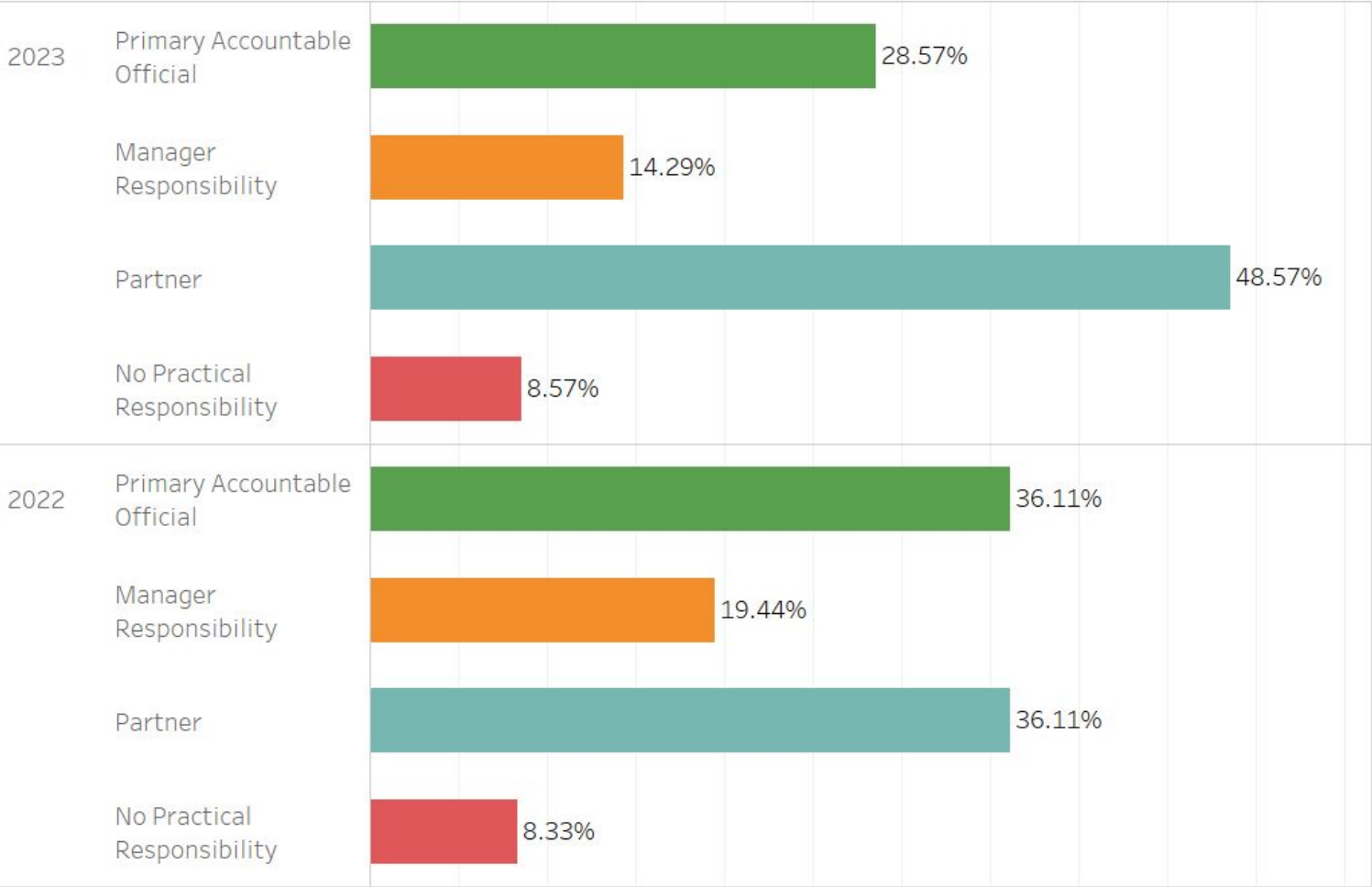
Majority served as Partner for the following:

- Data Architecture
- Data Analytics (from Primary Accountable Official/ Partner in 2022)
- Information Collections/ Paperwork Reduction Act (tied with Primary Accountable Official in 2023)
- Data Integration
- Data Engineering
- Records Management
- Data Quality Management (from Primary Accountable Official in 2022)
- Information Security
- Research
- Data Visualization
- Privacy
- FOIA
- Operations Research (from No Practical Responsibility in 2022)
- Artificial Intelligence (from No Practical Responsibility in 2022)

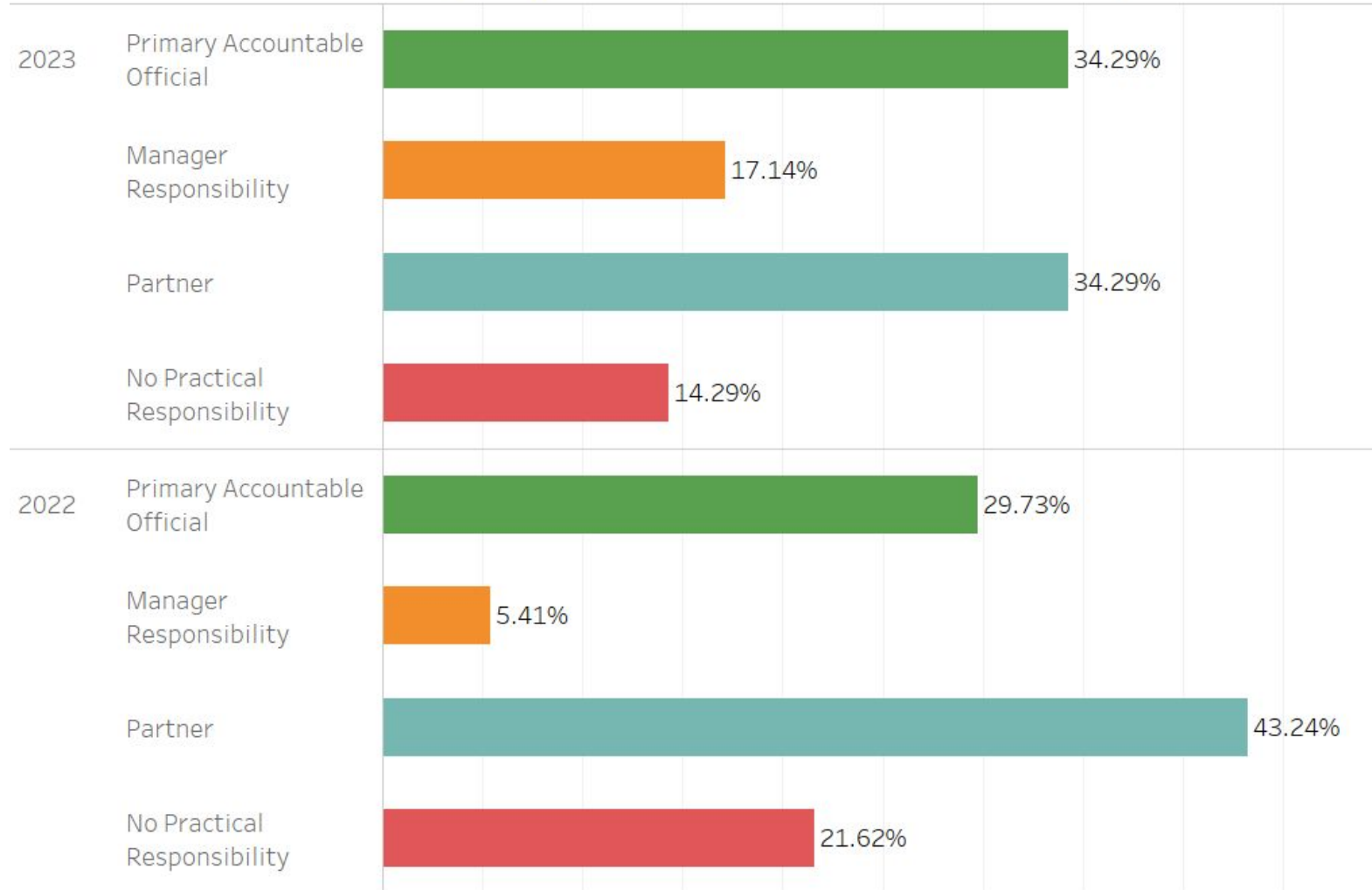
29a. What responsibility do you have in the following areas: - Data Architecture (N = 72)



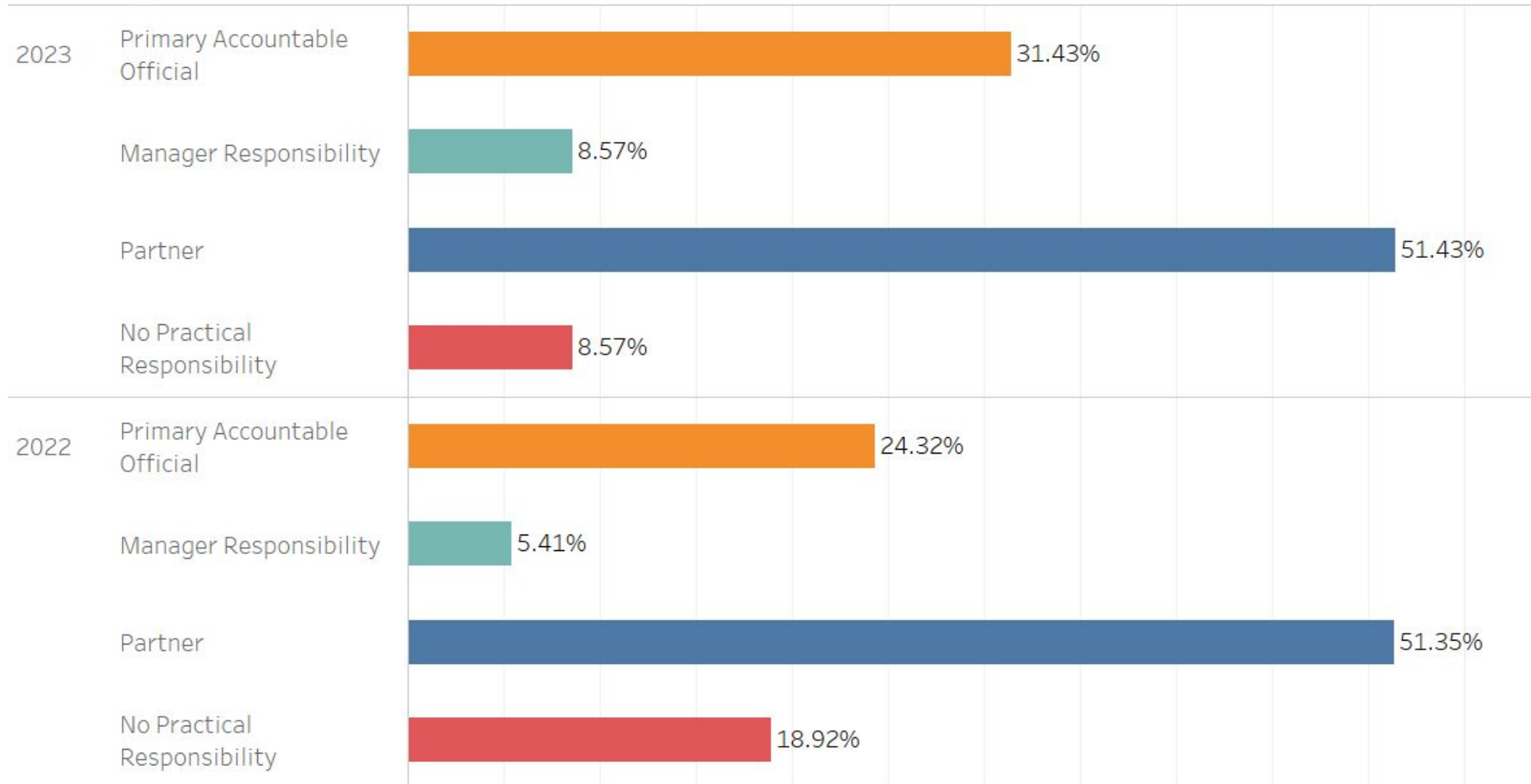
29d. What responsibility do you have in the following areas: - Data Analytics
(N = 71)



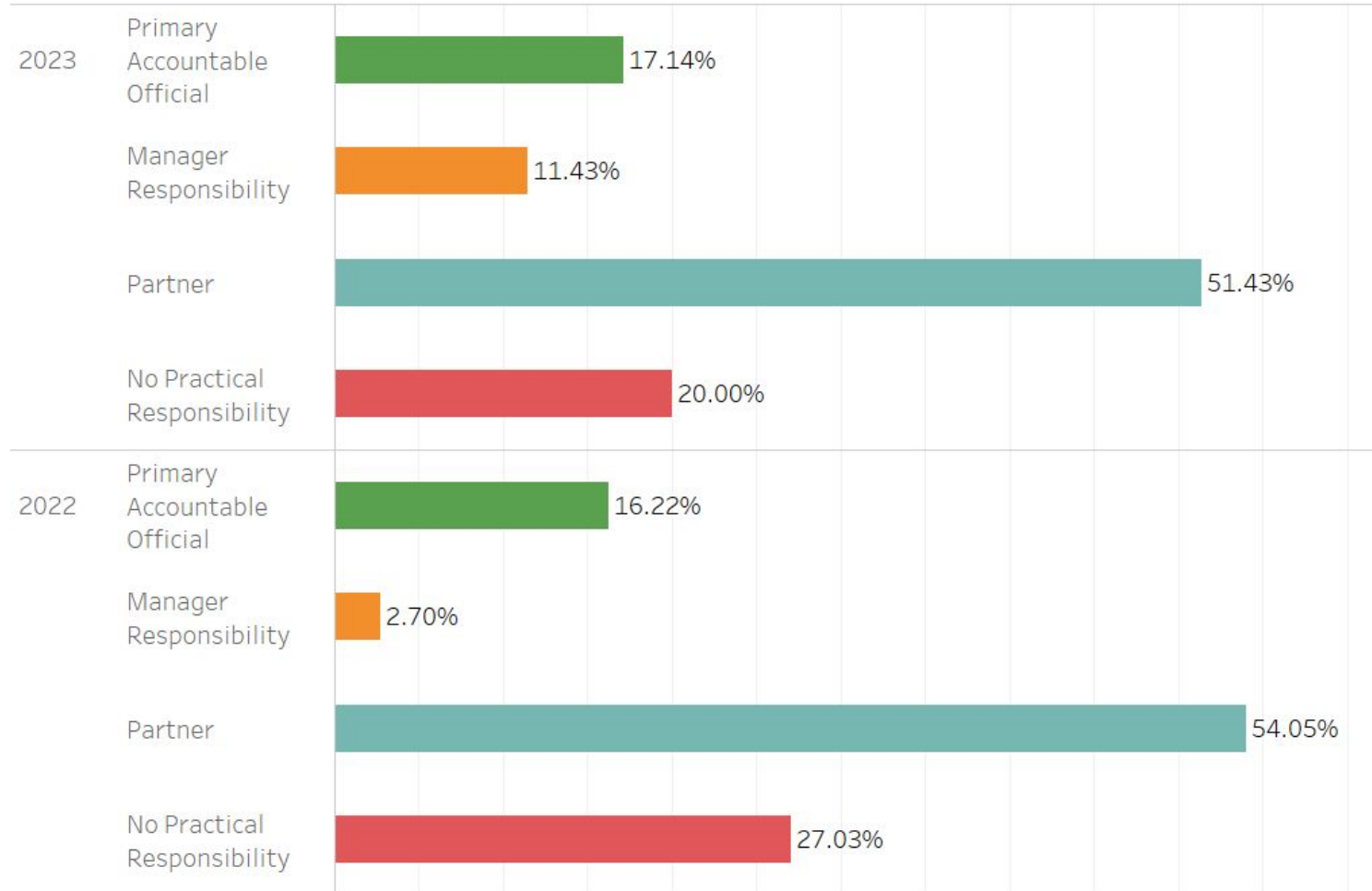
29b. What responsibility do you have in the following areas: - Information Collections/ Paperwork Reduction Act (N = 72)



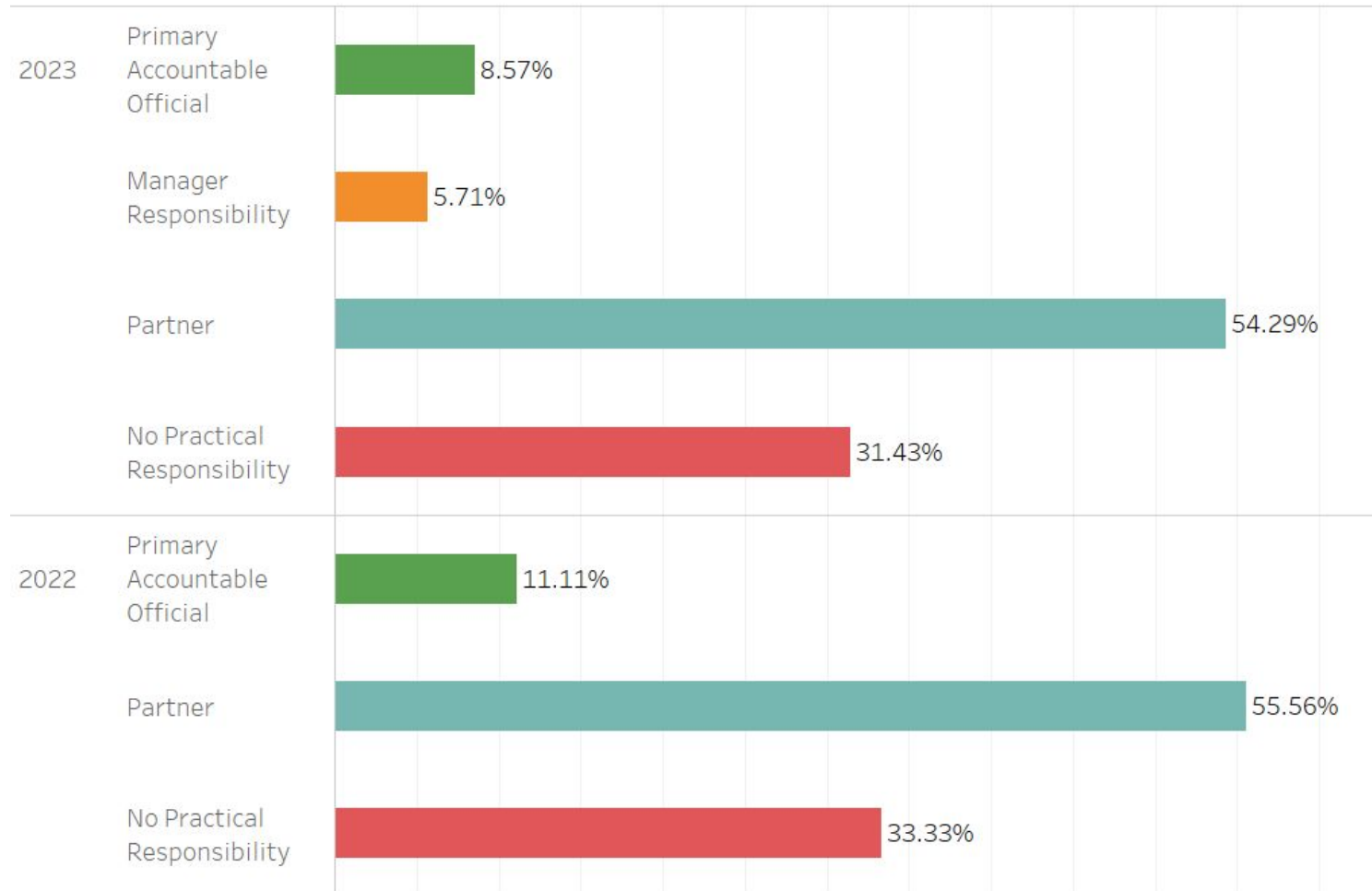
29a. What responsibility do you have in the following areas: - Data Integration (N = 72)



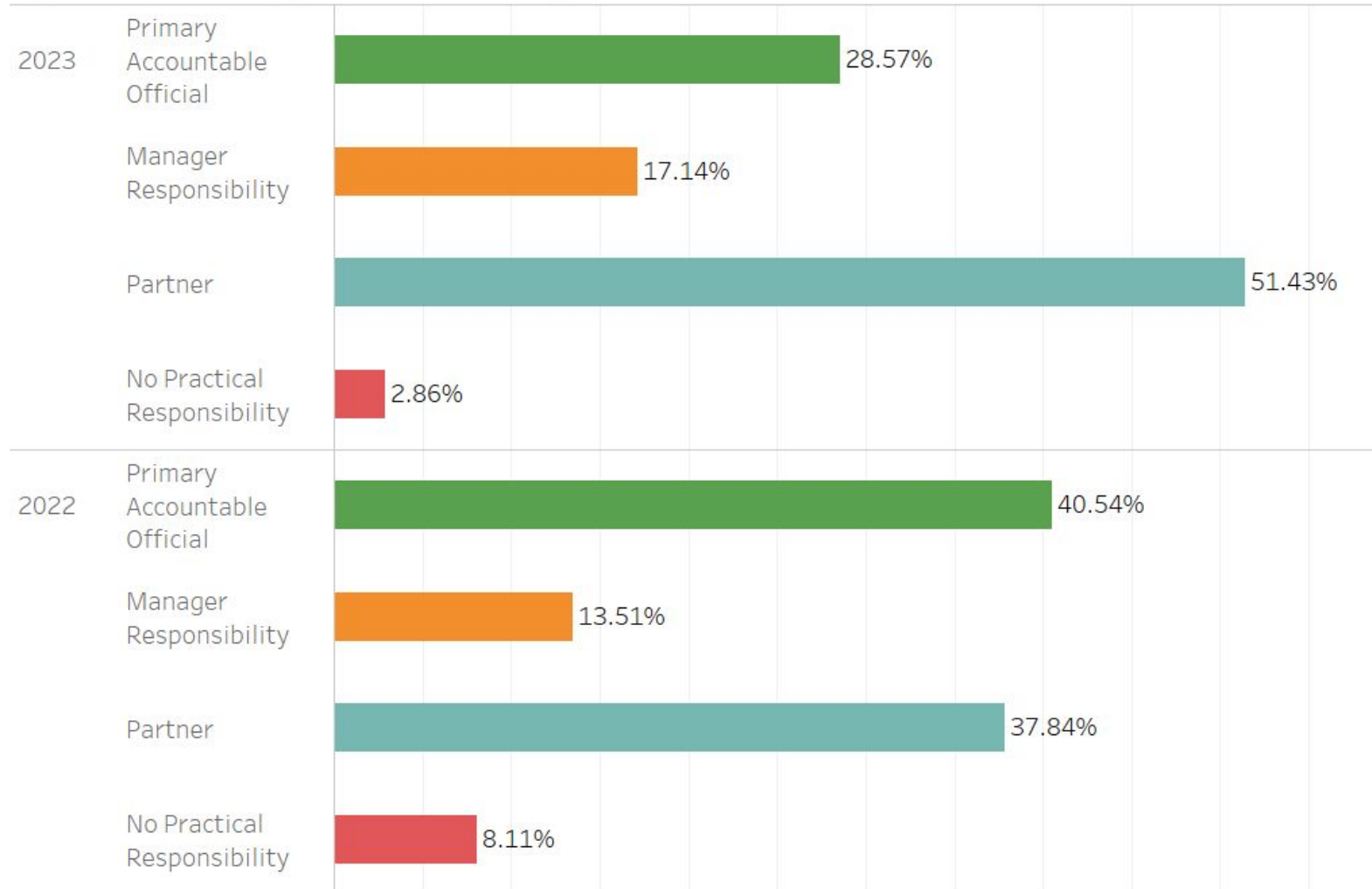
29c. What responsibility do you have in the following areas: - Data Engineering (N = 72)



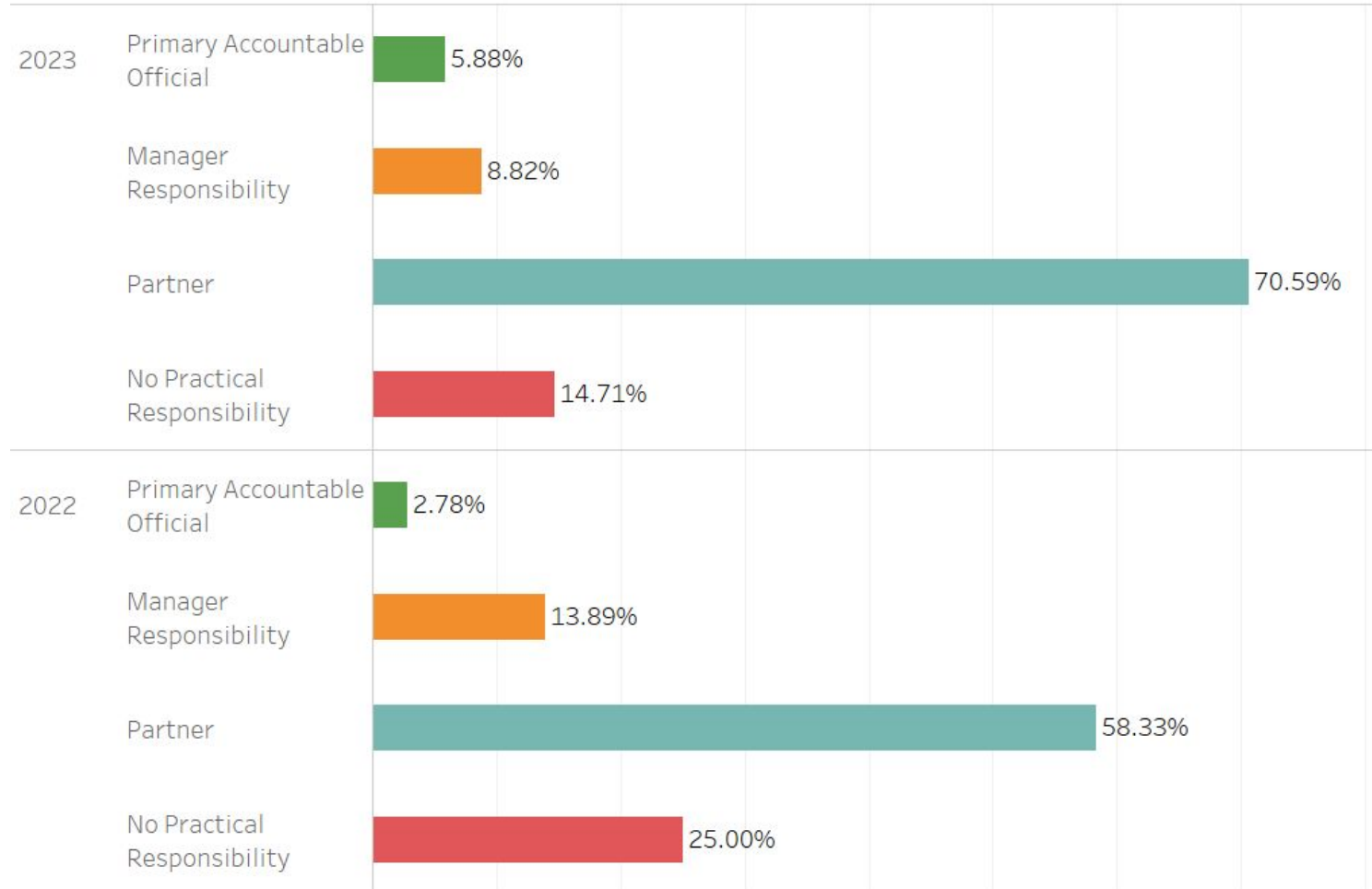
29b. What responsibility do you have in the following areas: - Records Management (N = 71)



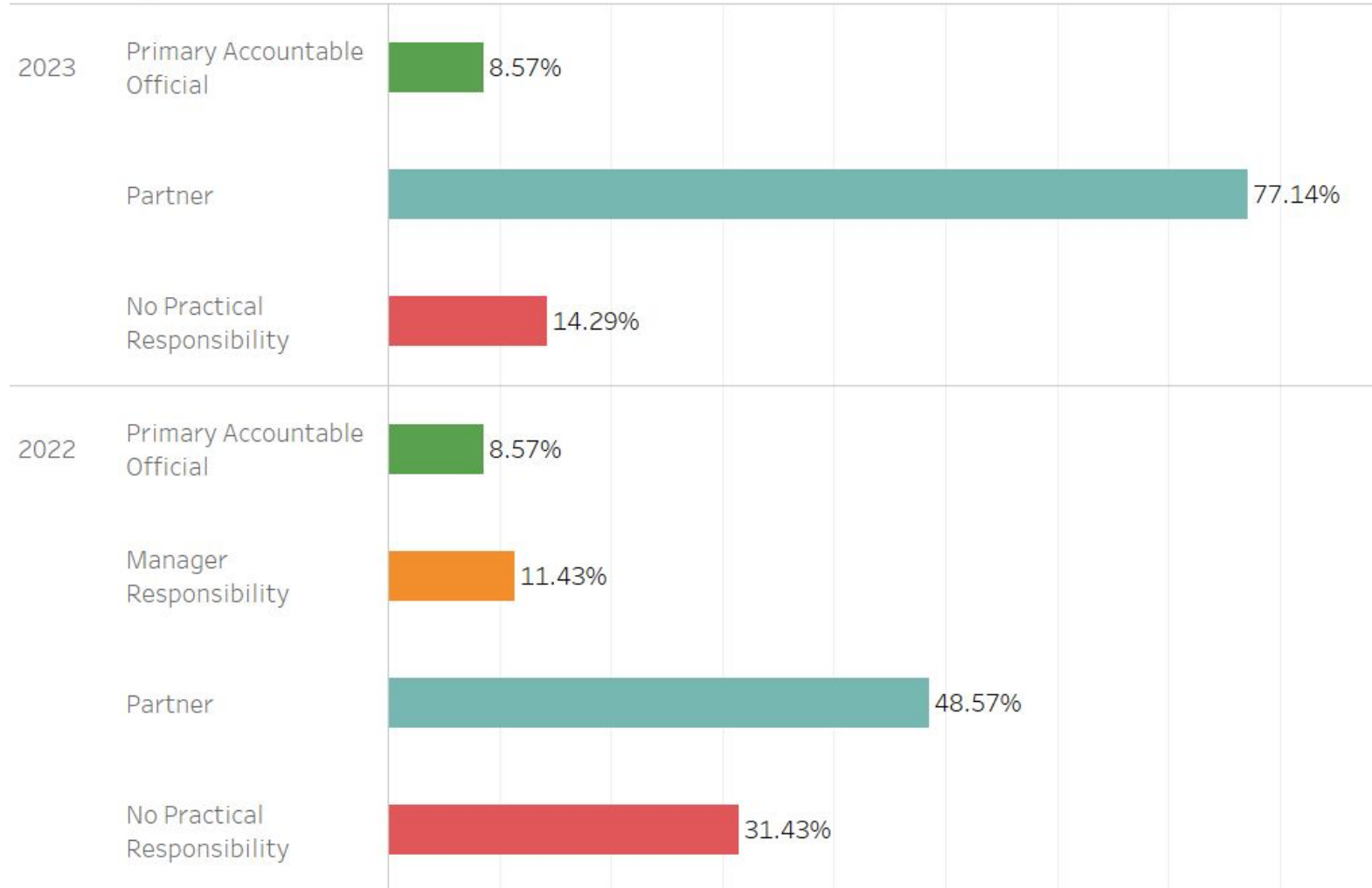
29c. What responsibility do you have in the following areas: - Data Quality Management (N = 72)



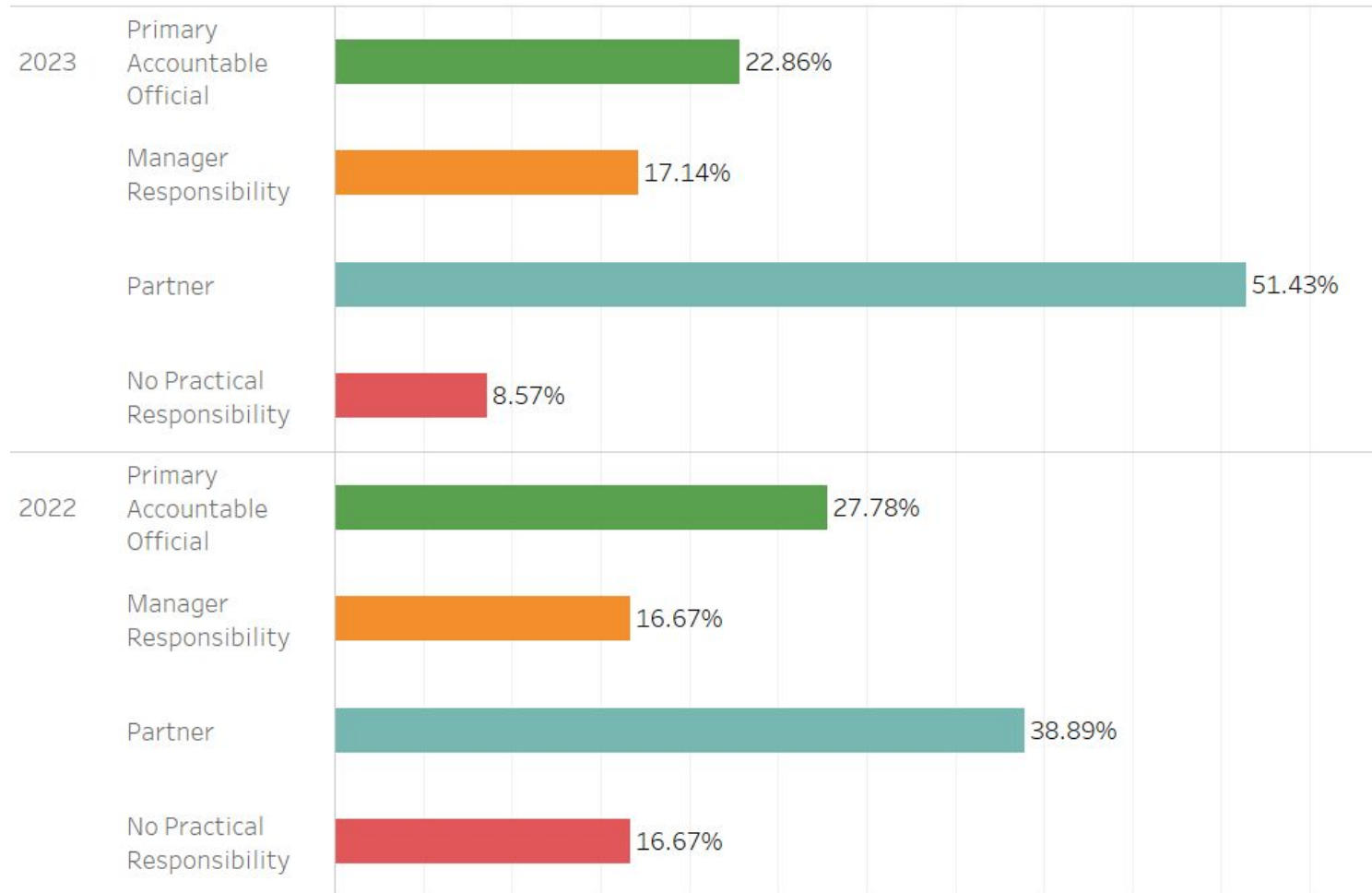
29e. What responsibility do you have in the following areas: - Information Security (N = 70)



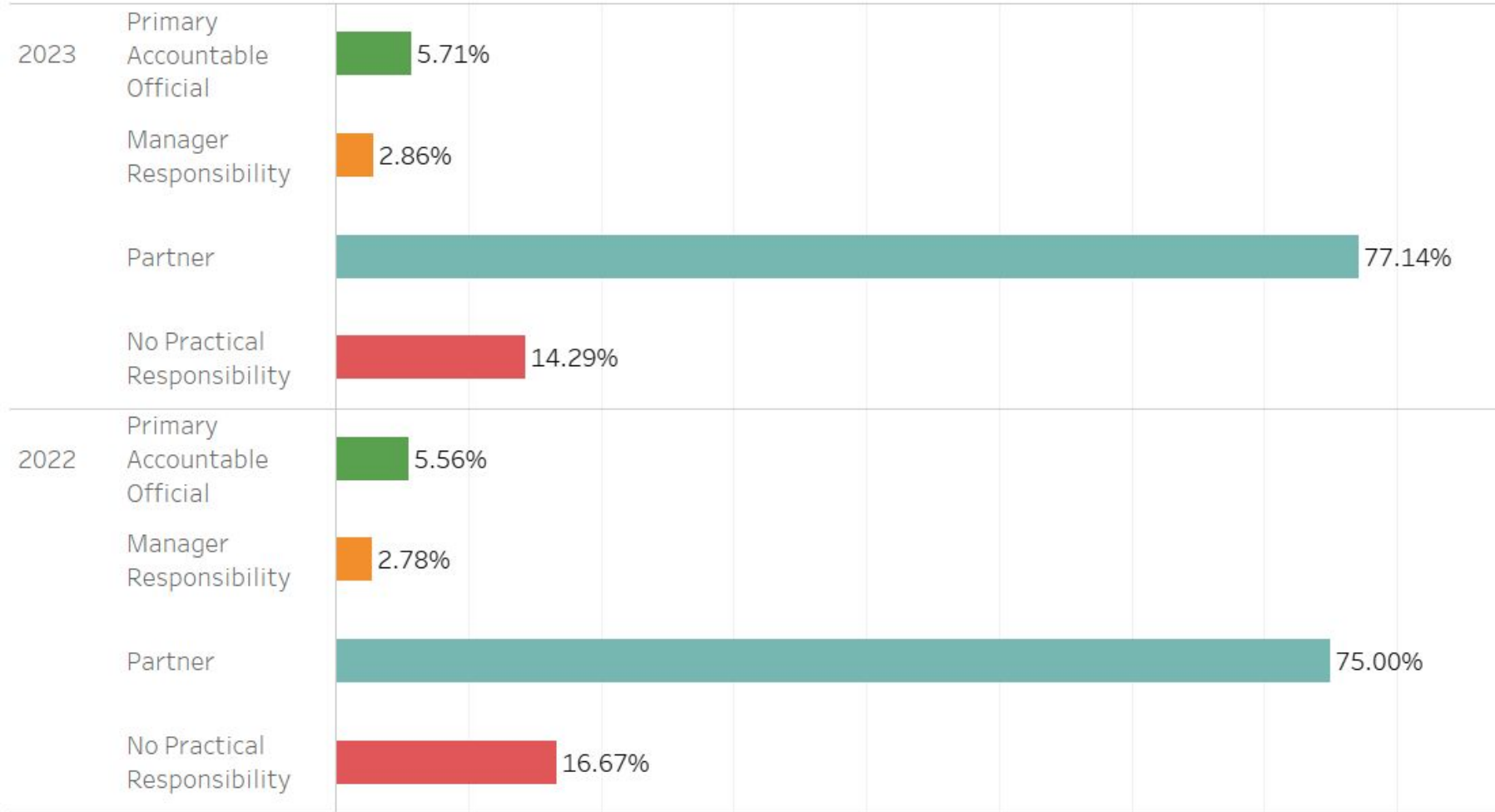
29e. What responsibility do you have in the following areas: - Research (N = 70)



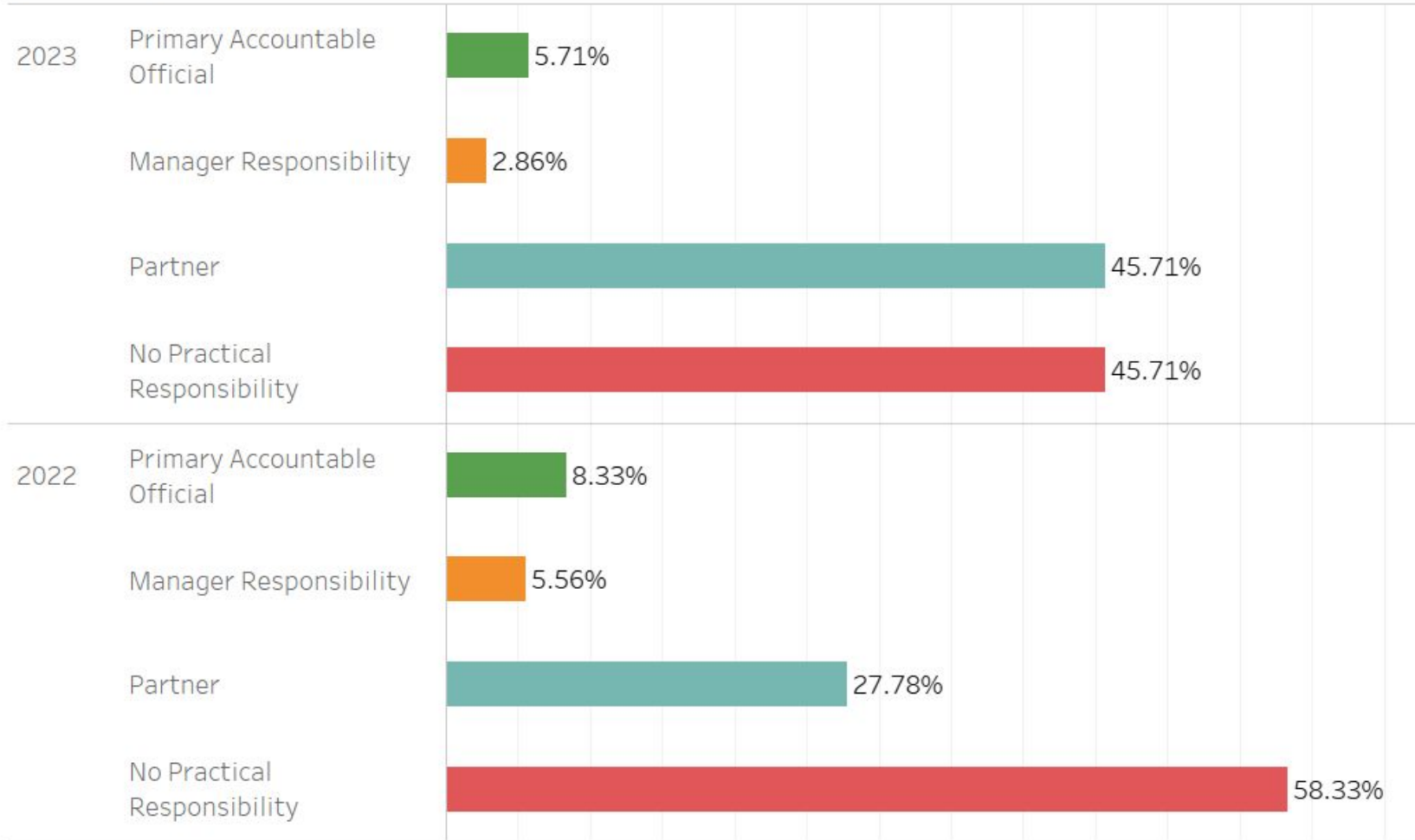
29d. What responsibility do you have in the following areas: - Data Visualization (N = 71)



29e. What responsibility do you have in the following areas: - Privacy (N = 71)



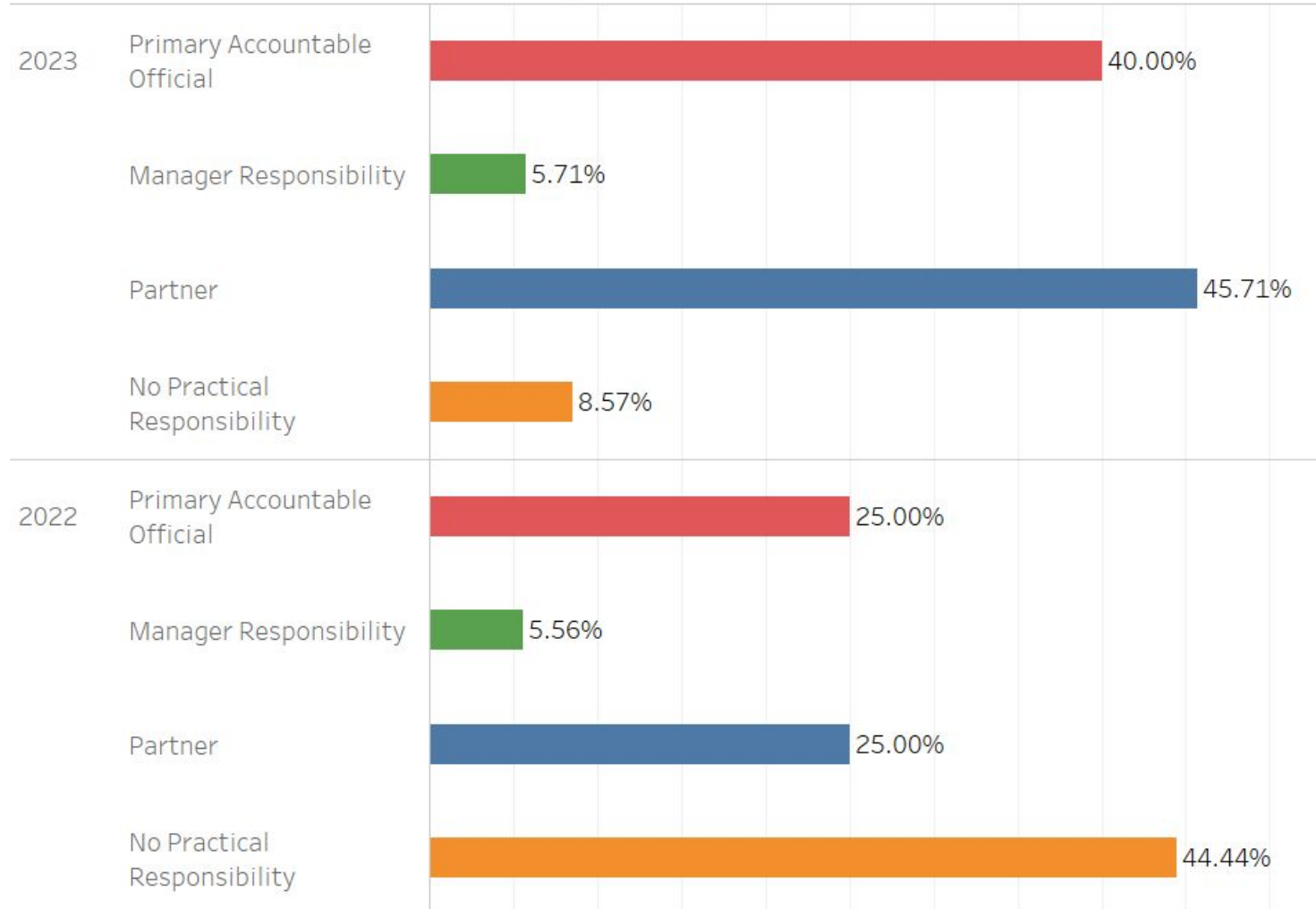
29b. What responsibility do you have in the following areas: - FOIA (N = 71)



29e. What responsibility do you have in the following areas: -
Operations Research
(N = 71)



29d. What responsibility do you have in the following areas: - Artificial Intelligence (N = 71)



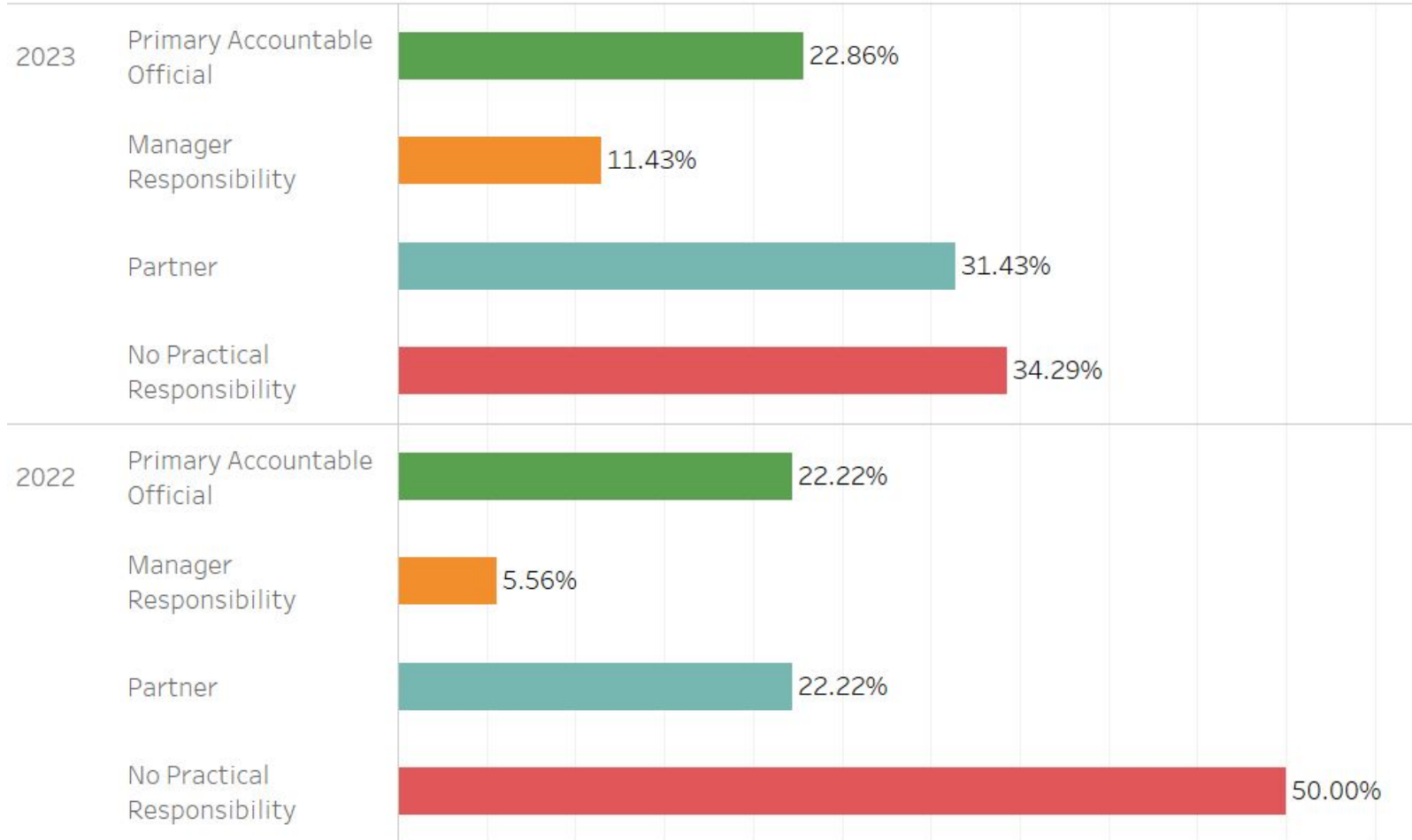
CDO (No Practical Responsibility)

Continuing in 2023 (from 2022), across large, medium and small size agencies

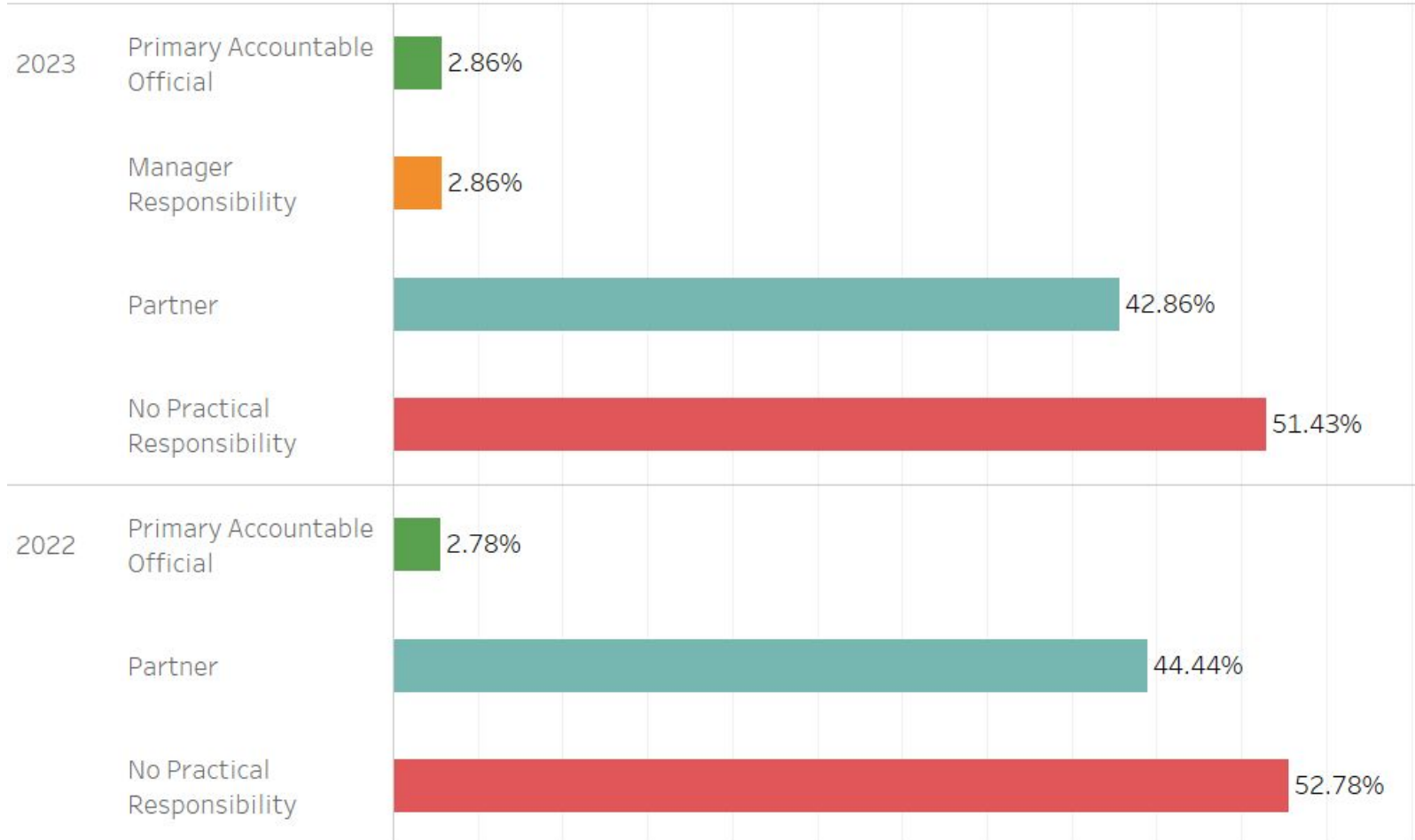
Majority served “No Practical Responsibility” for the following:

- Geospatial Data
- eDiscovery
- Data Monetization

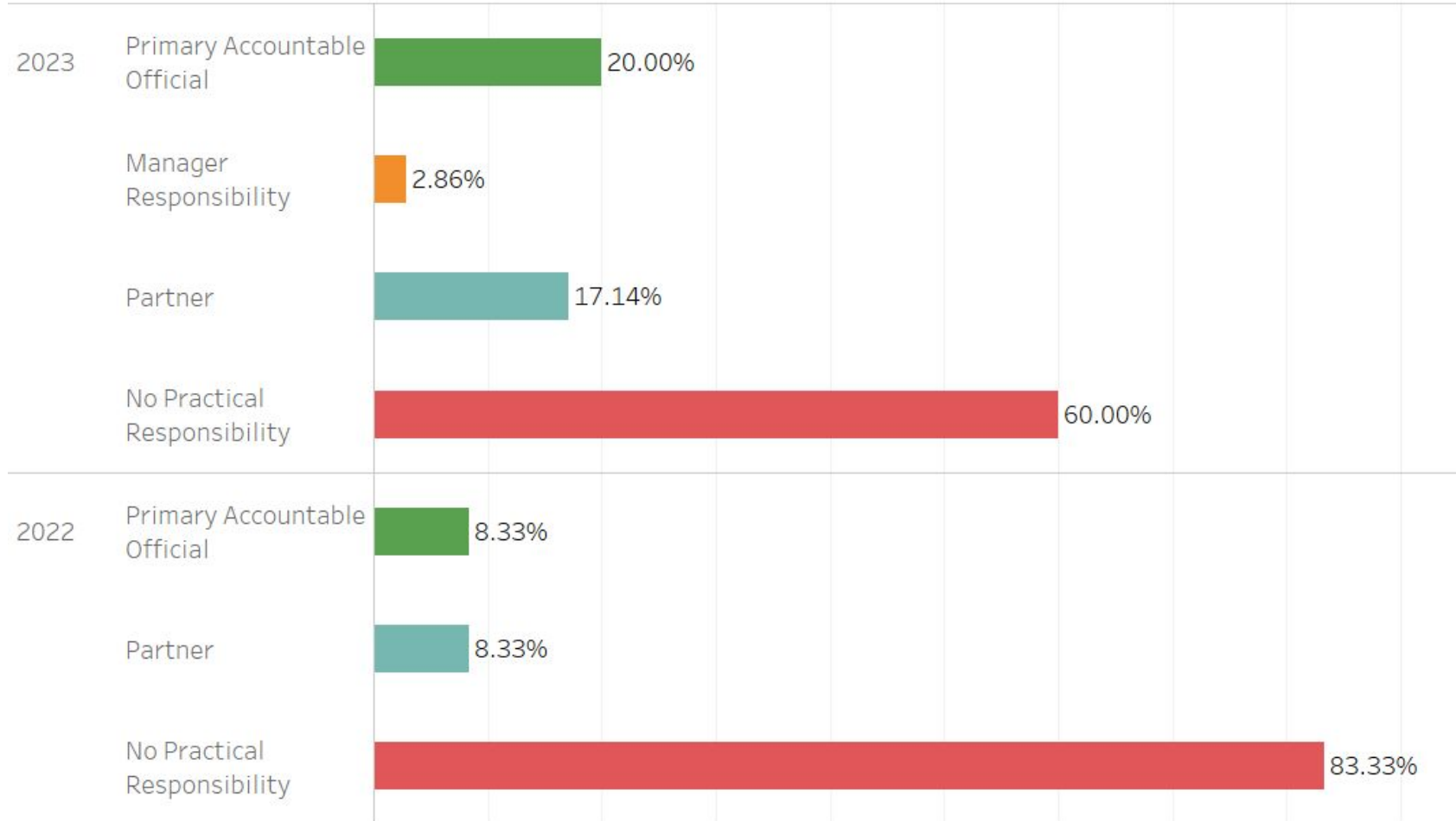
29d. What responsibility do you have in the following areas: - Geospatial Data (N = 71)



29b. What responsibility do you have in the following areas: -
eDiscovery
(N = 71)



29a. What responsibility do you have in the following areas: - Data Monetization (N = 71)



CDO Staffing Support (Office Makeup)

FTEs Reporting to you/ Contractors / Detailees/ Stakeholders (Internal) (2023)

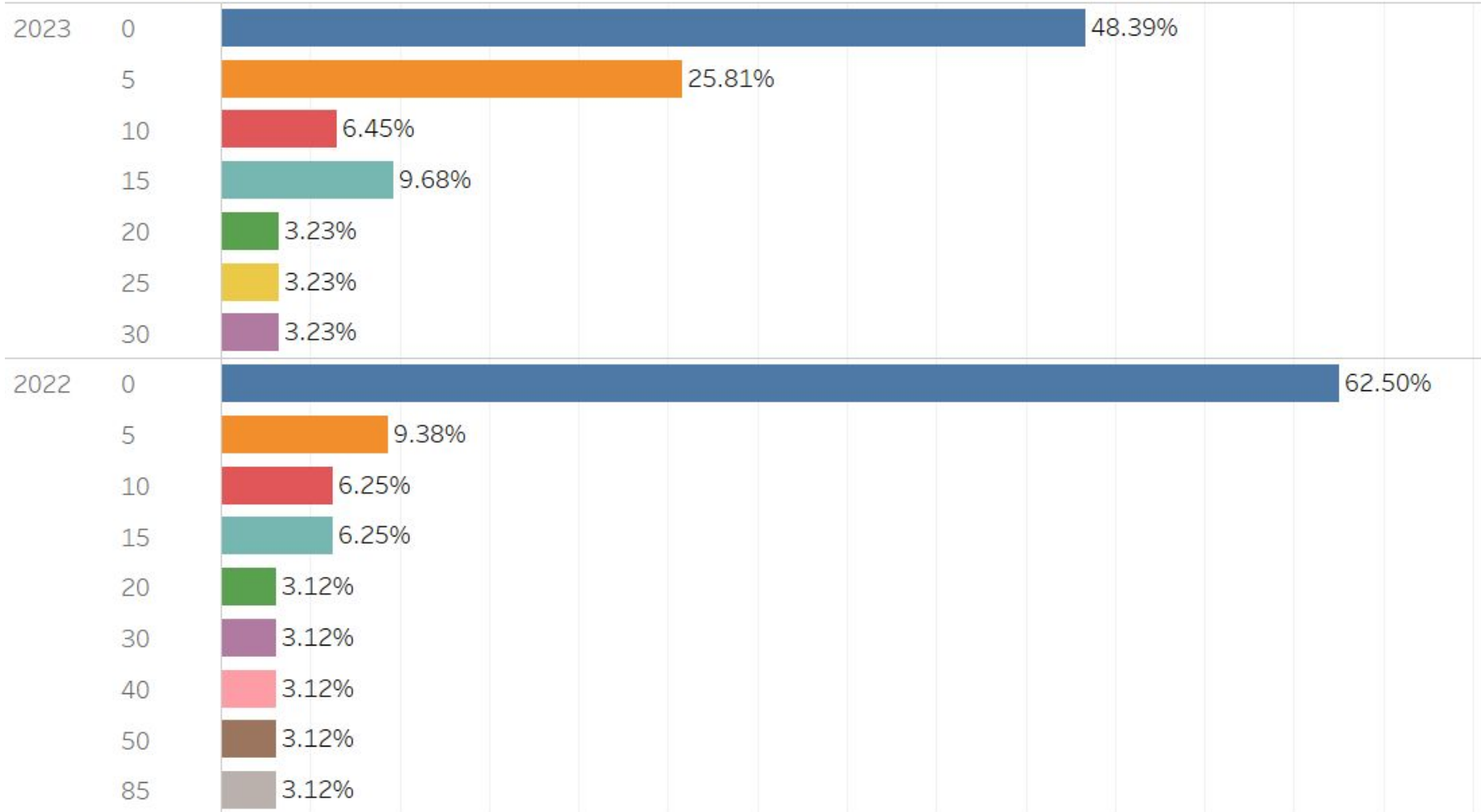
Large Size Agencies

-Majority: 4 – 6 FTEs, ~0 – 6 contractors, 0 – 1 detailees, Null (internal stakeholders)

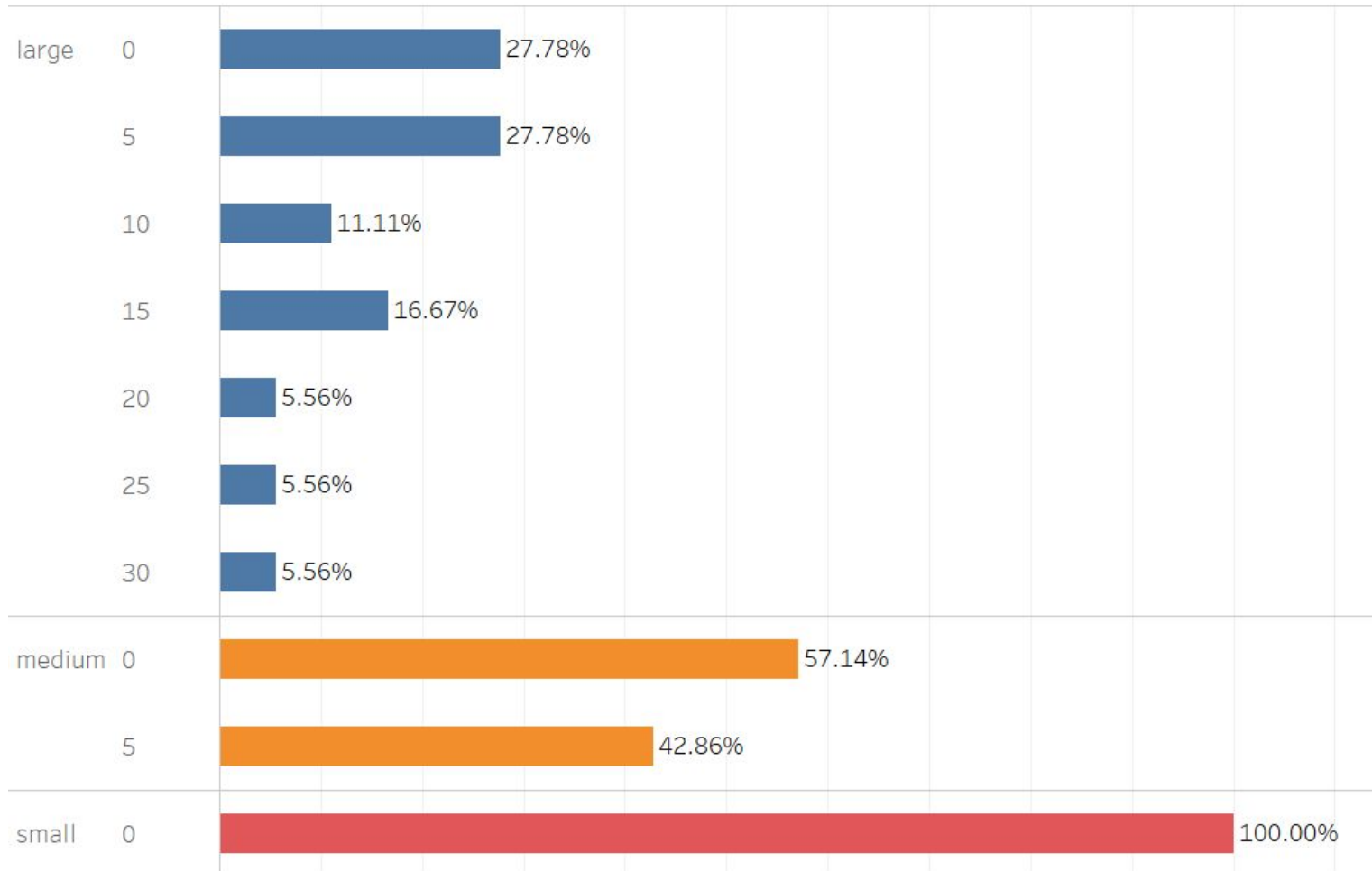
Medium / Small Size Agencies

-Majority: 0 – 1 FTEs, ~0 - 3 contractors, 0 detailees, 0 – 10 internal stakeholders

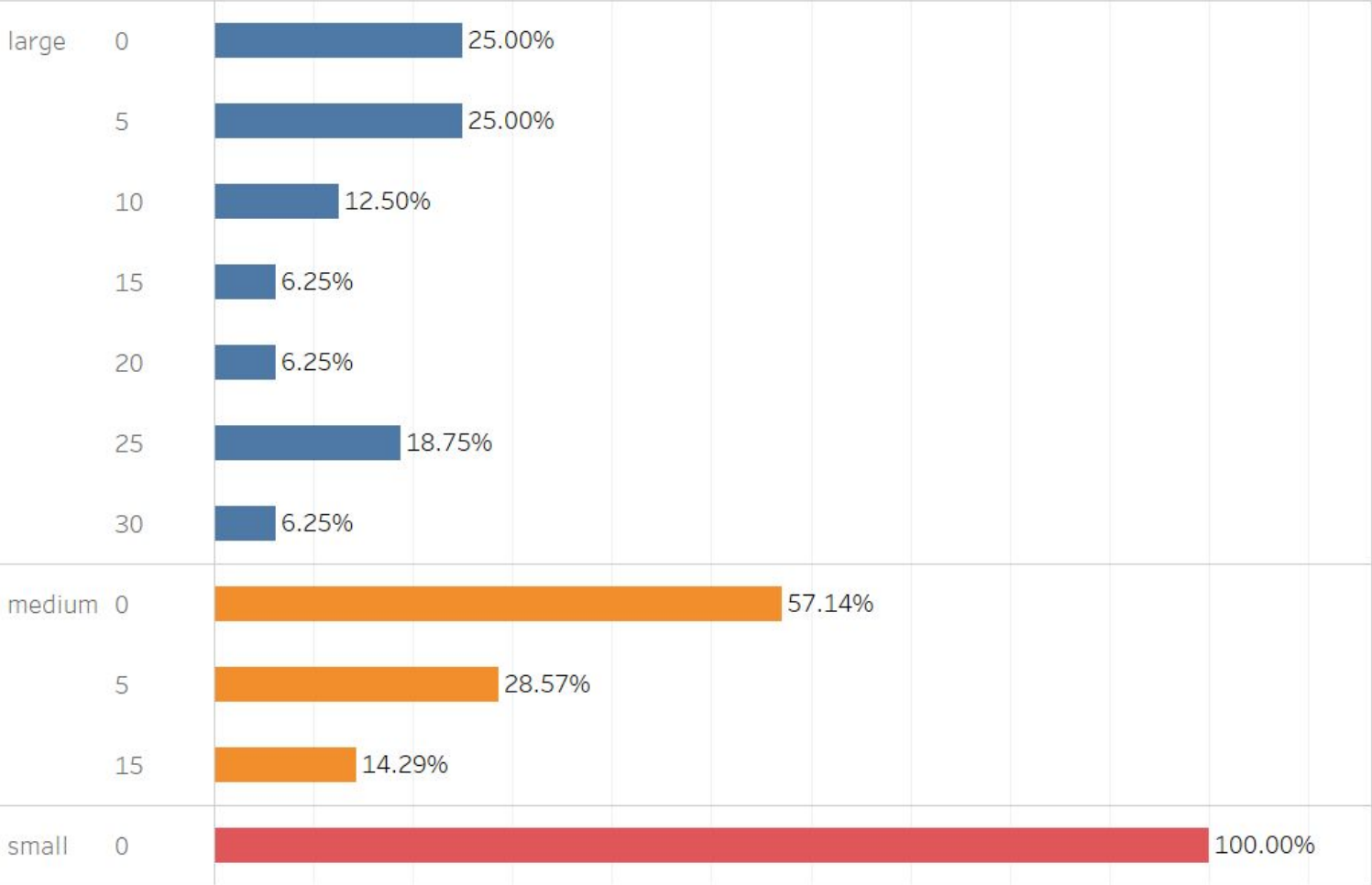
2023 vs 2022- Number of FTEs: Team Size at different agencies / One-person CDO Shops (N = 63)



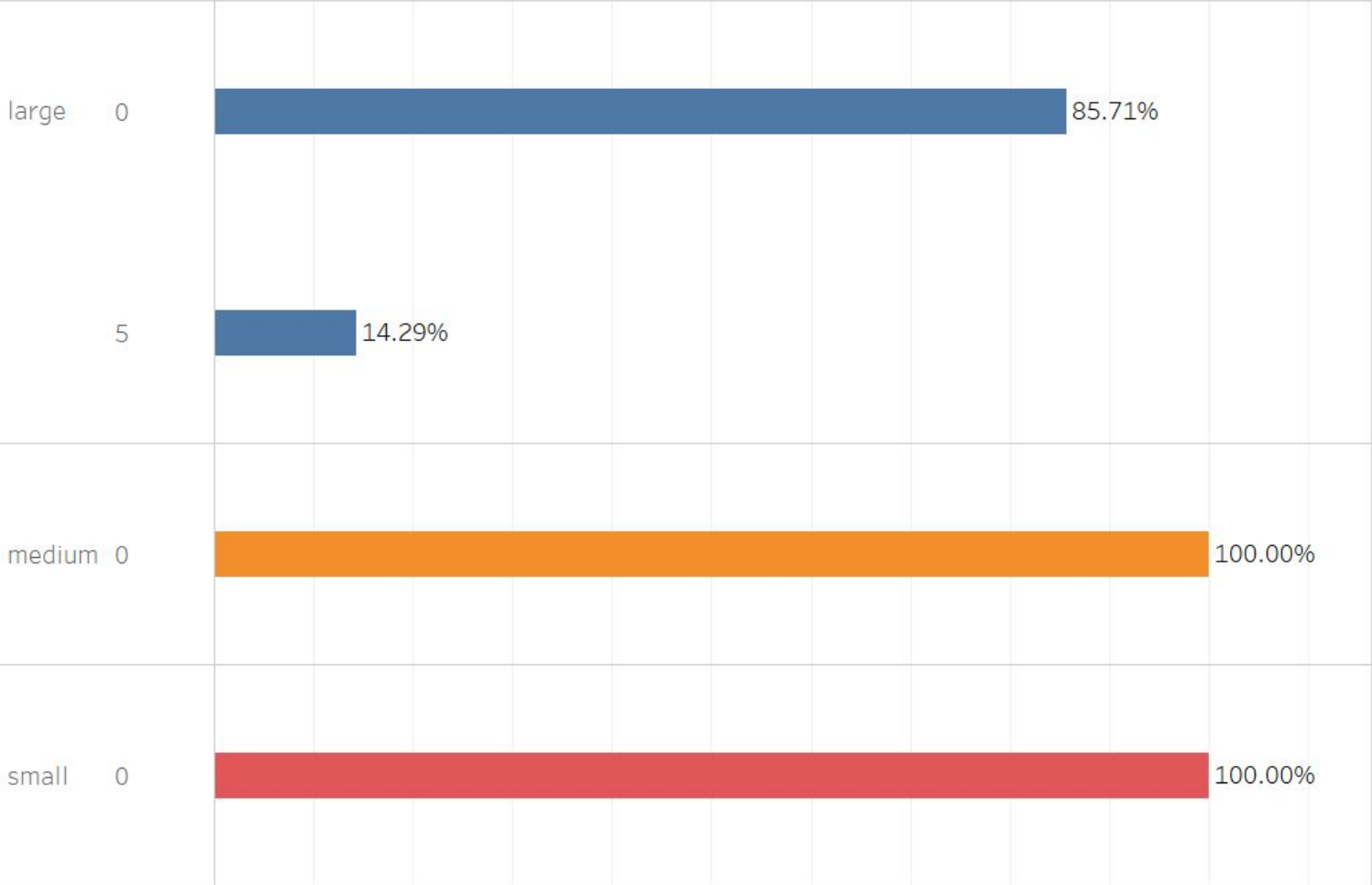
35. What type of support do you have to undertake the functions of a CDO? Please provide the number of FTE for each category that applies. - FTE's reporting to you? (N = 31)



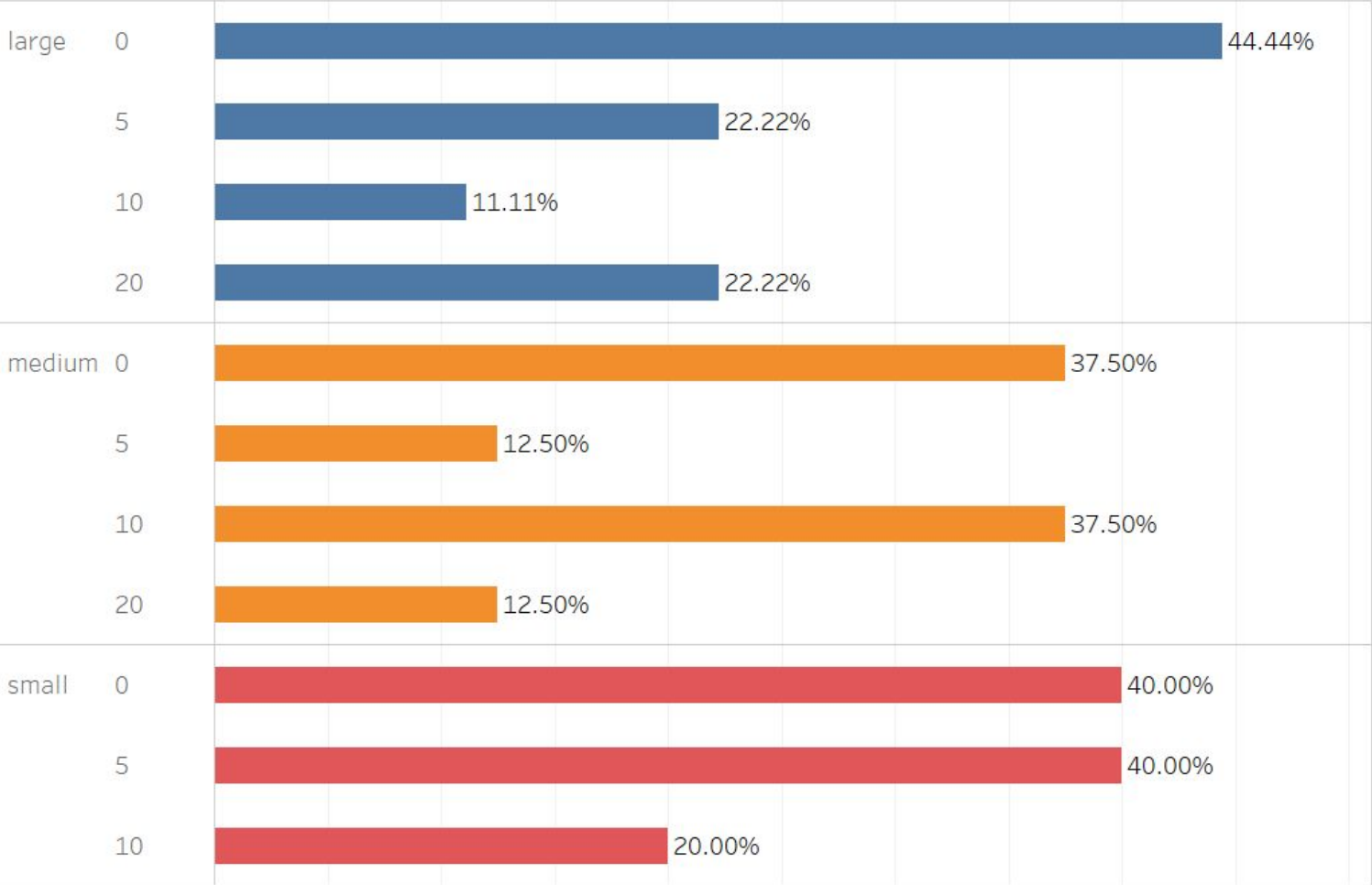
35. What type of support do you have to undertake the functions of a CDO? Please provide the number of FTE for each category that applies. - contractors? (N = 28)



35. What type of support do you have to undertake the functions of a CDO? Please provide the number of FTE for each category that applies. - detailees? (N = 24)



35. What type of support do you have to undertake the functions of a CDO? Please provide the number of FTE for each category that applies. - internal stakeholders? (N = 22)



CDO Staffing Support (Office Makeup)

Unfilled Positions: Federal/ Contractor (2023)

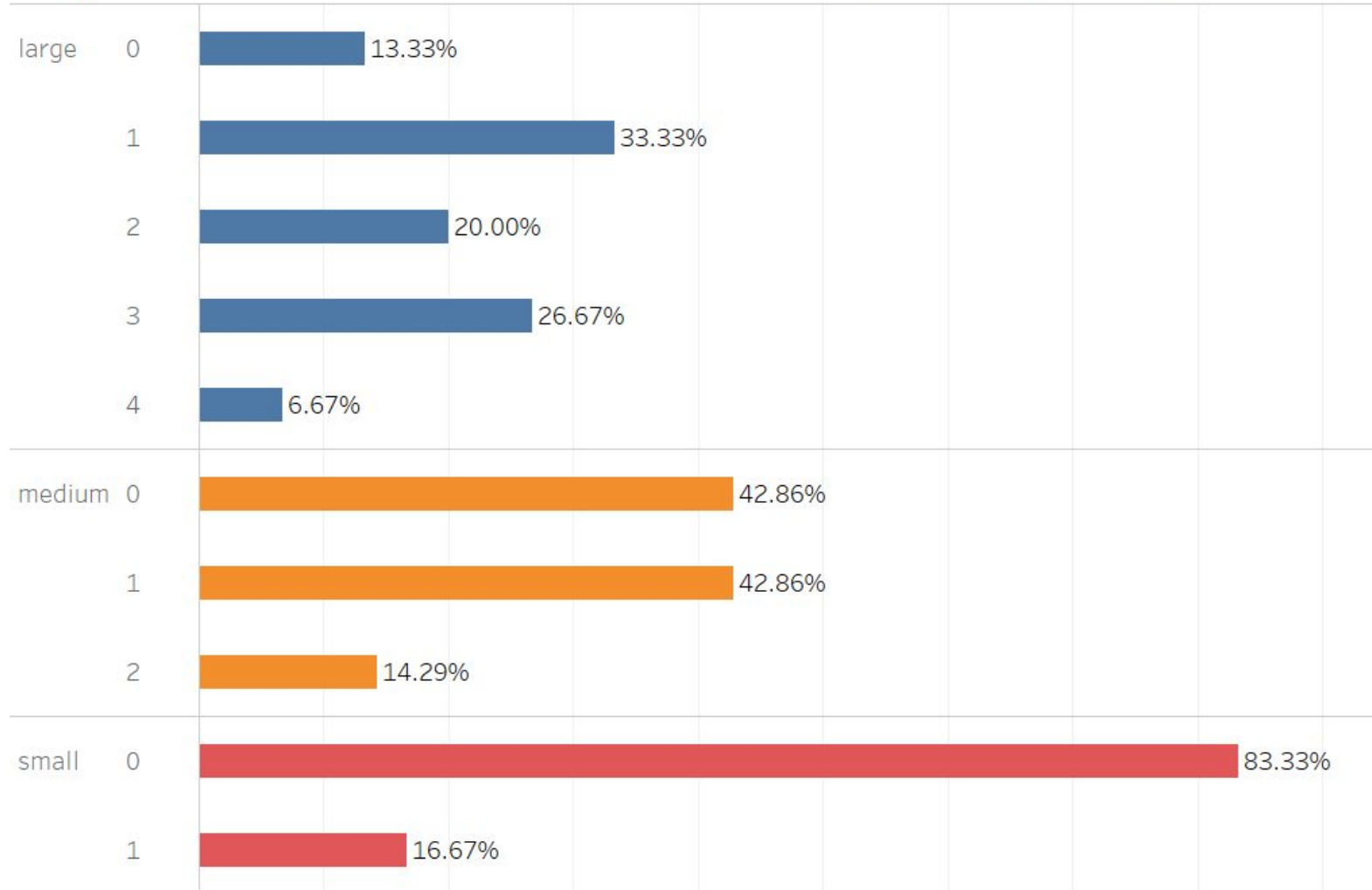
Large Size Agencies

- Majority: 0 – 3 unfilled Federal positions
- Null (no response) on unfilled contractors

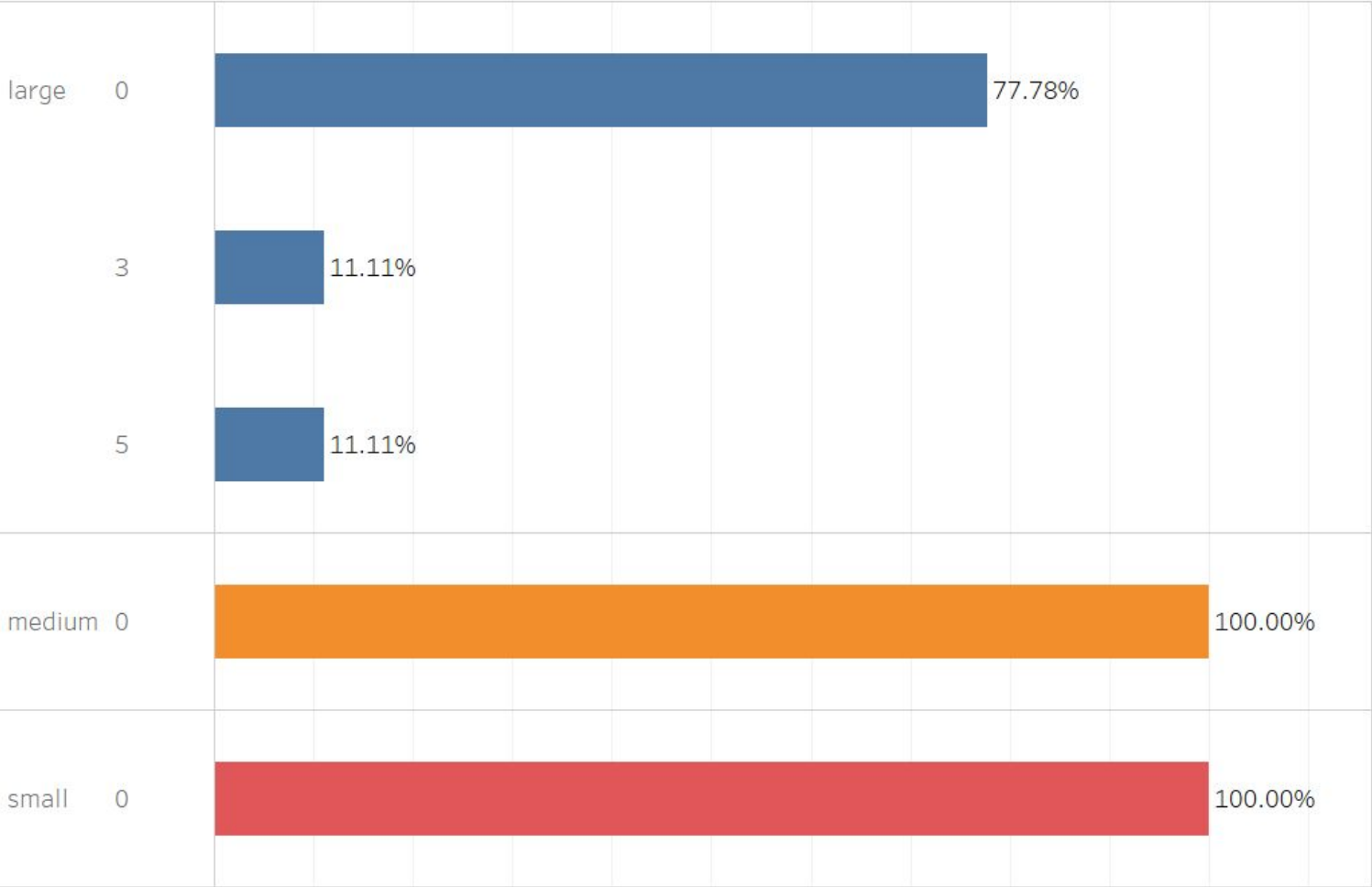
Medium / Small Size Agencies

- Majority: 0 – 1 unfilled Federal positions (Medium), 0 unfilled Federal positions (Small)
- 0 unfilled contractor positions.

36. Do you currently have any unfilled positions for data talent to support your CDO role? - How many Federal positions (if any)? (N = 28)



36. Do you currently have any unfilled positions for data talent to support your CDO role? - How many Contractor positions (if any)? (N = 20)



CDO Office Expertise

CDO Office contain both Business and Technical people

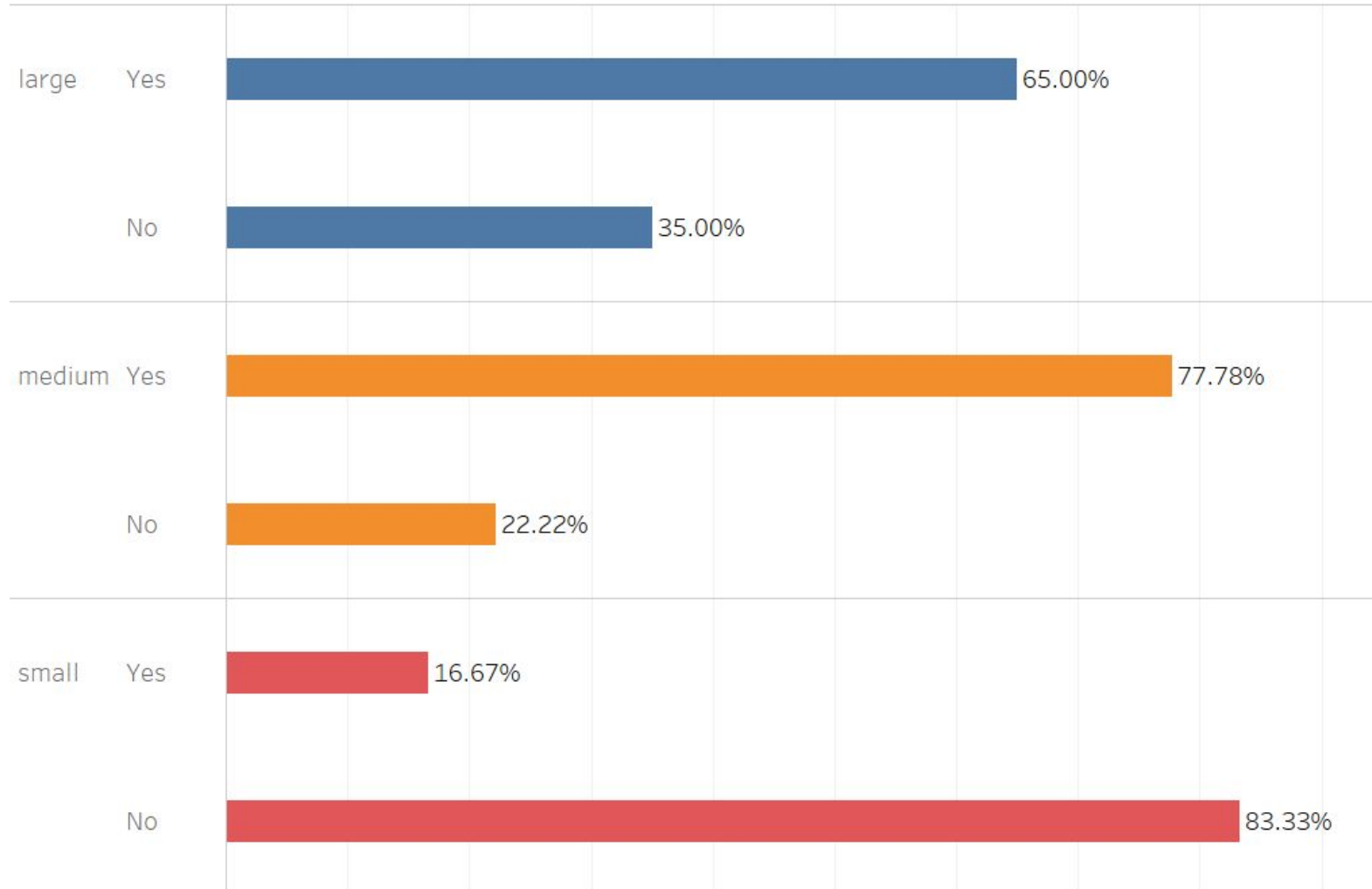
Large / Medium Size Agencies

- Majority: contain both business and technical people

Small Size Agencies

- Majority: Does not contain both business and technical people

37. Does the CDO Office contain both business and technical people? (N = 35)



CDO Office Expertise

CDO Office hiring of consultants and outside groups for the following:

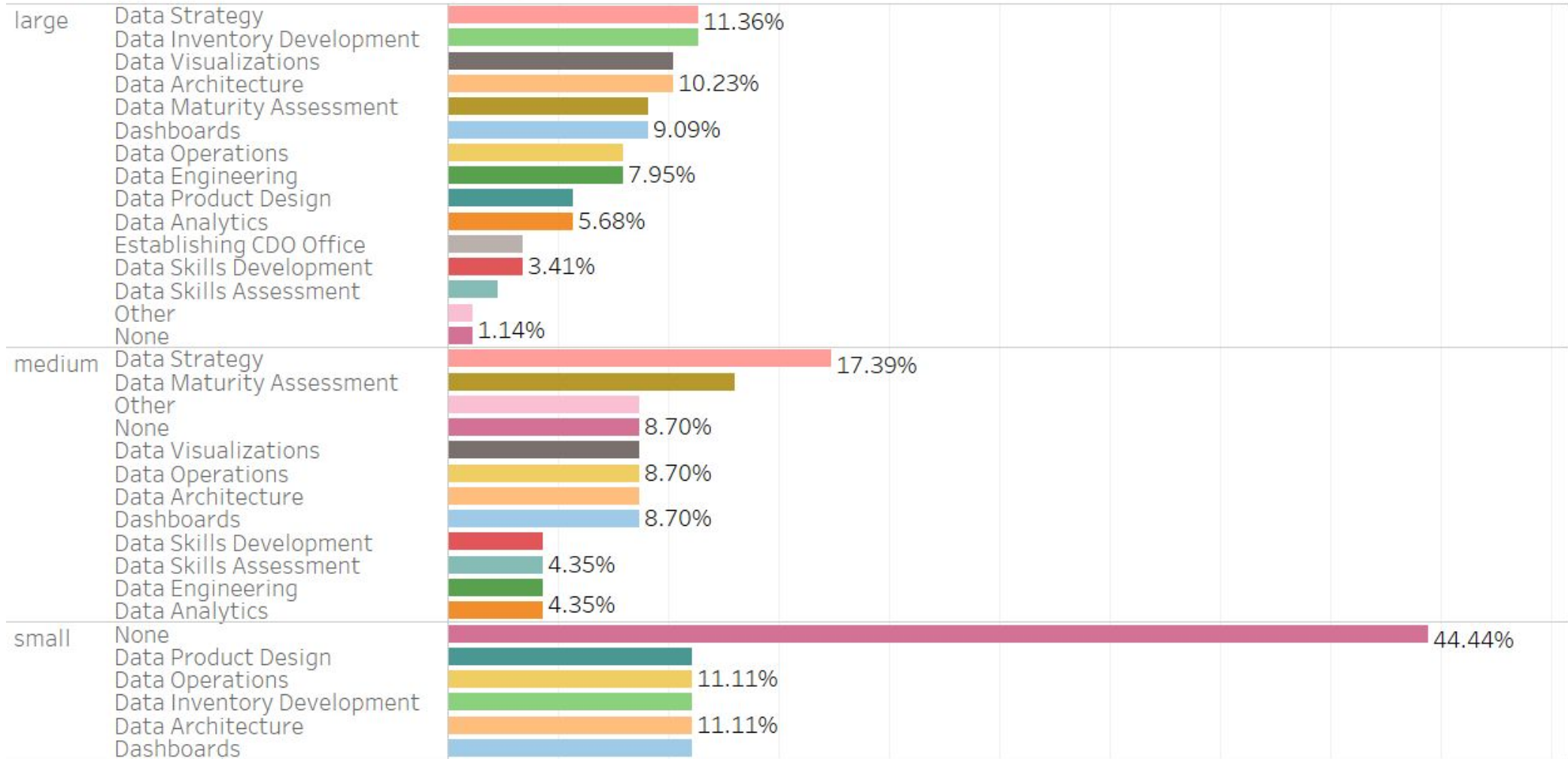
Large / Medium Size Agencies

- Data Strategy
- Data Inventory Development
- Data Visualizations
- Data Architecture
- Data Maturity Assessment
- Dashboards

Small Size Agencies (In addition to some tasks mentioned above)

- None

38. Has your agency hired consultants or other outside groups to perform any of the following? (check all that apply) - Selected Choice (N = 120)



CDO Performance

CDO Role / Data Team Goals (2023)

Large / Medium Size Agencies

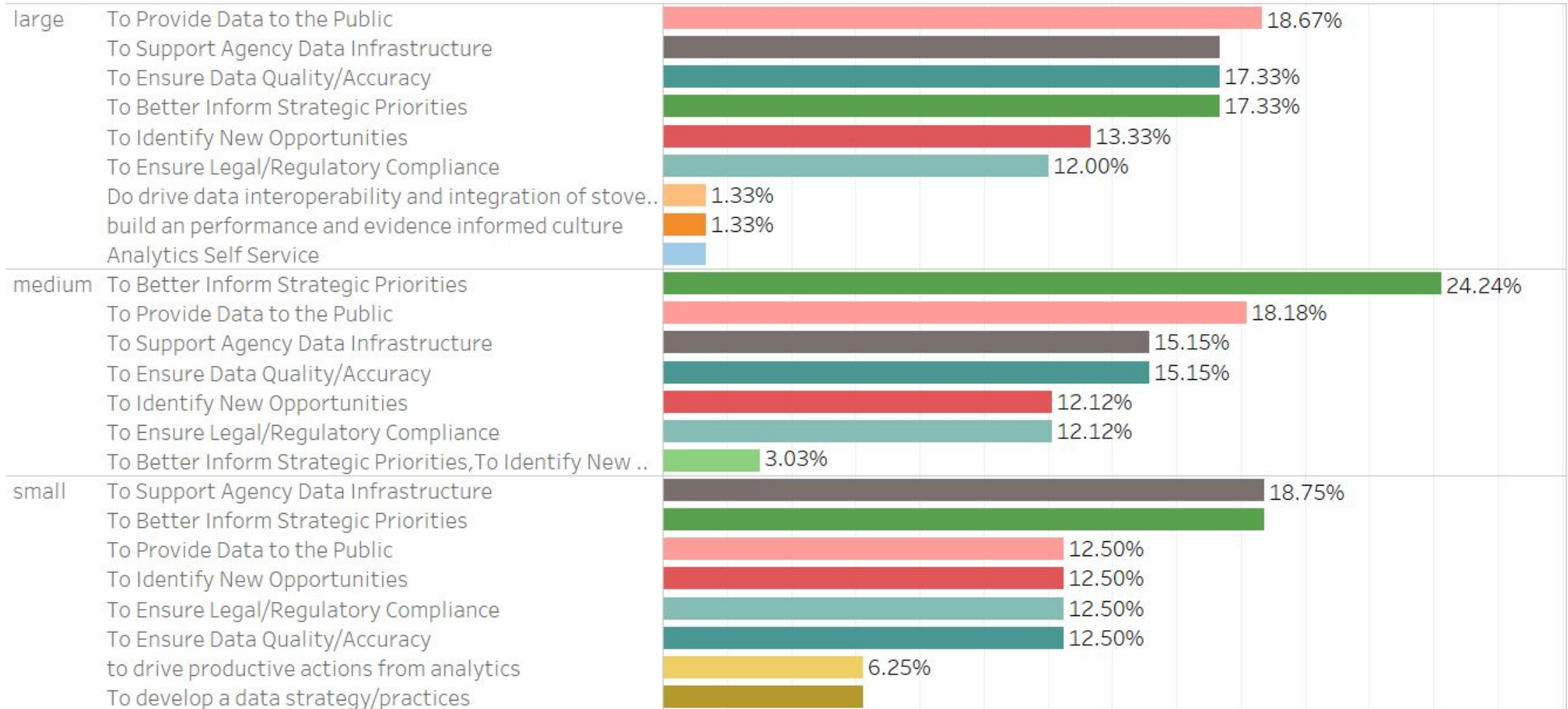
- Provide Data to the Public
- Support Agency Data Infrastructure
- Ensure Data Quality/ Accuracy
- Better Inform Strategic Priorities

Small Size Agencies

In addition to the points above, goals also included:

- Identify New Opportunities
- Ensure Legal/ Regulatory Compliance

33. What are the current goals of your agency's CDO role or data team? (check all that apply) - Selected Choice (N = 124)

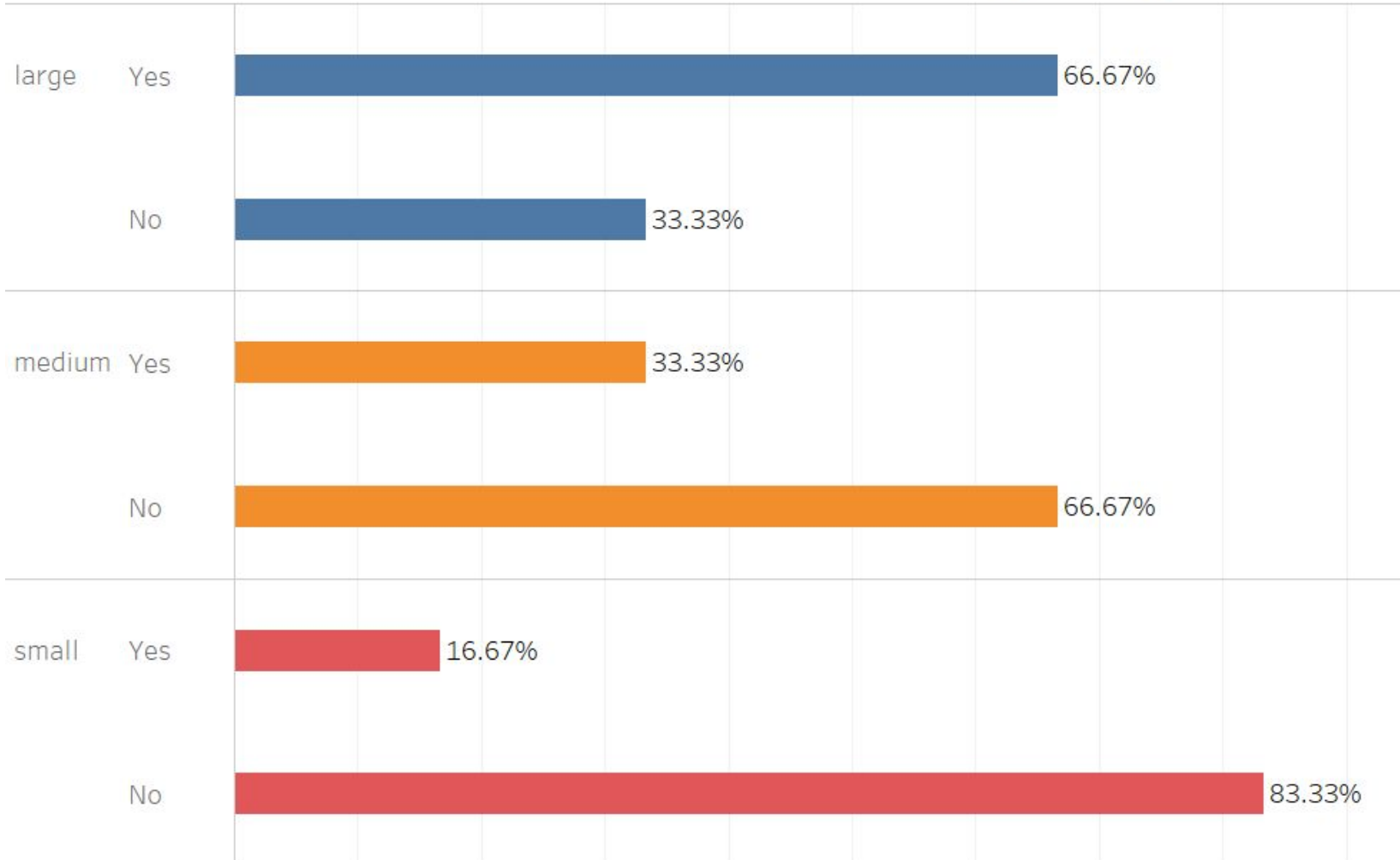


CDO Performance (Continued)

Key Performance Indicators (KPI)(2023)

- Majority of Large Size Agencies reported having performance measures for the CDO office
- Majority of Medium and Small Size Agencies reported not having performance measures

30. Does the organization have Key Performance Indicators (KPI) or other Performance Measures for the CDO Office? (N = 33)



CDO Performance (Continued)

Greatest Obstacles to using Data to support Agency Mission (2023)

Large / Medium Size Agencies

- Cultural Barriers
- Limited Staff Skills/ Workforce Hiring Challenges
- Limited Data Access / Sharing
- Lack of Direct Funding
- Data Governance Challenges

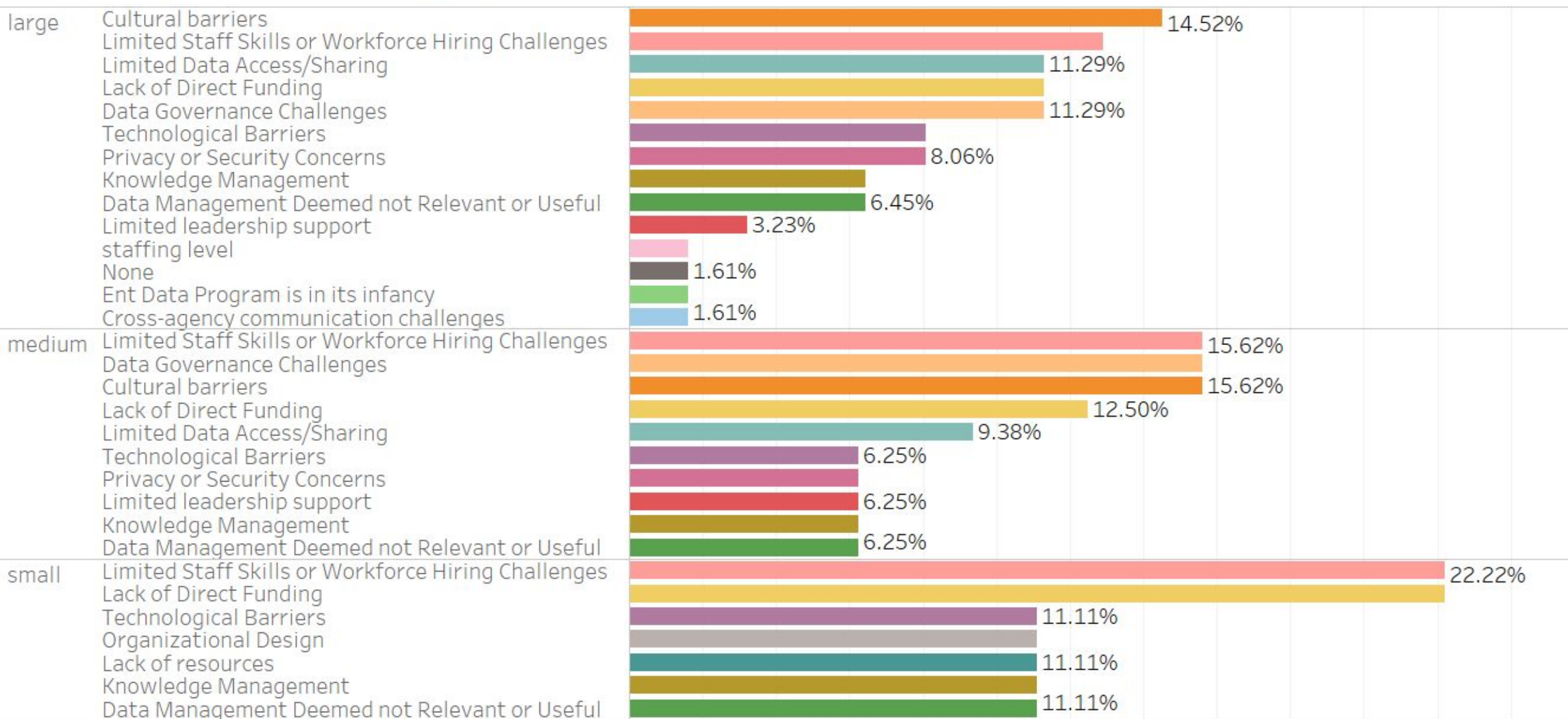
Small Size Agencies (in addition to above)

- Organizational Design
- Lack of Resources
- Knowledge Management

31. What do you view as the greatest obstacle(s) to using data to support your agency's mission? (check all that apply): - Selected Choice N = 103

	Large	Medium	Small
Top 3 most frequently cited obstacles (including ties)	<ul style="list-style-type: none"> • Cultural barriers • Limited staff skills or workforce hiring challenges • Limited data access/sharing • Lack of direct funding • Data governance challenges 	<ul style="list-style-type: none"> • Limited staff skills or workforce hiring challenges • Data governance challenges • Cultural barriers • Lack of direct funding • Limited data access/sharing 	<ul style="list-style-type: none"> • Limited staff skills or workforce hiring challenges • Lack of direct funding • Technological barriers • Organizational Design • Lack of resources • Knowledge management • Data management not deemed relevant or useful
Other obstacles mentioned	<ul style="list-style-type: none"> • Privacy or security concerns • Knowledge management • Data management not deemed relevant or useful • Limited leadership support • Staffing level • Enterprise data program is in its infancy • Cross-agency communication challenges 	<ul style="list-style-type: none"> • Technological barriers • Privacy or security concerns • Limited leadership support • Knowledge management • Data management not deemed relevant or useful 	

31. What do you view as the greatest obstacle(s) to using data to support your agency's mission? (check all that apply): - Selected Choice N = 103



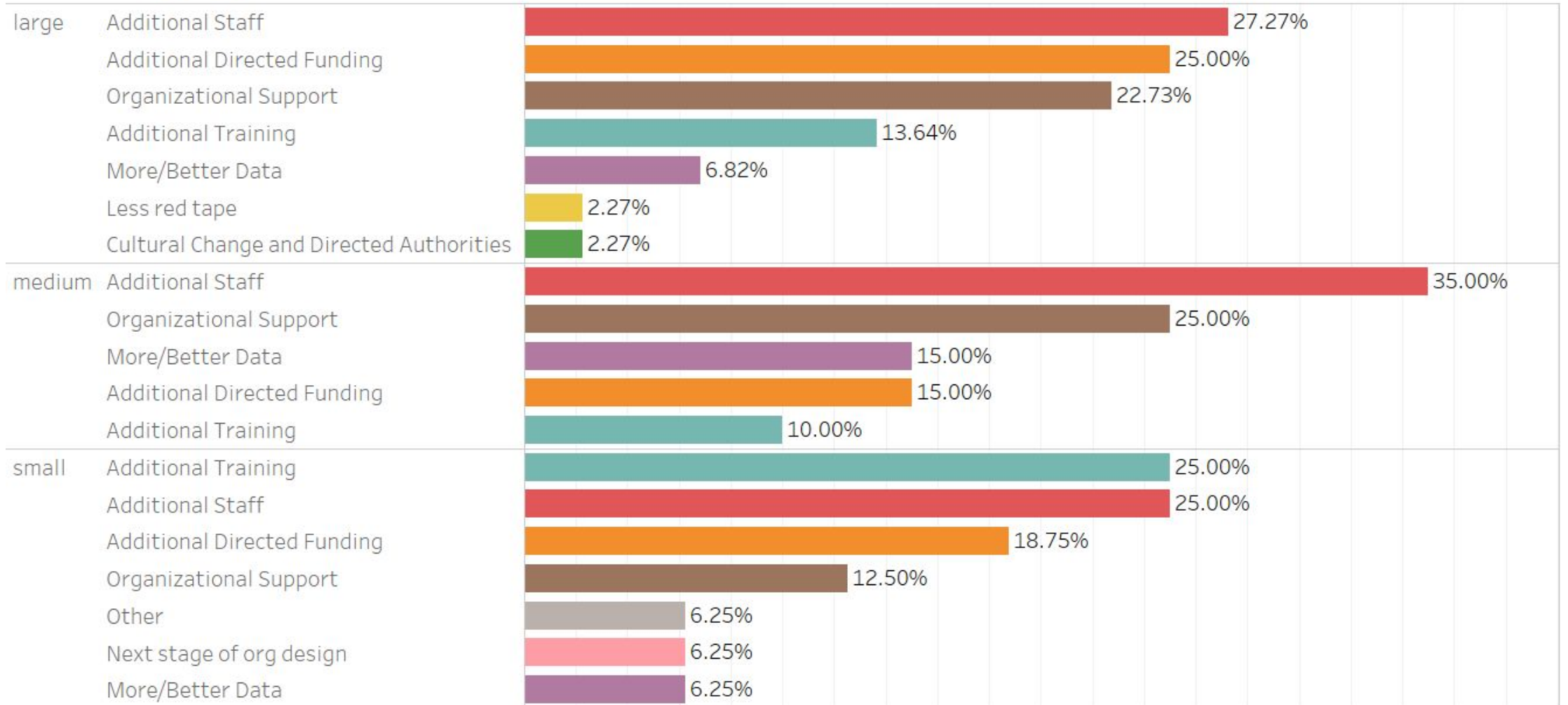
CDO Performance (Continued)

CDO role or Data Team Needs to be Successful (2023)

Large / Medium / Small Size Agencies

- Additional Staff
- Additional Direct Funding
- Organizational Support
- Additional Training (Small Size Agencies in addition to above)

32. What do you believe your agency's CDO role or data team needs to be successful? (check all that apply) - Selected Choice (N = 80)



CDO Enterprise Analytics

CDO and Oversight of Enterprise Analytics (EA):

Large Size Agencies

- Partner / Manager Responsibility in oversight of Enterprise Analytics
- Pilot implementation in EA platform across various components/ silos
- Pilot Integration of mission supported data (e.g. HR, finance, IT)
- Pilot Integration of mission specific data across divisions or component agencies at enterprise level.
- Pilot / Mature Implementation of enterprise-wide analytics and data dashboards

CDO Enterprise Analytics (Continued)

CDO and Oversight of Enterprise Analytics (EA):

Medium Size Agencies

- Mature implementation in EA platform
- Range from No Plans, Pilot – Planned – Mature Integration of mission supported data
- Mature integration of mission specific data across divisions or component agencies at enterprise level.
- Pilot / Mature Implementation of enterprise-wide analytics and data dashboards

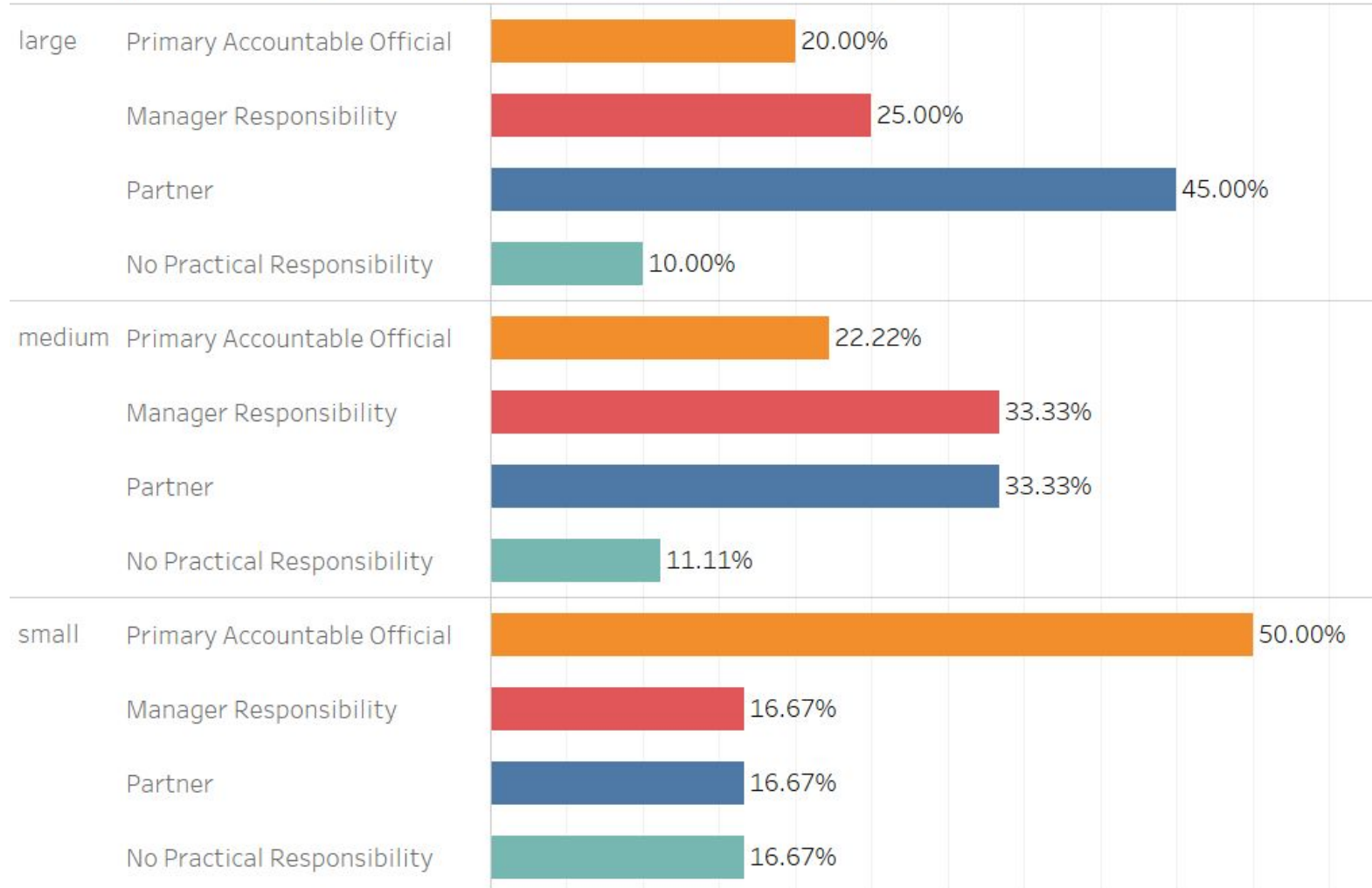
CDO Enterprise Analytics (Continued)

CDO and Oversight of Enterprise Analytics (EA):

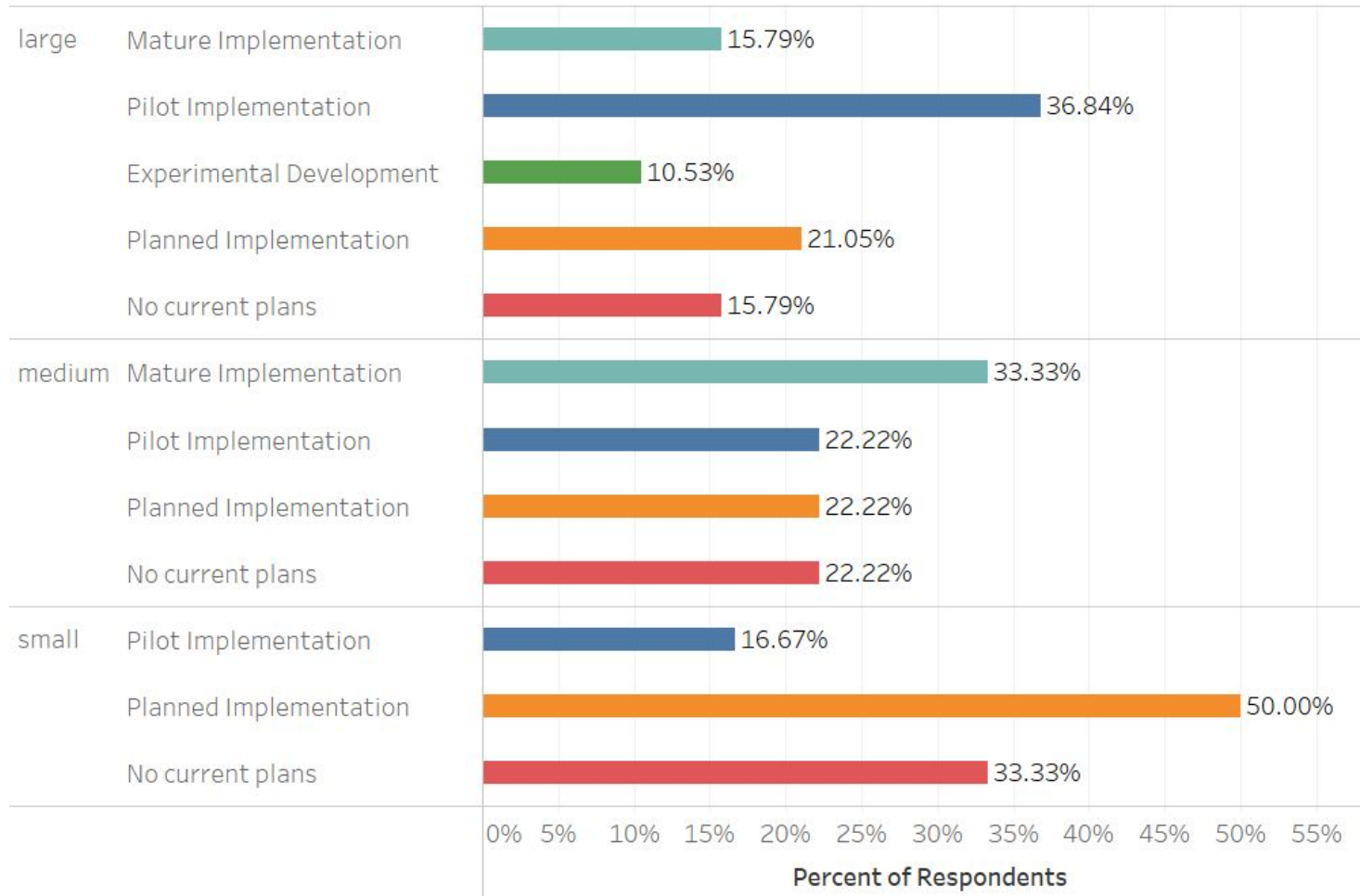
Small Size Agencies

- Primary Accountable Official in oversight of EA
- Planned implementation in EA platforms for integrating/ analyzing data
- No Current Plans for Integration of mission supported data
- No Current Plans/ Pilot Integration of mission specific data across divisions or component agencies at enterprise level.
- No Current Plans / Planning Implementation of enterprise-wide analytics and data dashboards

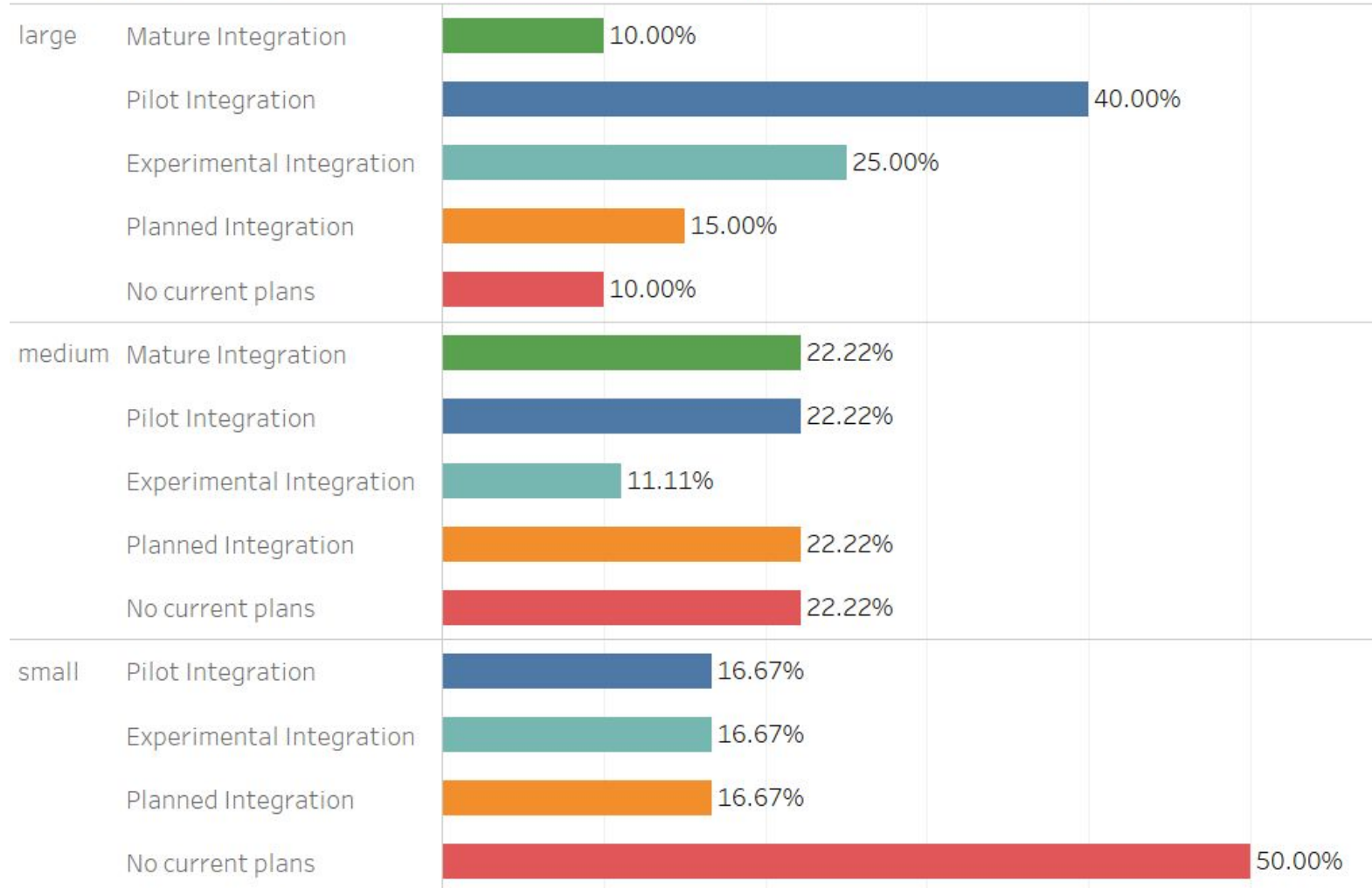
40. To what extent does your role as CDO involve oversight of enterprise analytics for your agency? (N = 35)



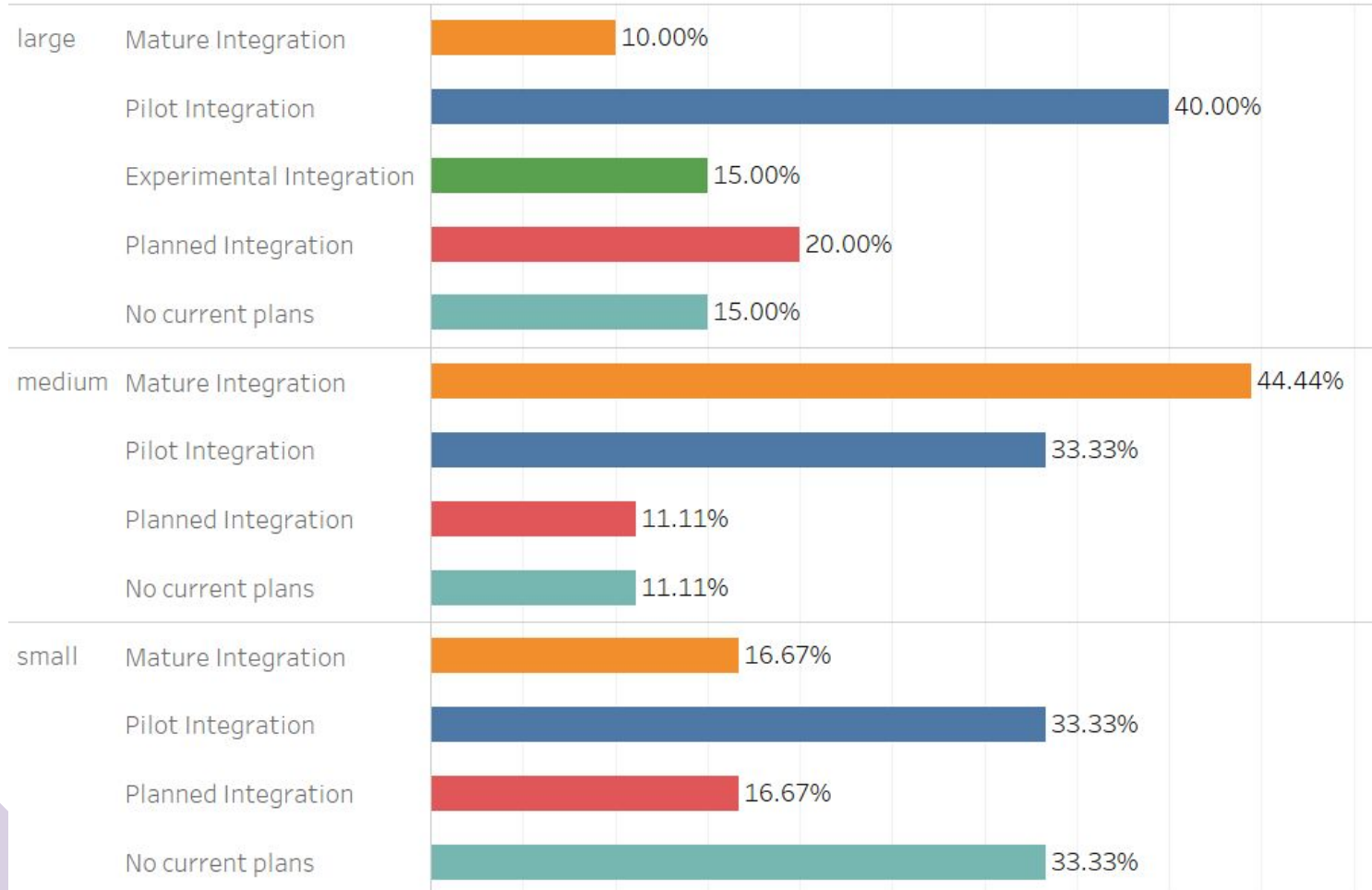
41. Has your agency implemented an enterprise analytics platform for integrating and analyzing data across various components and functional silos? (N = 34)



42. In your agency, how mature is the integration of mission-support data (e.g., HR, finance, IT) at the enterprise level? (N = 35)



43. In your agency, how mature is the integration of mission-specific data across divisions or component agencies at the enterprise level? (N = 35)



44. How mature is your agency's implementation of enterprise-wide analytics and data dashboards? (N = 33)

