

# Research Tools Completeness Score Report

NF-OSI

Date: 2025-11-18

This report provides a comprehensive analysis of the completeness scores for research tools and biobanks in the NF-OSI database.

Total Resources Analyzed: 1148  
Resource Types: 5

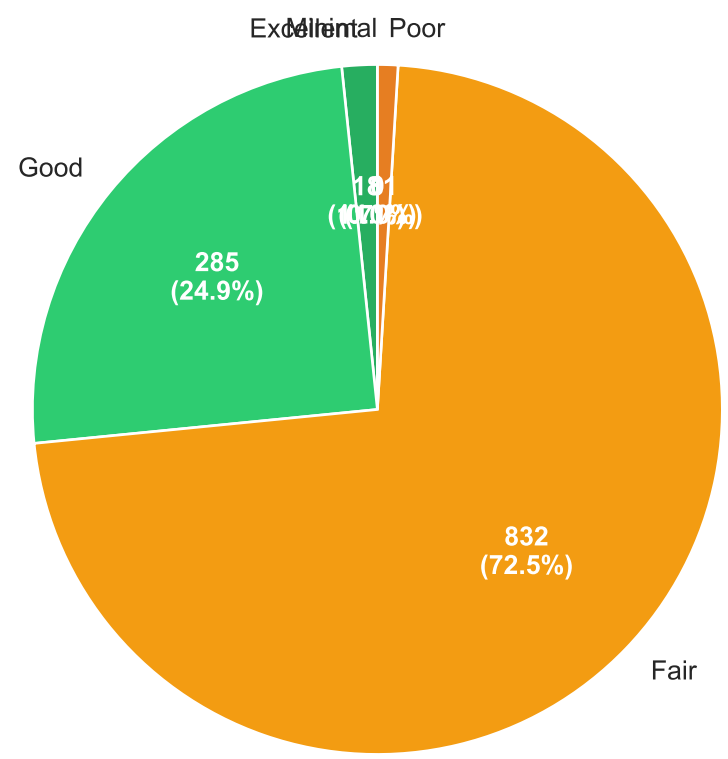
Scoring System (Total: 100 points):

- Availability (30 points): Biobank URL, vendor/developer info, RRID, and DOI
- Critical Info (30 points): Type-specific essential fields
- Other Info (15 points): Type-specific additional fields
- Observations (25 points): Scientific characterizations with DOI weighting

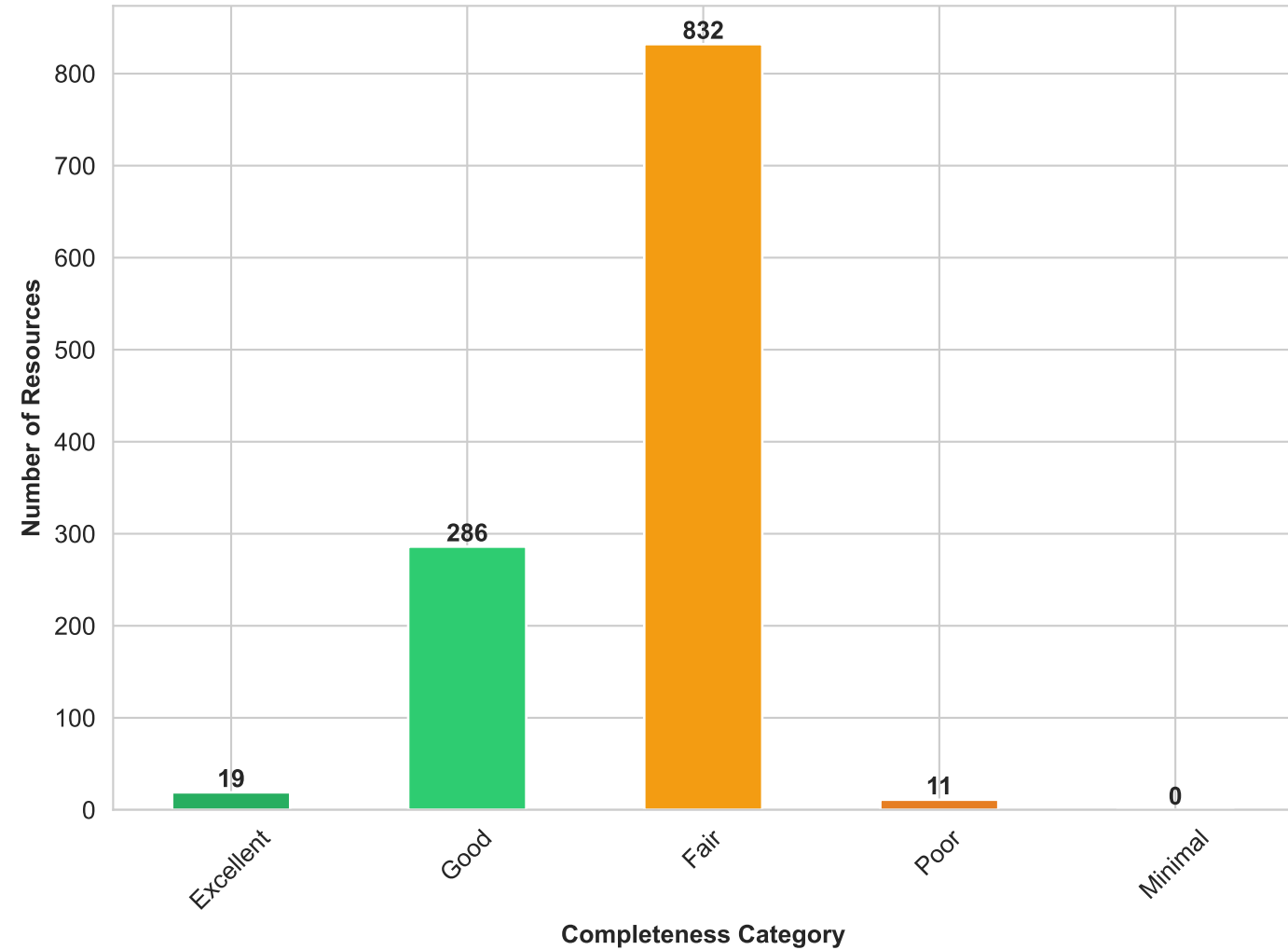
Completeness Categories:

- Excellent: 80+ points
- Good: 60-80 points
- Fair: 40-60 points
- Poor: 20-40 points
- Minimal: <20 points

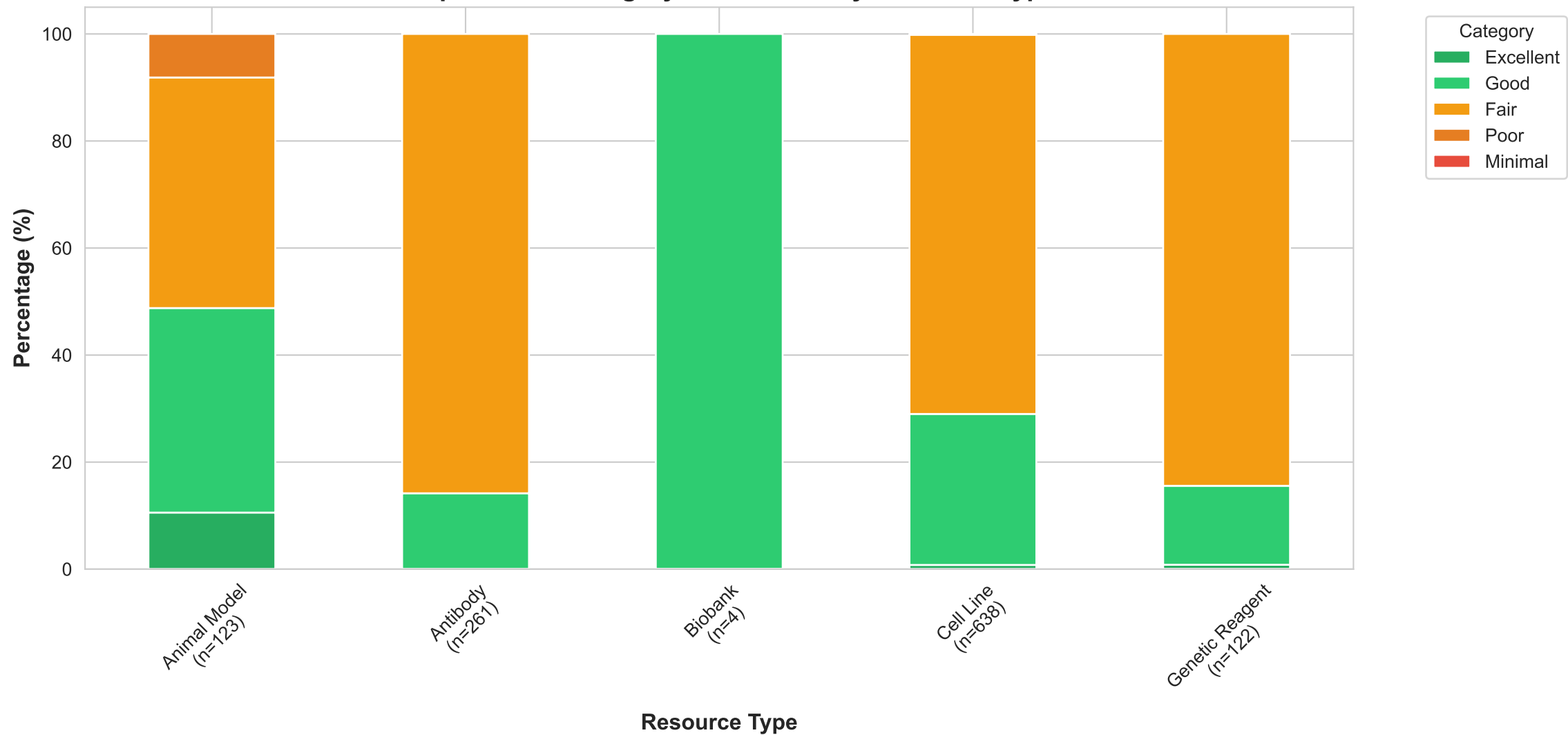
Overall Distribution of Completeness Categories  
Total: 1148 resources



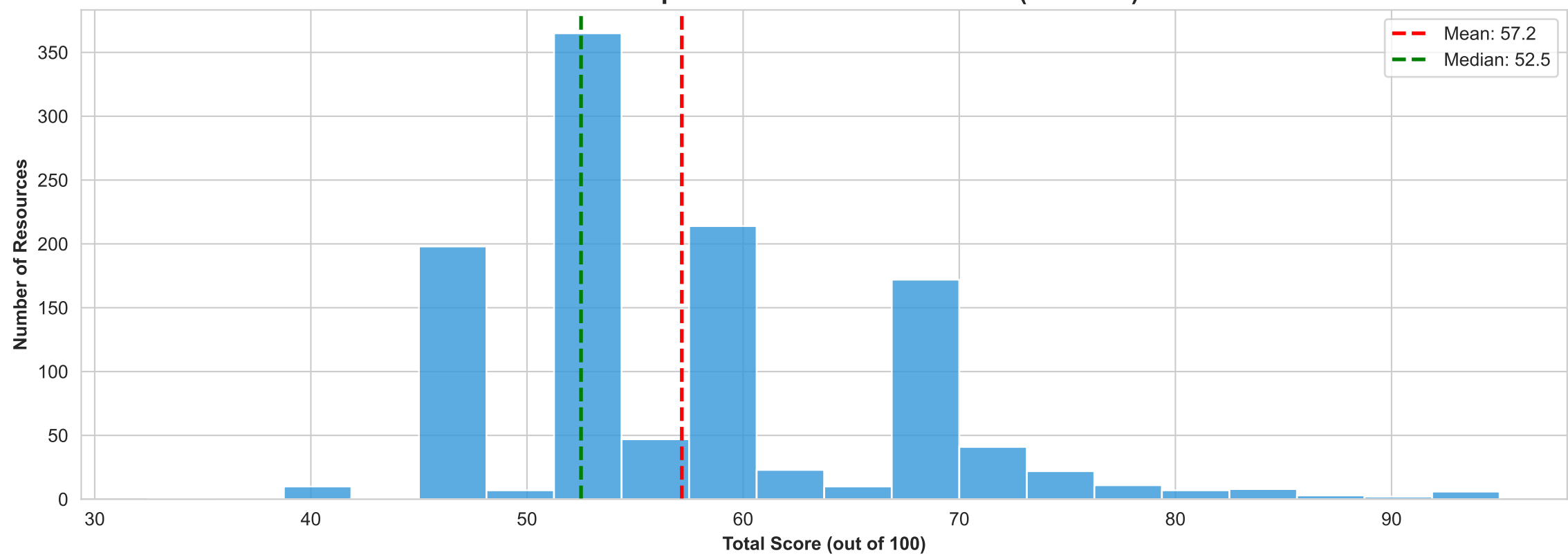
Completeness Category Counts



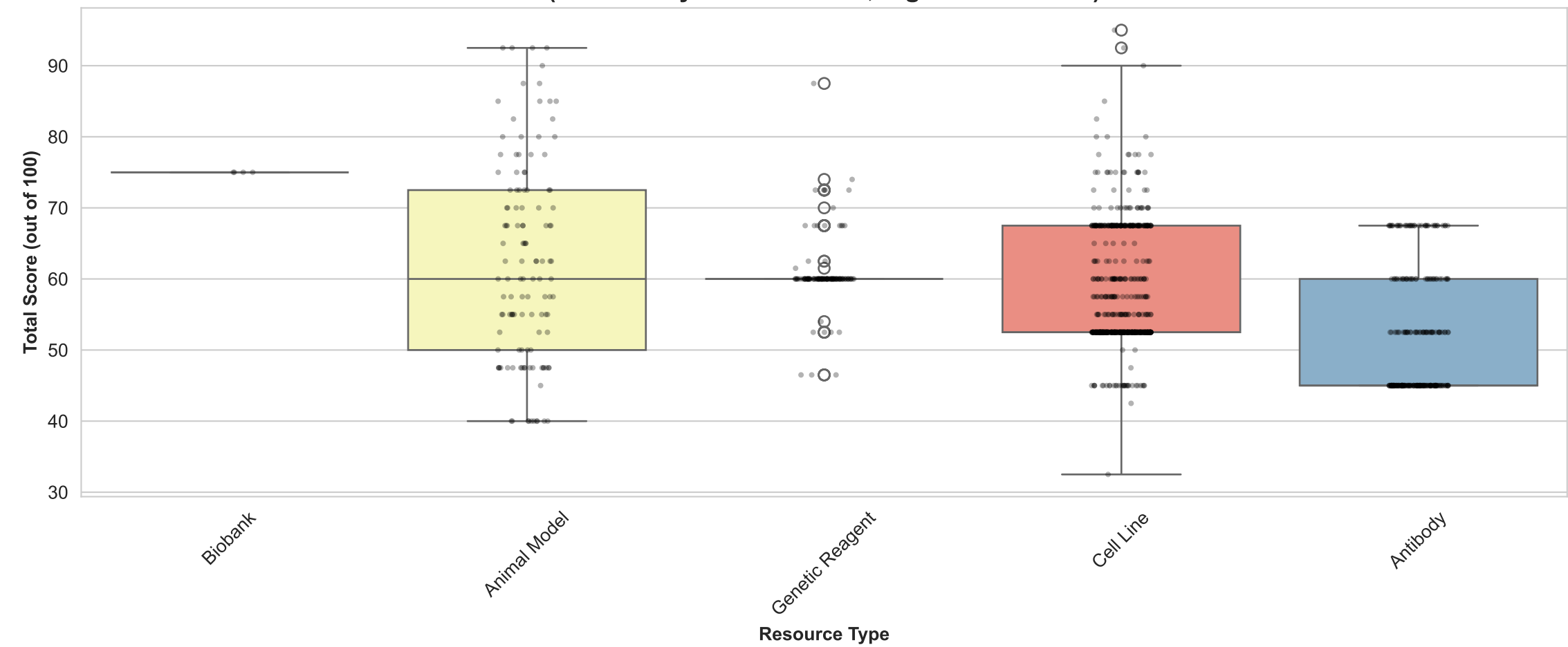
Completeness Category Distribution by Resource Type



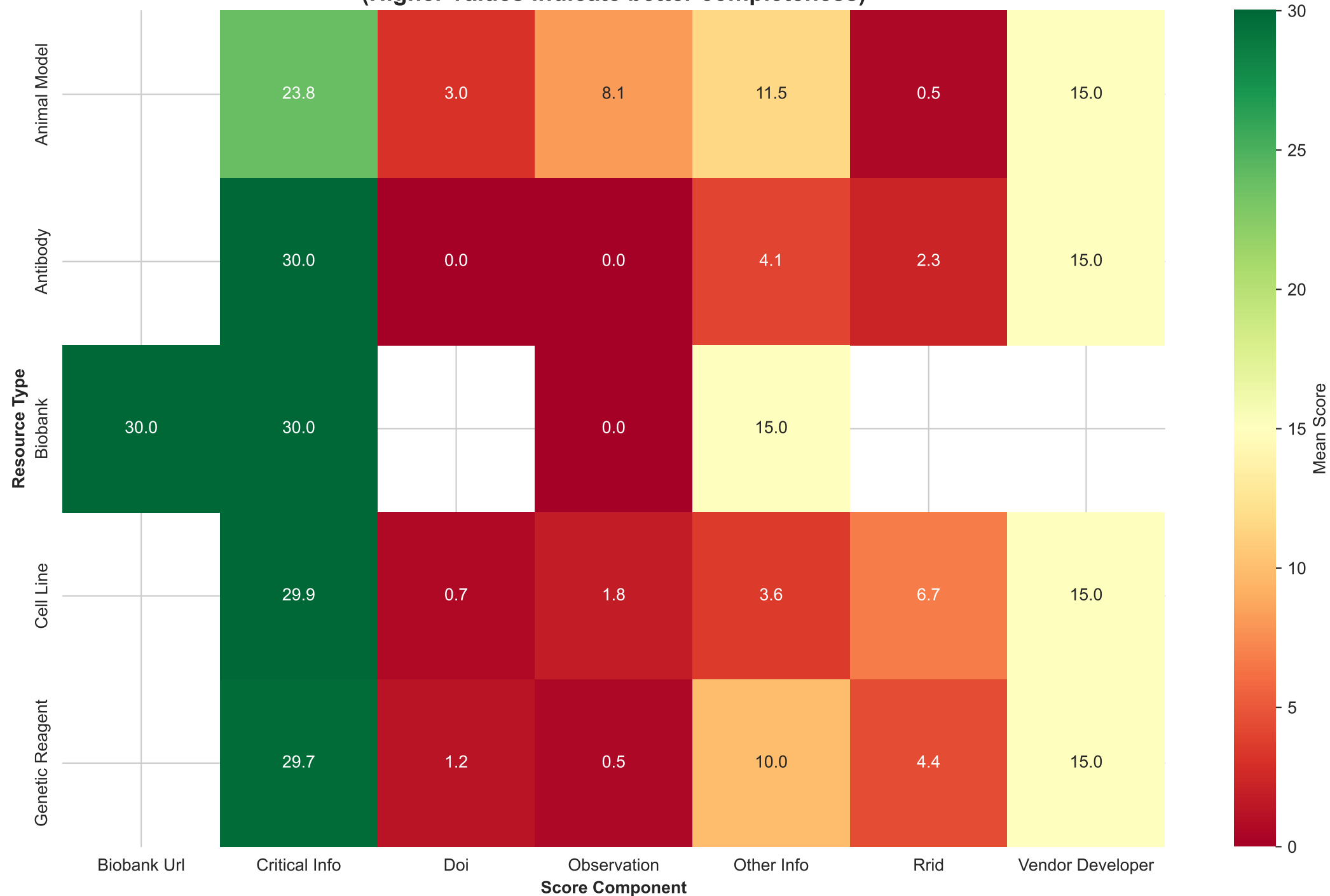
Overall Completeness Score Distribution (N = 1148)



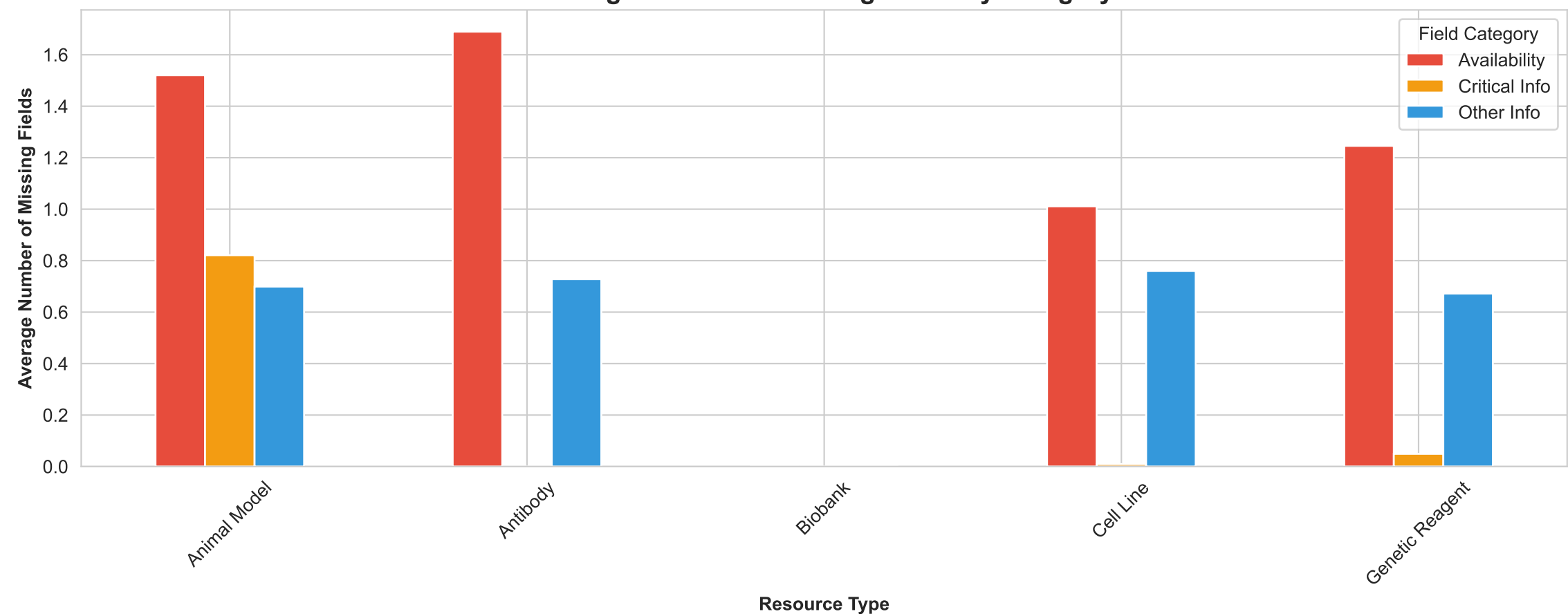
Completeness Score Distribution by Resource Type  
(Ordered by median score, highest to lowest)



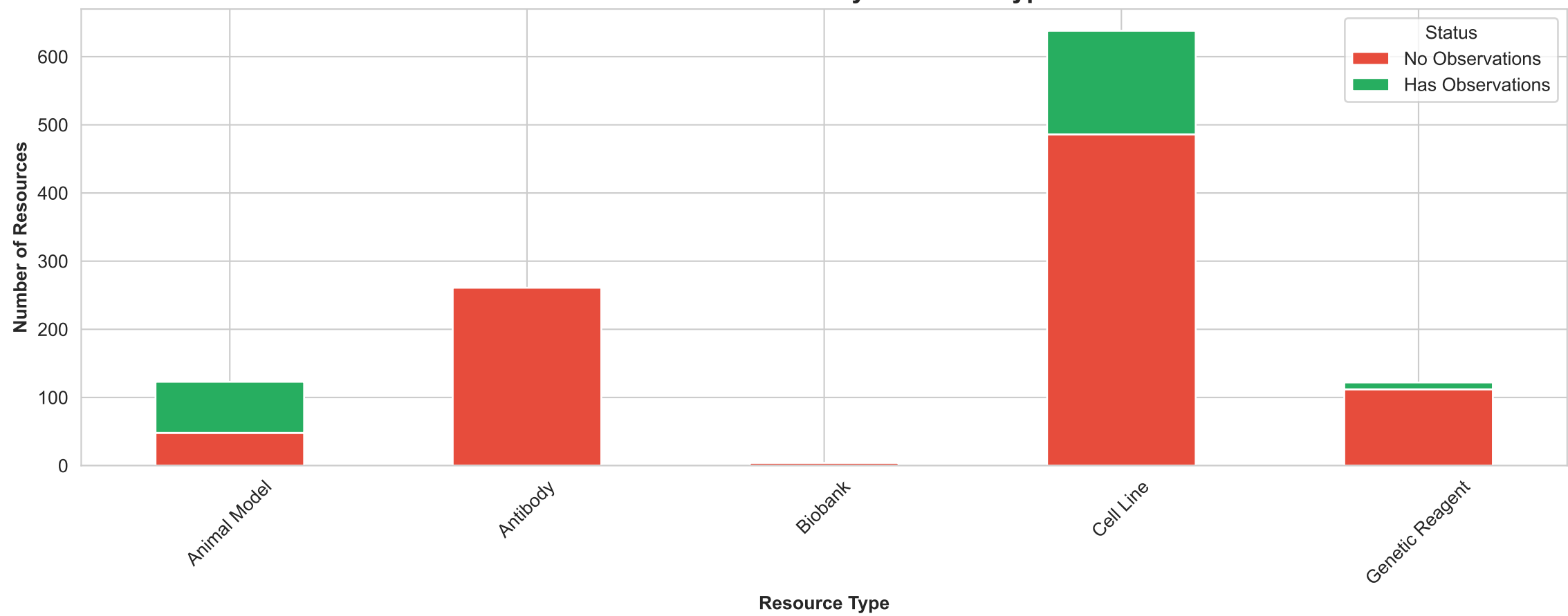
Mean Score by Component and Resource Type  
(Higher values indicate better completeness)



### Average Number of Missing Fields by Category



### Observation Status by Resource Type



Overall Summary Statistics

Metric	Value
Total Resources	1148.0
Mean Score	57.16
Median Score	52.5
Std Dev	9.48
Min Score	32.5
Max Score	95.0
Range	62.5

Summary Statistics by Resource Type

Resource Type	Count	Mean	Median	Std Dev	Min	Max
Biobank	4	75.0	75.0	0.0	75.0	75.0
Animal Model	123	62.07	60.0	14.05	40.0	92.5
Genetic Reagent	122	60.85	60.0	4.99	46.5	87.5
Cell Line	638	57.75	52.5	8.22	32.5	95.0
Antibody	261	51.41	45.0	8.35	45.0	67.5

Resources with 10 Lowest Scores

Resource Name	Type	RRID	Score	Category
HS-PSS	Cell Line	rrid:CVCL_8717	32.5	Poor
Krox20;Nf1flox/-	Animal Model	N/A	40.0	Poor
miR-155 +/-;Nf1flox/+	Animal Model	N/A	40.0	Poor
MPNST-Nf1-001	Animal Model	N/A	40.0	Poor
MPNST-Nf1-002	Animal Model	N/A	40.0	Poor
MPNST-SP-001	Animal Model	N/A	40.0	Poor
MPSNT-SP-002	Animal Model	N/A	40.0	Poor
Nf1 GEM	Animal Model	N/A	40.0	Poor
Nf1-/- Drosophila	Animal Model	N/A	40.0	Poor
Nf1Fcr	Animal Model	N/A	40.0	Poor

# Recommendations

Based on the analysis, here are key recommendations for improving resource completeness:

- 1. Focus on Low-Scoring Components**  
Identify which score components (availability, critical info, other info, observations) have the lowest average scores across resource types and prioritize filling those fields.
- 2. Resource Type Priorities**  
Target resource types with lower median scores for systematic improvement efforts. Review the boxplot and summary statistics to identify priorities.
- 3. Observation Documentation**  
Encourage researchers to submit observations with publication DOIs, as these contribute more points (7.5 vs 2.5) to the completeness score. Currently, many resources lack observations entirely.
- 4. RRID Registration**  
Ensure all resources have registered RRDs (Research Resource Identifiers) to improve findability and citation. This is worth 7.5 points in the availability category.
- 5. Vendor/Developer Information**  
Complete vendor or developer information for resources to improve availability scores. This accounts for 15 points in the scoring system.
- 6. Address Low-Scoring Resources**  
Prioritize improving these to reach at least "Fair" completeness status.
- 7. Type-Specific Fields**  
Review the critical info and other info fields specific to each resource type. These account for 45 points total and are often incomplete.
- 8. Regular Monitoring**  
Schedule regular reviews of completeness scores to track improvement over time and identify new resources that need attention.