Monkeypox Research Activity Tracker

Submitted by
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Contents

Introduction

- Monkeypox (Mpox):
  - Viral disease caused by monkeypox virus (species of the *Orthopoxvirus* genus)
  - Human-to-human and animal-to-human transmission
- Symptoms :
  - Rash, fever, sore throat, headache, muscle aches, back pain, low energy, swollen lymph nodes
- Prevalence:
  - 2024: 46,794 suspected and confirmed cases ; 1,081 suspected and confirmed deaths in 17 countries
- Complications:
  - Infections; serious skin damage (abscesses), sepsis
  - Pneumonia, myocarditis, encephalitis

Source:
Mpox, WHO, 2024
2022-24 Mpox Outbreak: Global Trends. Geneva: World Health Organization, 2024.

Purpose

- Documentation: easy access (all information is in one place at all times)
- Project Management: research prioritization, monitoring, resource planning & budget allocation
- Insights about research: focus areas, quality, progress, distribution, funding agencies, collaborators
- Interactive visualization are easy to navigate when compared to spreadsheets
- Identification of overlapping research: avoid repetition and promote innovative research
- Understand geographical distribution of research
- Research gap identification: underrepresented areas, timing gaps
- Coordination improvement

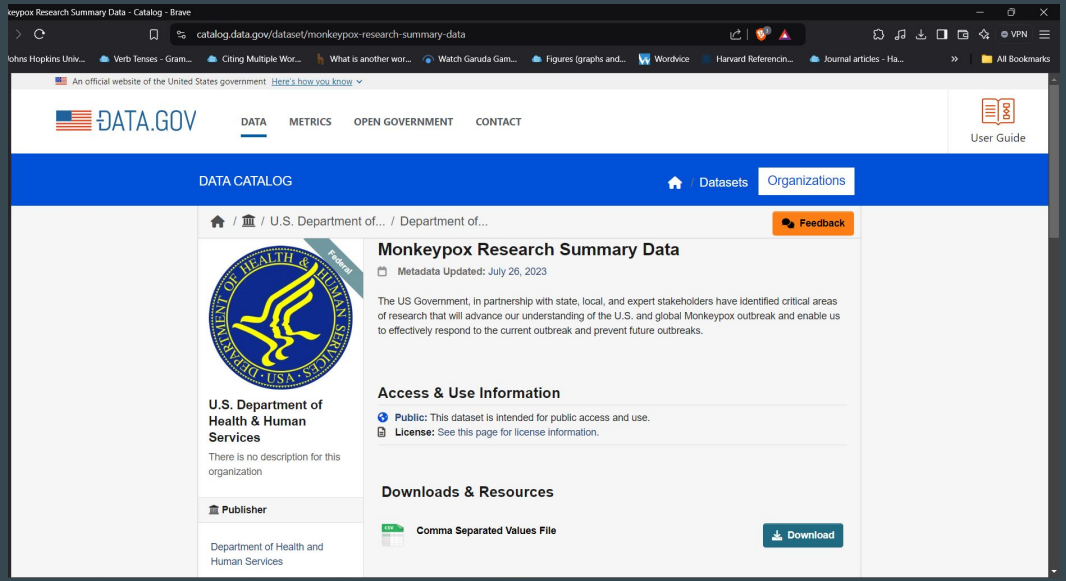
Purpose

End-users:

- Students
- Professors
- Research Administrators and Coordinators
- Public Health Officials
- Funding Agencies
- Policy Makers

Data- Source

File name: Monkeypox_Research_Summary_Data.csv
Organization: U.S. Department of Health & Human Services
Link: https://catalog.data.gov/dataset/monkeypox-research-summary-data



Data- Preprocessing

```
mp.info()
```

```
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RangeIndex: 71 entries, 0 to 70
Data columns (total 10 columns):
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 0   Research Activity                                       71 non-null     object
 1   Project Title
(and link to additional information, if available)  71 non-null     object
 2   Topic                                                   71 non-null     object
 3   Agency and Office Name                                  71 non-null     object
 4   Country(ies) in which research is/will be conducted     71 non-null     object
 5   Status                                                  71 non-null     object
 6   Upcoming Milestones                                     53 non-null     object
 7   Anticipated Completion                                  60 non-null     object
 8   Brief Description                                       71 non-null     object
 9   Project Link                                            16 non-null     object
dtypes: object(10)
memory usage: 5.7+ KB
```

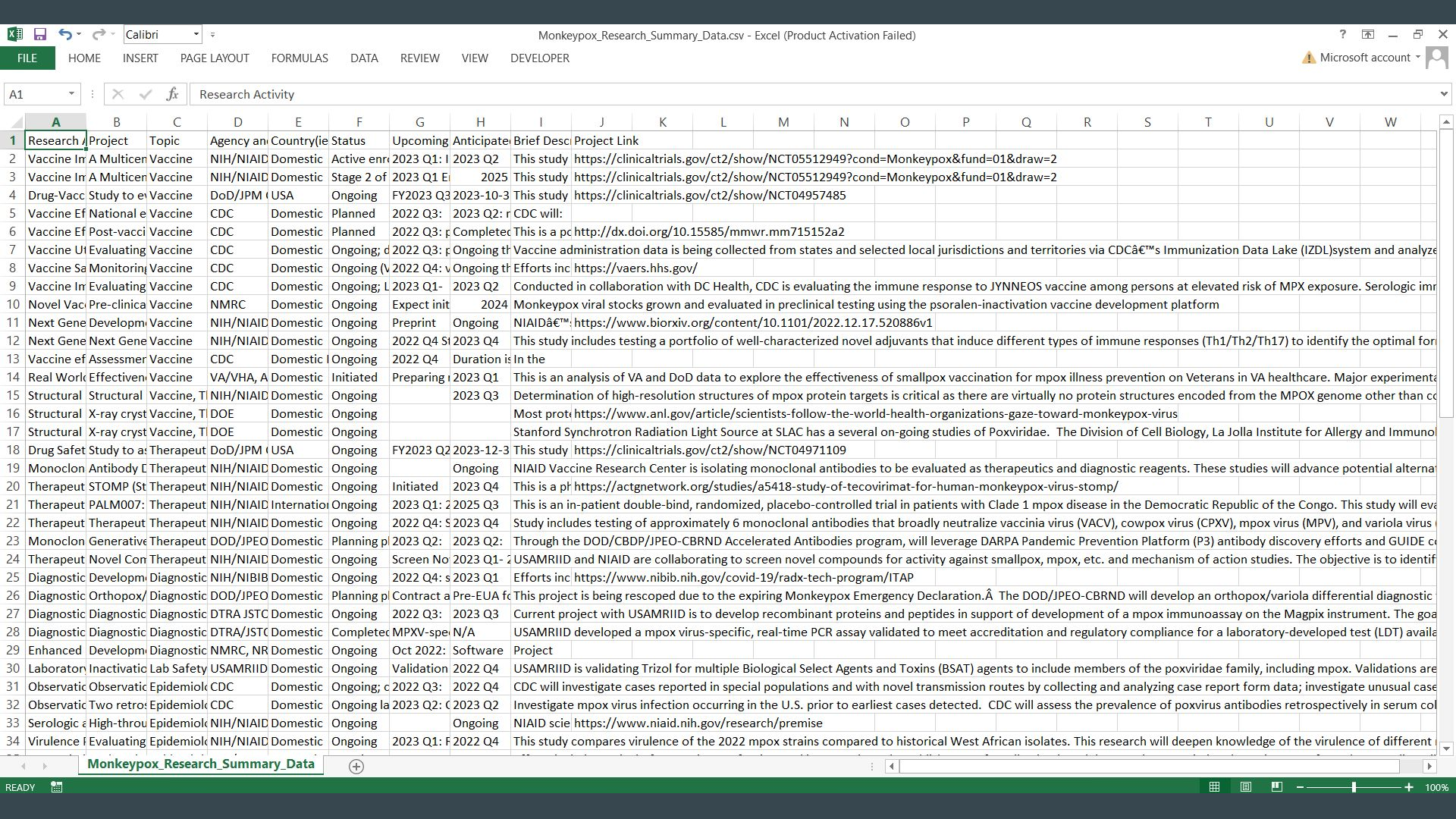

Monkeypox_Research_Summary_Data.csv - Excel (Product Activation Failed)

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FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DEVELOPER

Microsoft account

A1 Research Activity

	A	B	C	D	E	F	G	H	I	J
1	Research A	Project	Topic	Agency an	Country(ie	Status	Upcoming	Anticipate	Brief Desc	Project Link
2	Vaccine In	A Multicen	Vaccine	NIH/NIAID	Domestic	Active enr	2023 Q1: I	2023 Q2	This study	https://clinicaltrials.gov/ct2/show/NCT05512949?cond=Monkeypox&fund=01&draw=2
3	Vaccine In	A Multicen	Vaccine	NIH/NIAID	Domestic	Stage 2 of	2023 Q1 E	2025	This study	https://clinicaltrials.gov/ct2/show/NCT05512949?cond=Monkeypox&fund=01&draw=2
4	Drug-Vacc	Study to ev	Vaccine	DoD/JPM (	USA	Ongoing	FY2023 Q3	2023-10-3	This study	https://clinicaltrials.gov/ct2/show/NCT04957485
5	Vaccine Ef	National e	Vaccine	CDC	Domestic	Planned	2022 Q3:	2023 Q2: r	CDC will:	
6	Vaccine Ef	Post-vacci	Vaccine	CDC	Domestic	Planned	2022 Q3: p	Completec	This is a pc	http://dx.doi.org/10.15585/mmwr.mm715152a2
7	Vaccine UI	Evaluating	Vaccine	CDC	Domestic	Ongoing; d	2022 Q3: p	Ongoing th	Vaccine	administration data is being collected from states and selected local jurisdictions and territories via CDCâ€™s Immunization Data Lake (IZDL)system and analyze
8	Vaccine Sa	Monitoring	Vaccine	CDC	Domestic	Ongoing (V	2022 Q4: v	Ongoing th	Efforts inc	https://vaers.hhs.gov/
9	Vaccine In	Evaluating	Vaccine	CDC	Domestic	Ongoing; L	2023 Q1-	2023 Q2	Conducted	in collaboration with DC Health, CDC is evaluating the immune response to JYNNEOS vaccine among persons at elevated risk of MPX exposure. Serologic imr
10	Novel Vac	Pre-clinica	Vaccine	NMRC	Domestic	Ongoing	Expect init	2024	Monkeypox	viral stocks grown and evaluated in preclinical testing using the psoralen-inactivation vaccine development platform
11	Next Gene	Developm	Vaccine	NIH/NIAID	Domestic	Ongoing	Preprint	Ongoing	NIAIDâ€™:	https://www.biorxiv.org/content/10.1101/2022.12.17.520886v1
12	Next Gene	Next Gene	Vaccine	NIH/NIAID	Domestic	Ongoing	2022 Q4 St	2023 Q4	This study	includes testing a portfolio of well-characterized novel adjuvants that induce different types of immune responses (Th1/Th2/Th17) to identify the optimal for
13	Vaccine ef	Assessmer	Vaccine	CDC	Domestic I	Ongoing	2022 Q4	Duration is	In the	
14	Real Worl	Effectiven	Vaccine	VA/VHA, A	Domestic	Initiated	Preparing (	2023 Q1	This is an	analysis of VA and DoD data to explore the effectiveness of smallpox vaccination for mpox illness prevention on Veterans in VA healthcare. Major experimenta
15	Structural	Structural	Vaccine, T	NIH/NIAID	Domestic	Ongoing		2023 Q3	Determinat	ion of high-resolution structures of mpox protein targets is critical as there are virtually no protein structures encoded from the MPOX genome other than co
16	Structural	X-ray cryst	Vaccine, T	DOE	Domestic	Ongoing			Most prot	https://www.anl.gov/article/scientists-follow-the-world-health-organizations-gaze-toward-monkeypox-virus
17	Structural	X-ray cryst	Vaccine, T	DOE	Domestic	Ongoing			Stanford	Synchrotron Radiation Light Source at SLAC has a several on-going studies of Poxviridae. The Division of Cell Biology, La Jolla Institute for Allergy and Immunol
18	Drug Safet	Study to as	Therapeut	DoD/JPM (	USA	Ongoing	FY2023 Q2	2023-12-3	This study	https://clinicaltrials.gov/ct2/show/NCT04971109
19	Monoclon	Antibody D	Therapeut	NIH/NIAID	Domestic	Ongoing		Ongoing	NIAID	Vaccine Research Center is isolating monoclonal antibodies to be evaluated as therapeutics and diagnostic reagents. These studies will advance potential alterna
20	Therapeut	STOMP (St	Therapeut	NIH/NIAID	Domestic	Ongoing	Initiated	2023 Q4	This is a ph	https://actgnetwork.org/studies/a5418-study-of-tecovirimat-for-human-monkeypox-virus-stomp/
21	Therapeut	PALM007:	Therapeut	NIH/NIAID	Internatio	Ongoing	2023 Q1: 2	2025 Q3	This is an	in-patient double-bind, randomized, placebo-controlled trial in patients with Clade 1 mpox disease in the Democratic Republic of the Congo. This study will eva
22	Therapeut	Therapeut	Therapeut	NIH/NIAID	Domestic	Ongoing	2022 Q4: S	2023 Q4	Study	includes testing of approximately 6 monoclonal antibodies that broadly neutralize vaccinia virus (VACV), cowpox virus (CPXV), mpox virus (MPV), and variola virus
23	Monoclon	Generative	Therapeut	DOD/JPEO	Domestic	Planning pl	2023 Q2:	2023 Q2:	Through	the DOD/CBDP/JPEO-CBRND Accelerated Antibodies program, will leverage DARPA Pandemic Prevention Platform (P3) antibody discovery efforts and GUIDE c
24	Therapeut	Novel Con	Therapeut	NIH/NIAID	Domestic	Ongoing	Screen No	2023 Q1- 2	USAMRIID	and NIAID are collaborating to screen novel compounds for activity against smallpox, mpox, etc. and mechanism of action studies. The objective is to identif
25	Diagnostic	Developm	Diagnostic	NIH/NIBIB	Domestic	Ongoing	2022 Q4: s	2023 Q1	Efforts inc	https://www.nibib.nih.gov/covid-19/radx-tech-program/ITAP
26	Diagnostic	Orthopox/	Diagnostic	DOD/JPEO	Domestic	Planning pl	Contract a	Pre-EUA fo	This project	is being rescoped due to the expiring Monkeypox Emergency Declaration.Â The DOD/JPEO-CBRND will develop an orthopox/variola differential diagnostic
27	Diagnostic	Diagnostic	Diagnostic	DTRA JSTC	Domestic	Ongoing	2022 Q3:	2023 Q3	Current	project with USAMRIID is to develop recombinant proteins and peptides in support of development of a mpox immunoassay on the Magpix instrument. The goa
28	Diagnostic	Diagnostic	Diagnostic	DTRA/JSTC	Domestic	Completec	MPXV-spe	N/A	USAMRIID	developed a mpox virus-specific, real-time PCR assay validated to meet accreditation and regulatory compliance for a laboratory-developed test (LDT) availa
29	Enhanced	Developm	Diagnostic	NMRC, NR	Domestic	Ongoing	Oct 2022:	Software	Project	
30	Laboratori	Inactivatic	Lab Safety	USAMRIID	Domestic	Ongoing	Validation	2022 Q4	USAMRIID	is validating Trizol for multiple Biological Select Agents and Toxins (BSAT) agents to include members of the poxviridae family, including mpox. Validations are
31	Observatic	Observatic	Epidemiol	CDC	Domestic	Ongoing; c	2022 Q3:	2022 Q4	CDC will	investigate cases reported in special populations and with novel transmission routes by collecting and analyzing case report form data; investigate unusual case
32	Observatic	Two retros	Epidemiol	CDC	Domestic	Ongoing la	2023 Q2: C	2023 Q2	Investigate	mpox virus infection occurring in the U.S. prior to earliest cases detected. CDC will assess the prevalence of poxvirus antibodies retrospectively in serum col
33	Serologic a	High-throu	Epidemiol	NIH/NIAID	Domestic	Ongoing		Ongoing	NIAID scie	https://www.niaid.nih.gov/research/premise
34	Virulence I	Evaluating	Epidemiol	NIH/NIAID	Domestic	Ongoing	2023 Q1: F	2022 Q4	This study	compares virulence of the 2022 mpox strains compared to historical West African isolates. This research will deepen knowledge of the virulence of different

Monkeypox_Research_Summary_Data

READY

100%

Data- Preprocessing

Python:

1. Renaming columns
2. Dropping columns
3. Checking for null values
4. Checking for unique values
5. Export data

```
mp.rename(columns={'Project Title \n(and link to additional information, if available)':'Project Title',
                   'Country(ies) in which research is/will be conducted': 'Country'},inplace=True)
mp.drop(['Upcoming Milestones','Brief Description','Project Link'], axis=1, inplace=True)
```

```
mp.isnull().sum()
```

```
cols=['Research Activity', 'Topic', 'Agency and Office Name',
       'Country', 'Status', 'Anticipated Completion']

for column in cols:
    unique_values = mp[column].unique()
    print(f"Unique values in {column}: {unique_values}")
```

```
mp.to_excel('Monkeypox research data cleaned.xlsx' ,sheet_name='cleaned data')
```

Data- Preprocessing

```
mp.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 71 entries, 0 to 70
Data columns (total 7 columns):
 #   Column                  Non-Null Count  Dtype 
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 1   Project Title           71 non-null     object
 2   Topic                   71 non-null     object
 3   Agency and Office Name  71 non-null     object
 4   Country                 71 non-null     object
 5   Status                  71 non-null     object
 6   Anticipated Completion  60 non-null     object
dtypes: object(7)
memory usage: 4.0+ KB
```

Data- Preprocessing

```
mp
```

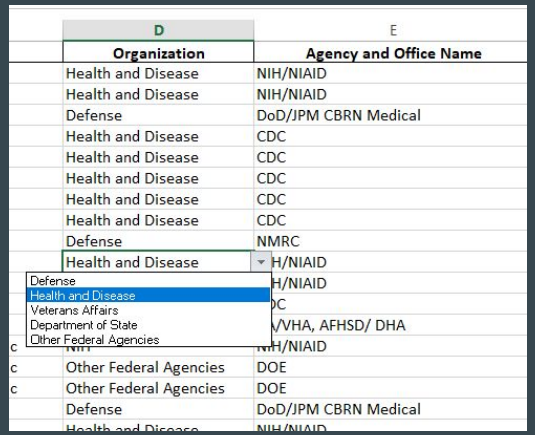
	Research Activity	Project Title	Topic	Agency and Office Name	Country	Status	Anticipated Completion
0	Vaccine Immunogenicity Study	A Multicenter Trial Evaluating Alterative Dosi...	Vaccine	NIH/NIAID	Domestic	Active enrolling (started 9/9/2022)	2023 Q2
1	Vaccine Immunogenicity Study (Vaccine)	A Multicenter Trial Evaluating Alterative Dosi...	Vaccine	NIH/NIAID	Domestic	Stage 2 of the above listed study.	2025
2	Drug-Vaccine Interaction Study	Study to evaluate the immunogenicity profile a...	Vaccine	DoD/JPM CBRN Medical	USA	Ongoing	2023-10-31T00:00:00.000
3	Vaccine Effectiveness Study	National estimates of post-licensure vaccine p...	Vaccine	CDC	Domestic	Planned	2023 Q2: multi-jurisdictional case-control study
4	Vaccine Effectiveness Case Series Evaluation	Post-vaccination case series	Vaccine	CDC	Domestic	Planned	Completed 2022 Q4
...	...	...	...	...	...	...	...
66	Serosurveys and Improved Serological Surveys	Development of a mpoxspecific immunoassay	Epidemiology	USDA Agricultural Research Service	TBD	Planned	TBD
67	Biosurveillance study	Mpox Threat Reduction Network (MPX-TRN): Using...	Epidemiology	DTRA-CTR/BTRP	International: Democratic Republic of Congo, U...	Ongoing	Base period ends: 2024 Q3
68	Education and Training	Sample Collection Training and Capacity Building	Education	WRAIR	International: West Africa	Closing out both training iterations	2023 Q3
69	International Training and equipment upgrades/...	Enhancing Biosafety and Biosecurity of High Co...	Education	DOS/ISN	International: DRC	Ongoing	2022 Q4
70	Computational and Bioinformatics support; Outr...	Computational and bioinformatics support for t...	Outreach	NIH/NIAID/NLM	Domestic and International	Ongoing	2023 Q1\nand ongoing

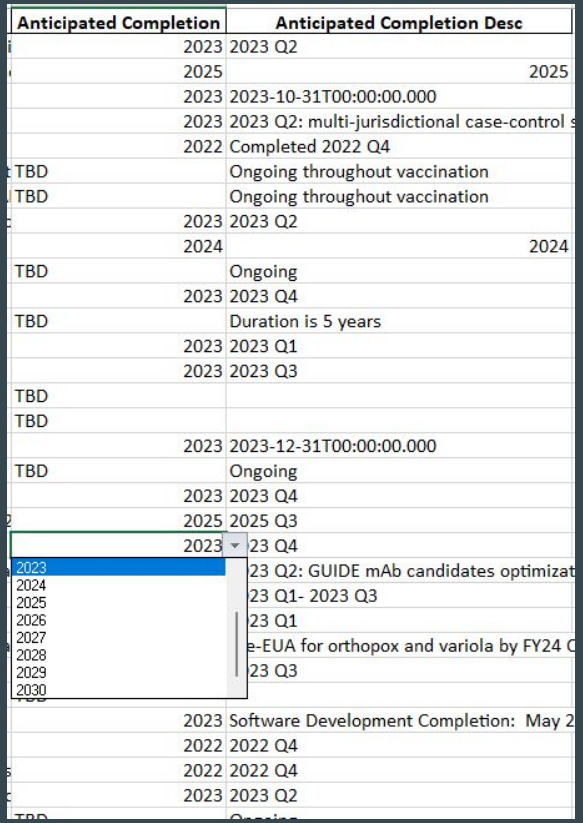
71 rows × 7 columns

Data- Preprocessing

MS Excel:

1. Grouping using data validation (lists)
2. Renaming columns





Country	CountryDesc
Domestic	Domestic
Domestic	Domestic
Domestic	USA
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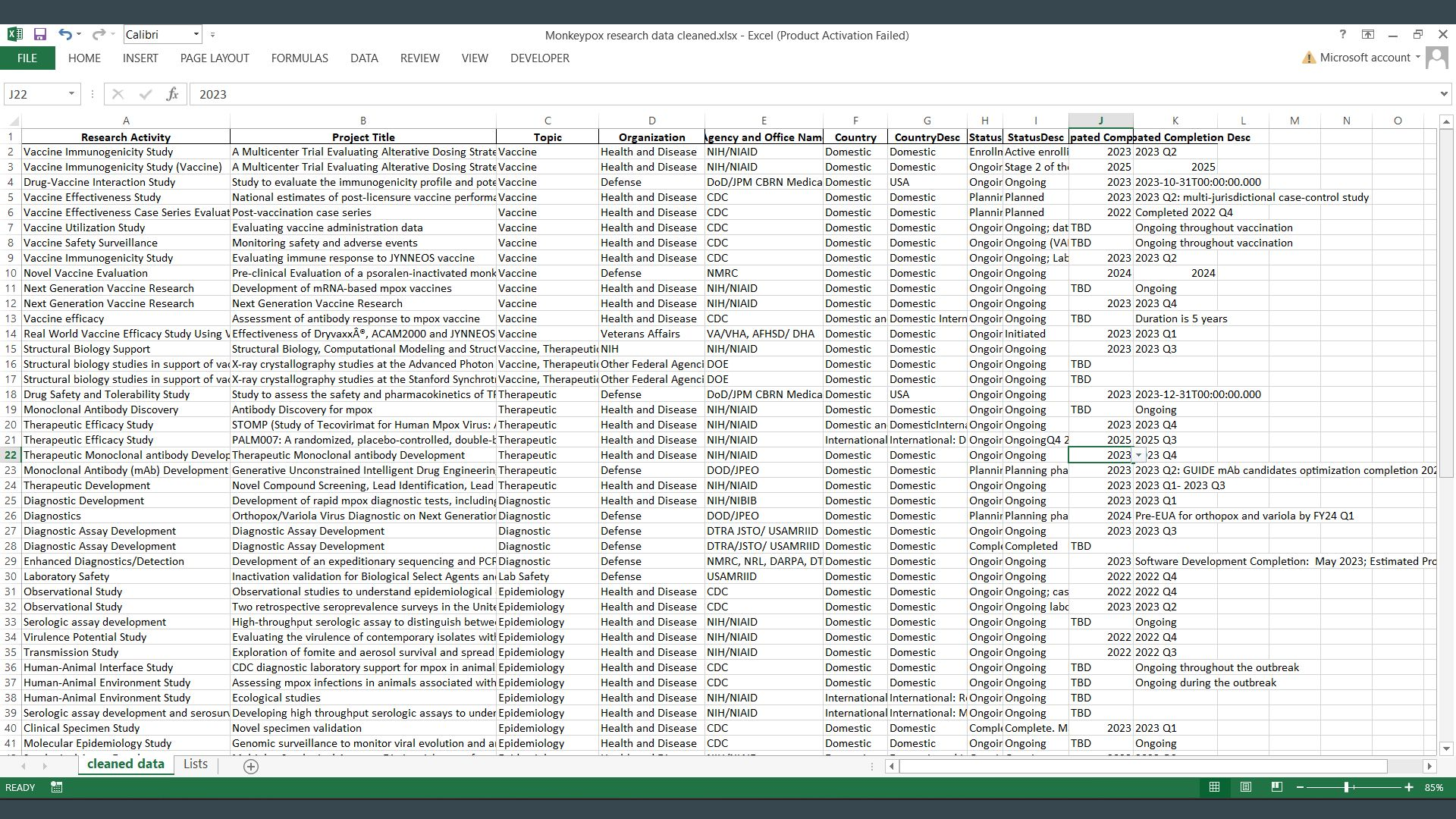
Domestic	Domestic
Domestic	Domestic
Domestic	Domestic
Domestic	Domestic
Domestic	Domestic
Domestic and International	Domestic International: DRC
Domestic	Domestic
Domestic	omestic
	omestic
	omestic
	SA
Domestic	Domestic
Domestic and International	DomesticInternational: Peru MexicoBrazil
International	International: DRC
Domestic	Domestic
Domestic	Domestic
Domestic	Domestic
Domestic	Domestic
Domestic	Domestic
Domestic	Domestic
Domestic	Domestic
Domestic	Domestic
Domestic	Domestic
Domestic	Domestic
Domestic	Domestic

Domestic
Domestic and International
International
TBD

Status	StatusDesc
Enrollment	Active enrolling (started 9/9/2022)
Ongoing	Stage 2 of the above listed study.
Ongoing	Ongoing
Planning	Planned
Planning	Planned
Ongoing	Ongoing; data analyzed weekly
Ongoing	Ongoing (VAERS and VSD)
Ongoing	Ongoing; Laboratory work is ongoing. Enrollment for 6-
Ongoing	Ongoing
Ongoing	Ongoing
Ongoing	Ongoing
Ongoing	Ongoing
Ongoing	Initiated
Ongoing	Ongoing
Ongoing	Ongoing
Ongoing	ngoing
	ngoing
	ngoing
	ngoing
Ongoing	OngoingQ4 2022: 1st site opened
Ongoing	Ongoing
Planning	Planning phases
Ongoing	Ongoing
Ongoing	Ongoing
Planning	Planning phases
Ongoing	Ongoing
Completed	Completed
Ongoing	Ongoing
Ongoing	Ongoing
Ongoing	Ongoing; case form data analyzed weekly; serosurveys
Ongoing	Ongoing laboratory work is complete, analysis ongoing

Planning
Enrollment
Ongoing
Completed



Monkeypox research data cleaned.xlsx - Excel (Product Activation Failed)

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Microsoft account

J22 2023

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Research Activity	Project Title	Topic	Organization	gency and Office Nam	Country	CountryDesc	Status	StatusDesc	pated Comp	pated Completion Desc				
2	Vaccine Immunogenicity Study	A Multicenter Trial Evaluating Alterative Dosing Strate	Vaccine	Health and Disease	NIH/NIAID	Domestic	Domestic	Enrolln	Active enrolli	2023	2023 Q2				
3	Vaccine Immunogenicity Study (Vaccine)	A Multicenter Trial Evaluating Alterative Dosing Strate	Vaccine	Health and Disease	NIH/NIAID	Domestic	Domestic	Ongoir	Stage 2 of th	2025	2025				
4	Drug-Vaccine Interaction Study	Study to evaluate the immunogenicity profile and pote	Vaccine	Defense	DoD/JPM CBRN Medica	Domestic	USA	Ongoir	Ongoing	2023	2023-10-31T00:00:00.000				
5	Vaccine Effectiveness Study	National estimates of post-licensure vaccine performa	Vaccine	Health and Disease	CDC	Domestic	Domestic	Plannir	Planned	2023	2023 Q2: multi-jurisdictional case-control study				
6	Vaccine Effectiveness Case Series Evaluat	Post-vaccination case series	Vaccine	Health and Disease	CDC	Domestic	Domestic	Plannir	Planned	2022	Completed 2022 Q4				
7	Vaccine Utilization Study	Evaluating vaccine administration data	Vaccine	Health and Disease	CDC	Domestic	Domestic	Ongoir	Ongoing; dat	TBD	Ongoing throughout vaccination				
8	Vaccine Safety Surveillance	Monitoring safety and adverse events	Vaccine	Health and Disease	CDC	Domestic	Domestic	Ongoir	Ongoing (VA	TBD	Ongoing throughout vaccination				
9	Vaccine Immunogenicity Study	Evaluating immune response to JYNNEOS vaccine	Vaccine	Health and Disease	CDC	Domestic	Domestic	Ongoir	Ongoing; Lab	2023	2023 Q2				
10	Novel Vaccine Evaluation	Pre-clinical Evaluation of a psoralen-inactivated monk	Vaccine	Defense	NMRC	Domestic	Domestic	Ongoir	Ongoing	2024	2024				
11	Next Generation Vaccine Research	Development of mRNA-based mpox vaccines	Vaccine	Health and Disease	NIH/NIAID	Domestic	Domestic	Ongoir	Ongoing	TBD	Ongoing				
12	Next Generation Vaccine Research	Next Generation Vaccine Research	Vaccine	Health and Disease	NIH/NIAID	Domestic	Domestic	Ongoir	Ongoing	2023	2023 Q4				
13	Vaccine efficacy	Assessment of antibody response to mpox vaccine	Vaccine	Health and Disease	CDC	Domestic an	Domestic Intern	Ongoir	Ongoing	TBD	Duration is 5 years				
14	Real World Vaccine Efficacy Study Using V	Effectiveness of DryvaxxÂ®, ACAM2000 and JYNNEOS	Vaccine	Veterans Affairs	VA/VHA, AFHSD/ DHA	Domestic	Domestic	Ongoir	Initiated	2023	2023 Q1				
15	Structural Biology Support	Structural Biology, Computational Modeling and Struct	Vaccine, Therapeuti	NIH	NIH/NIAID	Domestic	Domestic	Ongoir	Ongoing	2023	2023 Q3				
16	Structural biology studies in support of vac	X-ray crystallography studies at the Advanced Photon	Vaccine, Therapeuti	Other Federal Agenci	DOE	Domestic	Domestic	Ongoir	Ongoing	TBD					
17	Structural biology studies in support of vac	X-ray crystallography studies at the Stanford Synchroti	Vaccine, Therapeuti	Other Federal Agenci	DOE	Domestic	Domestic	Ongoir	Ongoing	TBD					
18	Drug Safety and Tolerability Study	Study to assess the safety and pharmacokinetics of TF	Therapeutic	Defense	DoD/JPM CBRN Medica	Domestic	USA	Ongoir	Ongoing	2023	2023-12-31T00:00:00.000				
19	Monoclonal Antibody Discovery	Antibody Discovery for mpox	Therapeutic	Health and Disease	NIH/NIAID	Domestic	Domestic	Ongoir	Ongoing	TBD	Ongoing				
20	Therapeutic Efficacy Study	STOMP (Study of Tecovirimat for Human Mpox Virus: /	Therapeutic	Health and Disease	NIH/NIAID	Domestic an	DomesticIntern	Ongoir	Ongoing	2023	2023 Q4				
21	Therapeutic Efficacy Study	PALM007: A randomized, placebo-controlled, double-b	Therapeutic	Health and Disease	NIH/NIAID	International	International: D	Ongoir	OngoingQ4 2	2025	2025 Q3				
22	Therapeutic Monoclonal antibody Develop	Therapeutic Monoclonal antibody Development	Therapeutic	Health and Disease	NIH/NIAID	Domestic	Domestic	Ongoir	Ongoing	2023	23 Q4				
23	Monoclonal Antibody (mAb) Development	Generative Unconstrained Intelligent Drug Engineerin	Therapeutic	Defense	DOD/JPEO	Domestic	Domestic	Plannir	Planning pha	2023	2023 Q2: GUIDE mAb candidates optimization completion 202				
24	Therapeutic Development	Novel Compound Screening, Lead Identification, Lead	Therapeutic	Health and Disease	NIH/NIAID	Domestic	Domestic	Ongoir	Ongoing	2023	2023 Q1- 2023 Q3				
25	Diagnostic Development	Development of rapid mpox diagnostic tests, including	Diagnostic	Health and Disease	NIH/NIBIB	Domestic	Domestic	Ongoir	Ongoing	2023	2023 Q1				
26	Diagnostics	Orthopox/Variola Virus Diagnostic on Next Generatior	Diagnostic	Defense	DOD/JPEO	Domestic	Domestic	Plannir	Planning pha	2024	Pre-EUA for orthopox and variola by FY24 Q1				
27	Diagnostic Assay Development	Diagnostic Assay Development	Diagnostic	Defense	DTRA JSTO/ USAMRIID	Domestic	Domestic	Ongoir	Ongoing	2023	2023 Q3				
28	Diagnostic Assay Development	Diagnostic Assay Development	Diagnostic	Defense	DTRA/JSTO/ USAMRIID	Domestic	Domestic	Compl	Completed	TBD					
29	Enhanced Diagnostics/Detection	Development of an expeditionary sequencing and PCF	Diagnostic	Defense	NMRC, NRL, DARPA, DT	Domestic	Domestic	Ongoir	Ongoing	2023	Software Development Completion: May 2023; Estimated Pro				
30	Laboratory Safety	Inactivation validation for Biological Select Agents an	Lab Safety	Defense	USAMRIID	Domestic	Domestic	Ongoir	Ongoing	2022	2022 Q4				
31	Observational Study	Observational studies to understand epidemiological	Epidemiology	Health and Disease	CDC	Domestic	Domestic	Ongoir	Ongoing; cas	2022	2022 Q4				
32	Observational Study	Two retrospective seroprevalence surveys in the Unite	Epidemiology	Health and Disease	CDC	Domestic	Domestic	Ongoir	Ongoing labo	2023	2023 Q2				
33	Serologic assay development	High-throughput serologic assay to distinguish betwe	Epidemiology	Health and Disease	NIH/NIAID	Domestic	Domestic	Ongoir	Ongoing	TBD	Ongoing				
34	Virulence Potential Study	Evaluating the virulence of contemporary isolates with	Epidemiology	Health and Disease	NIH/NIAID	Domestic	Domestic	Ongoir	Ongoing	2022	2022 Q4				
35	Transmission Study	Exploration of fomite and aerosol survival and spread	Epidemiology	Health and Disease	NIH/NIAID	Domestic	Domestic	Ongoir	Ongoing	2022	2022 Q3				
36	Human-Animal Interface Study	CDC diagnostic laboratory support for mpox in animal	Epidemiology	Health and Disease	CDC	Domestic	Domestic	Ongoir	Ongoing	TBD	Ongoing throughout the outbreak				
37	Human-Animal Environment Study	Assessing mpox infections in animals associated with	Epidemiology	Health and Disease	CDC	Domestic	Domestic	Ongoir	Ongoing	TBD	Ongoing during the outbreak				
38	Human-Animal Environment Study	Ecological studies	Epidemiology	Health and Disease	NIH/NIAID	International	International: R	Ongoir	Ongoing	TBD					
39	Serologic assay development and serosur	Developing high throughput serologic assays to under	Epidemiology	Health and Disease	NIH/NIAID	International	International: M	Ongoir	Ongoing	TBD					
40	Clinical Specimen Study	Novel specimen validation	Epidemiology	Health and Disease	CDC	Domestic	Domestic	Compl	Complete. M	2023	2023 Q1				
41	Molecular Epidemiology Study	Genomic surveillance to monitor viral evolution and a	Epidemiology	Health and Disease	CDC	Domestic	Domestic	Ongoir	Ongoing	TBD	Ongoing				

cleaned data Lists

READY

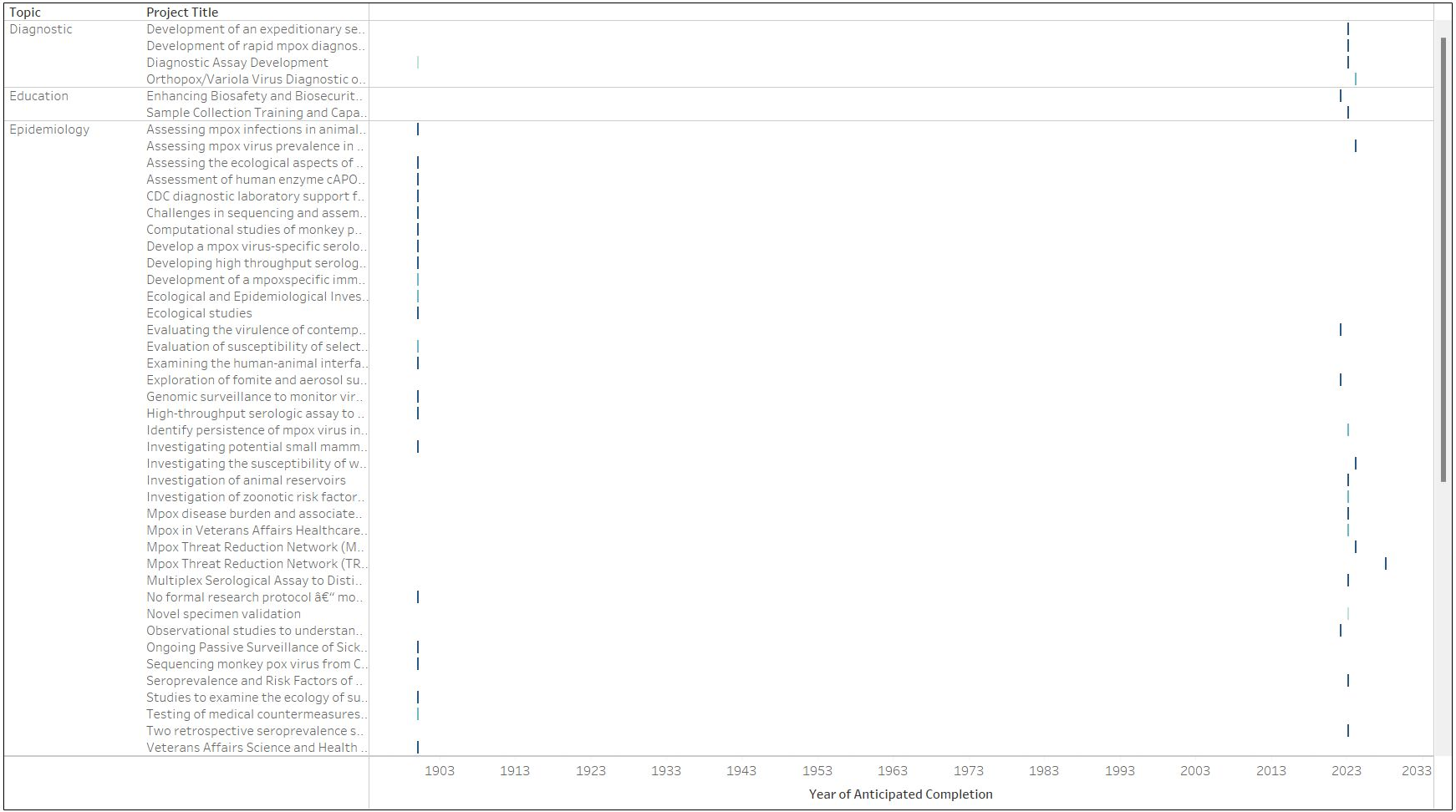
85%

Visualization

Tool used: Tableau

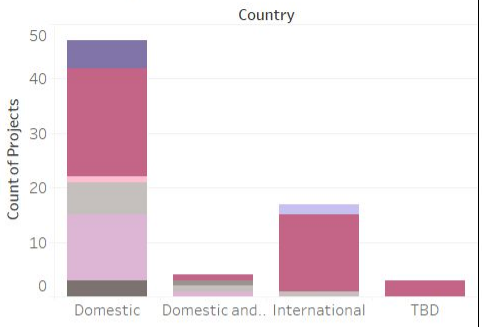
Visualization Title	Visualization Type
Research Activity Tracker	Gantt Chart
Geographic Research Distribution	Bar Chart
Research Status Overview	Pie Chart
Research Topic by Organization	Treemap
Research Topic Distribution	Packed Bubbles
Research Status and Completion	Bar Chart

Research Activity Tracker

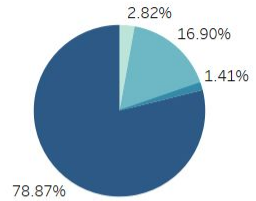


Research Activity & Distribution

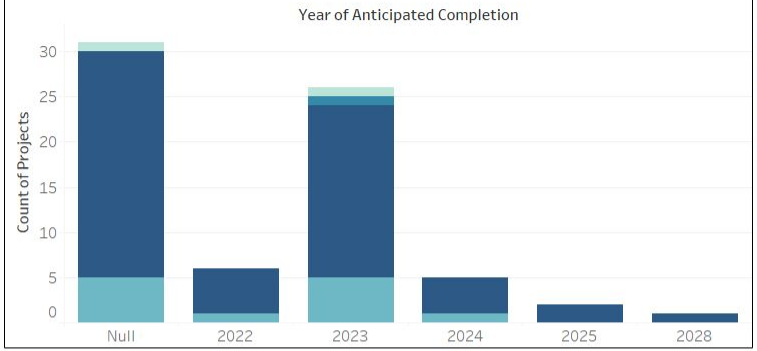
Geographic Research Distribution



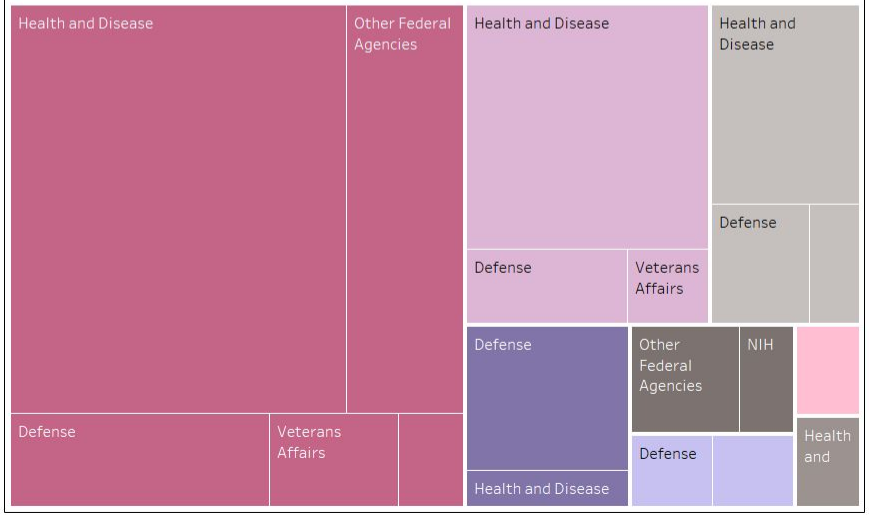
Research Status Overview



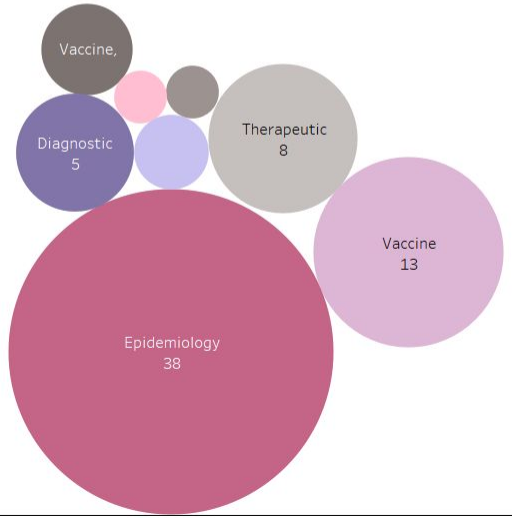
Research Status and Completion



Research Topic by Organization



Research Topic Distribution



Visualization- Key Insights

Geographic Research Distribution

- Domestic (US) research dominates with approximately 47 projects.
- Epidemiology is the most researched topic across all geographic categories.
- International research efforts focus heavily on epidemiology with minimal vaccine research.
- Domestic and International collaborative projects are limited.
- The "TBD" category suggests that some projects haven't finalized their geographic scope.
- Vaccine research appears to be concentrated primarily in domestic settings.

Visualization- Key Insights

Research Status Overview

- The vast majority (78.87%) of mpox research projects are currently "Ongoing".
- Only 2.82% of projects have been "Completed".
- 16.90% of projects are still in the "Planning" phase.
- A small percentage (1.41%) are in the "Enrollment" phase.
- This indicates that the research response is still very active but with minimal completed outcomes.

Visualization- Key Insights

Research Topic by Organization

- Health and Disease organizations lead epidemiology research (largest area)
- Defense organizations have a diverse research portfolio across multiple topics
- NIH appears to focus on therapeutic research
- Veterans Affairs has a relatively small research footprint
- Vaccine research is distributed across multiple organizations
- Other Federal Agencies have significant involvement in both epidemiology and therapeutic research
- Diagnostic research is primarily conducted by Defense organizations

Visualization- Key Insights

Research Topic Distribution

- Epidemiology is the dominant research focus (38 projects) followed by Vaccine research (13 projects).
- Therapeutic research is substantial (8 projects plus 3 additional projects).
- Diagnostic research has moderate representation (5 projects).
- Education (2 projects), Lab Safety (1 project), and Outreach (1 project) have minimal representation.
- The heavy focus on epidemiology suggests prioritization of understanding disease spread and transmission.
- The significant vaccine research indicates strong focus on prevention strategies.

Visualization- Key Insights

Research Status and Completion

- The "Null" category has the highest number of projects (about 30), with most being "Ongoing" and some in "Planning" stage, with a small portion "Completed".
- 2023 has the second-highest number of projects (about 25), mostly "Ongoing" with some in "Planning" and "Enrollment" stages.
- 2022 shows approximately 6 projects, primarily in the "Ongoing" category with some in "Enrollment".
- Future years (2024, 2025, 2028) show decreasing numbers of anticipated project completions.
- Very few projects appear to be fully "Completed" across all time periods.

Conclusion

A Research Activity Tracker can boost overall productivity, innovation and ensure smooth operation as well as appropriate resource allocation along with providing a reliable documentation (accessible to all) with an easy-to-use interface.

Limitations:

- Limited data: quantity, budget information, incomplete attributes
- No specific countries mentioned for all entries to study geographic distribution

References

- U.S. General Services Administration
- VaccinesWork
- European Centre for Disease Prevention and Control (ECDC) 2024
- 2024 Stack Exchange Inc

THANK YOU