

Flight Tracker Consortium Meeting

November 3, 2021



Meeting Agenda



What's New?

Public Access Compliance

Example Report Produced by Flight Tracker

What's Next?

Office Hours with ~~Rebecca~~ & Scott

Public Access Compliance



- Public Access Compliance is mandated by federal law.
 - Peer-reviewed articles citing national grants must receive a PubMed Central ID (PMC-ID) within **3 months** of publication.
- At Vanderbilt, we already had an internal system that notified us of NIH papers. However, papers with funding from other agencies (e.g., AHRQ, VA) did not have an automated system.
- **Thought:** Flight Tracker keeps track of publications and has a list of grants, so it might be able to help.
- Tedious but could be expedited.



Flight Tracker's Goals (3.11.0)

1. When a PMCID is missing in Flight Tracker, check with PubMed if one exists. If so, add it to Flight Tracker. Check **weekly**.
2. Add a page under the **Pubs** menu that shows the various states of papers.
3. Disregard all papers before April 1, 2008, because that's when the law came into effect.
4. No false alerts for papers that do not cite any grant funding.
5. Include all federal sources of grant support (including NIH).



Public Access Compliance Algorithm



- Place all publications in one of three color-coded bins.
- If a pub does not fit inside a bin, do not show (to avoid excess noise).
- Look up 10 records at a time including PubMed queries for NIHMS.

Color	For PMCIDs & Dates	For Grants
Green	(Not used.)	Grants are cited by this publication with associated funding sources.
Yellow	Not in compliance but within the 3-month window.	No grants are cited by this publication -or- the grant has an unknown funding source. Therefore, compliance may or may not be an issue with this publication.
Red	Not in compliance and out of the 3-month window.	(Not used.)

Public Access Compliance Example



Muktar Aliyu	PMID 34086250 No PMCID No NIHMS	08-2021 Strategies for Successful Clinical Trial Recruitment of People Living with HIV in Low- and Middle-Income Countries: Lessons Learned and Implementation Implications from the Nigeria Renal Risk Reduction (R3) Trial	J01DK112271 (NIH)
Muktar Aliyu	PMID 34058700 No PMCID No NIHMS	08-2021 Trends and predictors of eclampsia among singleton and multiple gestations in the United States, 1989-2018	None Cited.
Muktar Aliyu	PMID 34155960 No PMCID No NIHMS	06-22-2021 Correlates of human papillomavirus vaccine knowledge and acceptability among medical and allied health students in Northern Nigeria	None Cited.
Muktar Aliyu	PMID 34109912 No PMCID No NIHMS	06-07-2021 Correlates of infant feeding practices among HIV-positive mothers and controls in northeast Nigeria	None Cited.
Muktar Aliyu	PMID 34109911 No PMCID No NIHMS	06-07-2021 Prevention of Mother-to-Child HIV Transmission in Nigeria: Six Years Experience from a Tertiary Institution	None Cited.
Muktar Aliyu	PMID 33823562 No PMCID No NIHMS	06-2021 Pregnancy outcomes among Asian Americans of advanced maternal age, 1992-2018	None Cited.
Muktar Aliyu	PMID 32754847 No PMCID No NIHMS	06-2021 Trends and Racial/Ethnic Disparities in the Rates of Pre-eclampsia by HIV Status in the US	T16MC029831 (Other)

No PMCID but within 3-month window

Federal grant appropriately cited.

Not seen: Grants with PMCIDs in compliance

No PMCID but OUTSIDE 3-month window

No grants cited. Could be error; could not be?

NIHMS = NIH Manuscript System (submitted without a PMCID)

Grant from unknown source cited → research?

Public Access Compliance - Next



- We're still exploring and optimizing this tool.
- Will probably add a feature to send an email to a scholar about questionable papers.
- Note: Only scholars can fix this by submitting to the NIH Manuscript system. Administrators cannot fix this for them!



We're open to your suggestions.

Meeting Needs with Flight Tracker



- Flight Tracker obviously assists when it comes to reporting tools – like NIH Training Tables or Public Access Compliance.
- It's also helpful to have all the information in one place whenever you need it.
- We're still discovering new avenues to use tracking to benefit an institution.
- Today, we'll share a project Verna Wright and I did together this month to meet a Vanderbilt need.



Research Question



- A faculty member who oversees a department of researchers emailed us with a question. She was writing up a proposal to senior leadership at the medical center. She was asking for **another faculty position to oversee** a medium-sized group of researchers and clinicians.
- She “knew” that this group had a lot of **activity** together, but needed a concrete way to communicate this fact.
- She needed evidence to **validate** that the necessity exists for additional administrative leadership.



Our Response



1. Verna & I asked for a **list of names and institutions** (not home institution) and created a Flight Tracker instance on the REDCap server.
2. On the Flight Tracker Home page, we set it up to **download all data** for this project **overnight** (to speed things up).

A screenshot of the 'Status' page in the Flight Tracker interface. The page has a light blue background and a dark blue header with the word 'Status' and an information icon. Below the header, there are two columns of text. The left column says 'Last Summary of Data' followed by 'Today'. The right column says 'Last LDAP Directory Pull' followed by '5 Days Ago'. At the bottom center, there is a link that says 'Click to Run All Updates Tonight' with a subtext '(Otherwise, updates will run over the course of the week.)'. A red arrow points from the left edge of the screenshot towards this link.

Our Response



- 3. We stepped through and **wrangled Publications and Grants**. We also looked for **“holes”** in the data where names might not have been matched properly. When we found a hole, we researched how PubMed used the name and then corrected the name in Flight Tracker. We did a comprehensive download again.
- 4. Expanded Format:
First (Nickname) Maiden-Last
Exploded into all variations for search purposes.

DISTRICT OF NEW-YORK.—PORT OF NEW-YORK.

I, *James Giltner*, do solemnly, sincerely and truly *Swear*, that the following List or Manifest of Passengers, subscribed with my name, and now delivered by me to the Collector of the Customs for the District of New-York, contains to the best of my knowledge and belief a just and true account of all the Passengers received on board the *Ship Hector* whereof I am master from *Newport* So help me God.

Sworn to, the *5* January 186*5*
Before me, *J. Mearns, J.C.C.*

LIST OR MANIFEST of all the Passengers taken on board the *Ship Hector* Burthen *980* Tons, whereof *James Giltner* is master from *Newport*

NAMES.	Age.		Sex.	Occupation.	The country to which they are bound.		Died on the Voyage.
	Years.	Months.			The country to which they are bound in second destination.	The country to which they are bound in second destination.	
<i>Samuel Horvath</i>	<i>29</i>	<i>11</i>	<i>M</i>	<i>Merchant</i>	<i>United States</i>	<i>United States</i>	
<i>Robert Smith</i>	<i>110</i>	<i>2</i>	<i>M</i>	<i>Ship-master</i>	<i>Great Britain</i>	<i>Great Britain</i>	
<i>Samuel Wright</i>	<i>21</i>	<i>8</i>	<i>M</i>	<i>Merchant</i>	<i>United States</i>	<i>United States</i>	
<i>Thomas Lewis</i>	<i>57</i>	<i>6</i>	<i>M</i>	<i>Seaman</i>	<i>France</i>	<i>France</i>	
<i>John Lyman</i>	<i>19</i>	<i>3</i>	<i>M</i>	<i>Seaman</i>	<i>United States</i>	<i>United States</i>	
<i>George Godman</i>	<i>27</i>	<i>9</i>	<i>M</i>	<i>Merchant</i>	<i>New York</i>	<i>New York</i>	
<i>John P. de Lage</i>	<i>26</i>	<i>3</i>	<i>M</i>	<i>Seaman</i>	<i>United States</i>	<i>United States</i>	
<i>Samuel Van Rensselaer</i>	<i>26</i>	<i>3</i>	<i>M</i>	<i>Seaman</i>	<i>Great Britain</i>	<i>Great Britain</i>	
<i>Felix Brown</i>	<i>35</i>	<i>2</i>	<i>M</i>	<i>Seaman</i>	<i>Great Britain</i>	<i>Great Britain</i>	
<i>John Johnson</i>	<i>40</i>	<i>7</i>	<i>M</i>	<i>Merchant</i>	<i>United States</i>	<i>United States</i>	
<i>James Johnson</i>	<i>35</i>	<i>1</i>	<i>M</i>	<i>Seaman</i>	<i>United States</i>	<i>United States</i>	

James Giltner

Our Response



5. We looked at every graph in the **Pubs** and **Grants** menus. Some fit, some didn't.
6. We grabbed **screenshots** of every image that we saw had any potential use and put them all in a MS Word document.
7. We provided **written interpretations** for each image and explained why we thought it was relevant to her situation.
8. Finally, we emailed her back the Word document and asked for any follow-up work we could do.



It took about **1-2 weeks** on-and-off to complete.

She mentioned this report to another faculty member, and he requested a similar report be done for one of his groups.

The Report



We had to channel our **inner statisticians**. When I was young, I loved following all the statistics that ESPN produced on baseball. The numbers brought the sports to life. As a fan of sports statistics, I would say that our task is far more rewarding. Flight Tracker allows us to track and amplify the quest and efforts of individuals who are **transforming the world** through science and research.



The Report by the Numbers



- **106 faculty**
- Verified **2,992 publications and 204 separate grants**. Data wrangled so that these represent, if anything, an undercount, not an overcount.
- **3 word clouds** of publications
- **1 bar chart of Relative Citation Ratios** of publications (quality of publications)
- **2 social network graphs** (collaboration on grants & publications)
- Total **grant dollars** all-time (NIH, federal, and all)
- **1+** paragraphs on each chart/diagram/graph to provide professional **interpretation**

The Report – Grants Cited



(WordCloud limited to the top 200 terms selected)



The Report – Relative Citation Ratio



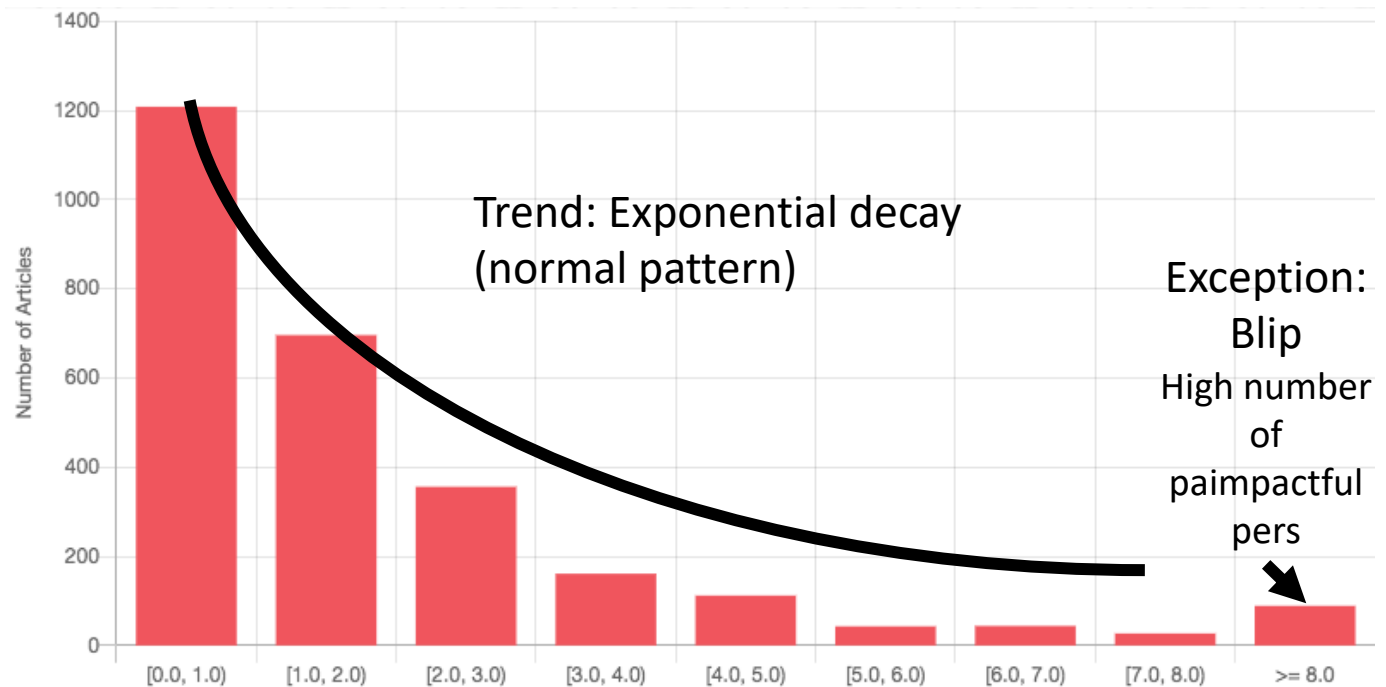
Median paper:

RCR = **1.19**

(Avg. paper by this group is about 1.2 times as impactful as the avg. paper in the field.)

583 papers with RCR > 2.0

(Avg. RCR = 1.0. RCR of 2.0 = cited twice as frequently as a paper in the authors' field.)



The Report – Co-authorships



“Hairball” pattern – lots of healthy interactions

- **1,708** co-authorship interactions among **91** collaborators
- **18.7** connections (edges) per scholar
- **5.4** different collaborators per scholar
- **3.4** connections per scholar pair

The Report – Grant Co-PIs



Less interactions (expected), but beginnings of a "hairball"

- **45** interactions among **11** collaborators
- **3** different collaborators per scholar
- **1.3** grants per scholar pair



The Report – Conclusion



The proposal for a new position is still pending. I do know that she was very pleased. The same day, she mentioned this report to another faculty member, and he requested a similar report be done for one of his groups. The greatest compliment people in research can give is an order for more work! **We're currently working on producing an evaluation for this new group at Vanderbilt.**

The Report – Value Added



- Through these graphs and stats – along with professional, scientific interpretation – we were able to grab a picture of the activity among these hundred-or-so scholars.
- Captured something that could only be imagined before.
 - Only Flight Tracker can capture this type of activity. No other efficient way currently exists.
 - The setup work and costs were minimal and reproducible (hours instead of weeks).



What's Next?



- The December Flight Tracker consortium meeting is **cancelled** due to CTSA Fall Administrators Meeting at the same time.
- Several long-term **development projects** are being worked on:
 - Grant Wrangler upgrades
 - Tool to better manage NIH Training Tables 1-4
 - Mentee-Mentor Agreement pilot
 - Public Access Compliance follow up

Newbie Call



Just getting started with Flight Tracker?

There's a definite learning curve.

Move up more quickly by joining **November's "newbie" call.**

Tuesday, November 16 at 12pm Central Time

Leave your email in the chat to receive an invitation.

Office Hours with ~~Rebecca & Scott~~

