



Interpreting Flight Tracker Data

April 1, 2020

https://redcap.vanderbilt.edu/plugins/career_dev/consortium

Agenda

- Main Presentation – Rebecca Helton and Scott Pearson
- What's New and What's Next?
 - NIH Table Update
 - Next Month: Publication Wrangling

INTERPRETING RESULTS

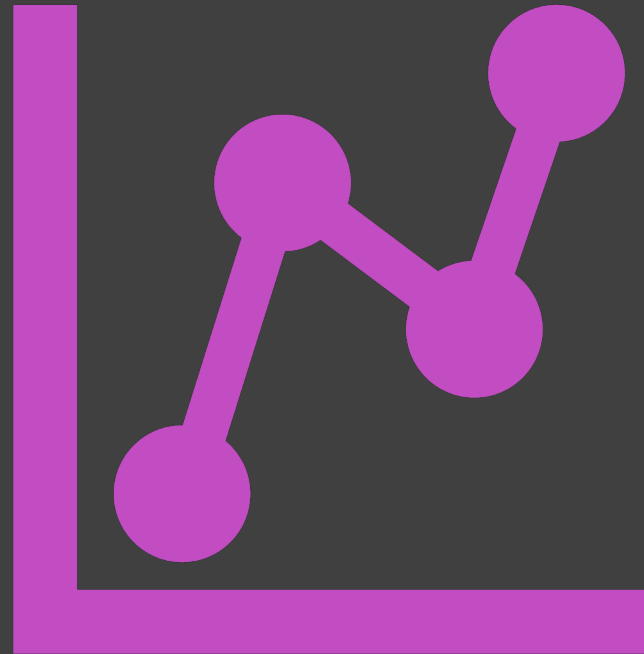
“I’ve
downloaded
and wrangled
my data. Now,
how can I use
it?”

Distinct Types of Questions

- **Individual** – How is this particular scholar performing?
- **Groups**
 - **Cohort/Sub-Group** – How are scholars with a given characteristic performing?
 - **Population** – How are all scholars under this grant performing?



**REDCAP
REPORTS**



REDCap Reports

- Normal REDCap reports work with Flight Tracker!
- It's recommended that you use the **Identifiers and Summary forms** as sources to pull your data
- This is often the quickest route to answer most of your questions

REDCap Reports

[+ Create New Report](#)
[My Reports & Exports](#)
[Other Export Options](#)

You may create a new report by selecting the fields/variables below that you want to include in the report. You may add as many fields to your report as you wish, and you can choose which users may view this report. You will also need to provide a name for your report, which will then be displayed on the project's left-hand menu for anyone to whom you have given access. You can filter the results returned in the report in a variety of ways, including using complex AND/OR logic. When you are finished, click the Save Report button at the bottom. The new report will then be added to your list of reports, after which you may immediately begin viewing them or exporting them.

Name of Report:

Description (optional):
Displayed on page below report name HTML may be used in order to add links or to add style to text. [Expand](#)

STEP 1

User Access: Choose who can edit and view this report

View Access: Choose who sees this report on their left-hand project menu [?](#)

All users - OR - **Custom user access** (Choose specific users, roles, or data access groups who will have access)

Edit Access: Choose who can edit, copy, or delete this report (requires user to have 'Add/Edit/Organize Reports' privileges)

All users - OR - **Custom user access** (Choose specific users, roles, or data access groups who will have access)

STEP 2

Fields to include in report [+ Quick Add](#) Add all fields from selected instrument:

Field 1	<input type="text" value="record_id 'Record Id'"/>	<input type="text" value="Instrument: Identifiers"/>	<input checked="" type="checkbox"/>
Field 2	<input type="text" value="Type variable name or field label"/>	<input type="text" value="Instrument:"/>	<input type="checkbox"/>

← Enter in the fields here. Most likely, you want to begin the field with summary_ or identifier_.

REDCap Reports

STEP 3

Show data for all repeating instruments for each record returned [?](#) [How to use filters and AND/OR logic](#)

Filters (optional) **Operator / Value**

Filter 1	Type variable name or field label	Operator	Value
	<input type="text"/>	=	<input type="text"/>

Switch format: [Use advanced logic](#)

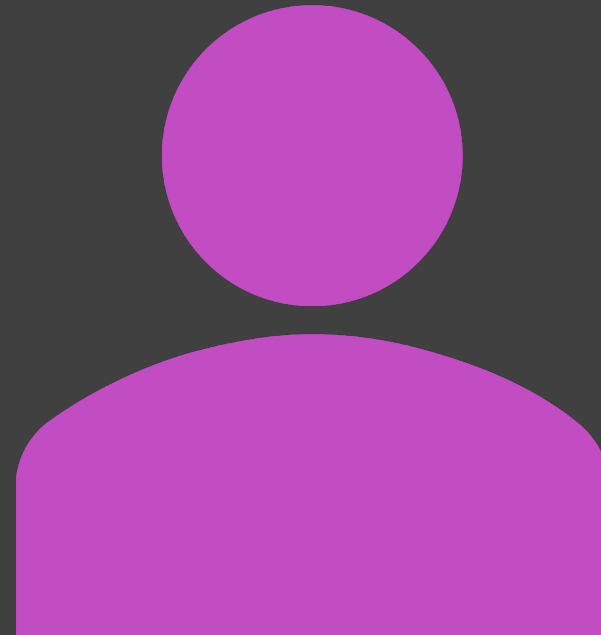
Live Filters (optional) Live Filters can be selected on the report page for dynamically filtering data in real time. With the exception of the Record ID field, only multiple choice fields can be used as Live Filters (as well as Events, if longitudinal, and Data Access Groups, if any exist).

Live Filter 1	-- select a field --
Live Filter 2	-- select a field --
Live Filter 3	-- select a field --

- You can **Filter** your data ahead of time
- Or you can do a **Live Filter** of your data real-time



INDIVIDUAL
SCHOLARS

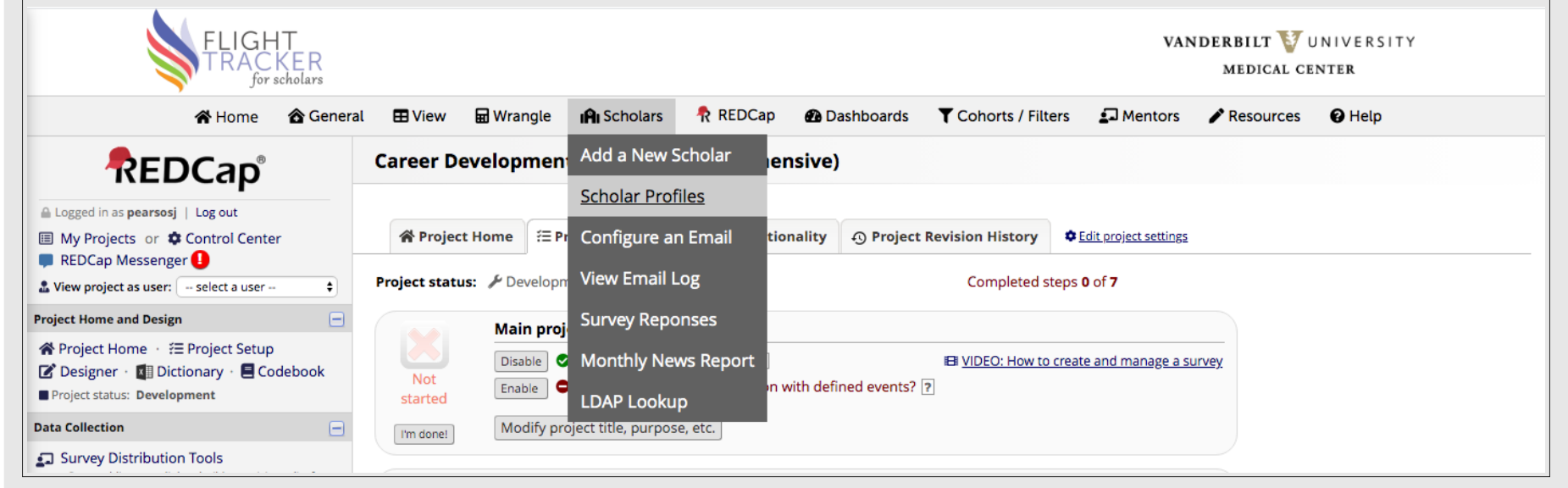


Common Questions

- Is the scholar on track to convert from K- to R-class grants?
- How many publications is the scholar producing (quantity)?
- Are publications having enough impact (quality)?
- Is the scholar using adequate support (resources and mentors)?

Flight Tracker Resources

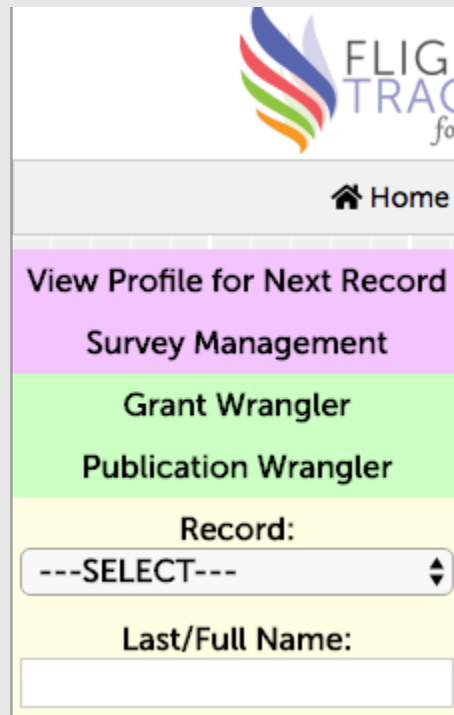
- Scholar Profiles (under Scholars menu)



The screenshot displays the Flight Tracker for Scholars web application interface. At the top left is the logo, and at the top right is the text "VANDERBILT UNIVERSITY MEDICAL CENTER". A navigation bar contains links for Home, General, View, Wrangle, Scholars, REDCap, Dashboards, Cohorts / Filters, Mentors, Resources, and Help. The "Scholars" menu is active, showing a dropdown list with the following items: "Add a New Scholar", "Scholar Profiles", "Configure an Email", "View Email Log", "Survey Responses", "Monthly News Report", and "LDAP Lookup". The background shows a project page for "Career Development (Comprehensive)" with a "Project status" of "Development" and a "Main project" that is "Not started".

Using Scholar Profiles

- Toolbar at left

A screenshot of the FLIGHT TRACKER for scholars toolbar. The toolbar is a vertical stack of elements. At the top is the logo. Below it is a "Home" button with a house icon. The main toolbar consists of several colored buttons: a purple button for "View Profile for Next Record", a purple button for "Survey Management", a green button for "Grant Wrangler", and a green button for "Publication Wrangler". Below these is a yellow section containing a "Record:" label, a dropdown menu with "---SELECT---" and a double-headed arrow, and a "Last/Full Name:" label with an empty text input field below it.

FLIGHT TRACKER for scholars

Home

View Profile for Next Record

Survey Management

Grant Wrangler

Publication Wrangler

Record:

---SELECT---

Last/Full Name:

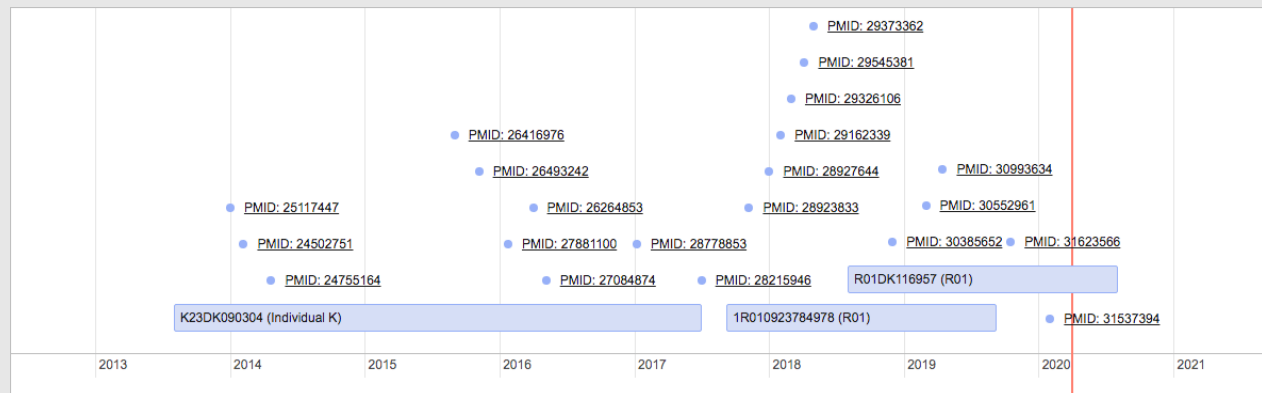
Using Scholar Profiles

- Scholar Overview
 - Publication quantity and quality (RCR)
 - K-to-R conversion status
 - Resource use
 - Mentors

First Name:		Primary Department:	Medicine/Nephrology [104375]
Last Name:		Degrees:	MD + PhD
Email:		Institution:	Vanderbilt
REDCap:	Record 1	Converted?:	CONVERTED WHILE ON K
Confirmed Original Research Articles:	19	Average Relative Citation Ratio:	2.398
Grants:	3	Citations by Others:	200
Total Dollars All Grants (Internal and External; recorded in COEUS):	\$2,163,411	Total Dollars from Grants (External Sources Only):	\$1,879,304
Mentors:		Resources Used:	Grant Pacing

Using Scholar Profiles

- Timeline
 - Correlating publications and grants
 - Prospective: Grant submission information not available through federal sources



Using Scholar Profiles

- Wranglers
 - In-depth inspection of the data
 - How did we get here?
 - Potential analysis errors
- Data Source Comparison

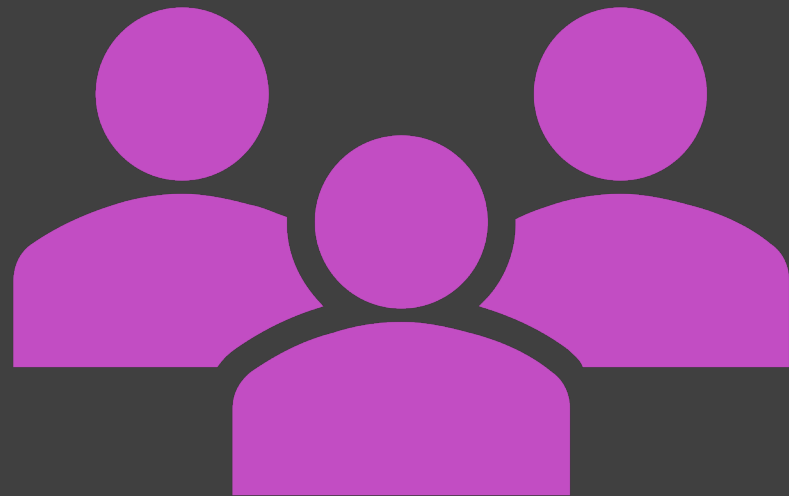
Data Source Comparison					
Khaled Abdel-Kader					
Legend Grant In Use Conflict with Grant In Use					
NIH EXPORTER	Federal RePORTER	COEUS	Initial Scholar's Survey	REDCap Custom Grants	Newman Spreadsheet 'sheet2'
IN USE Sponsor No.: 7K23DK090304-03 Base Award No.: K23DK090304 Direct Budget: \$159,710 Total Budget: \$172,287 Start Date: 2013-8-1 End Date: 2014-7-31 Finance Type: training Grant Type: Individual K	Sponsor No.: 7K23DK090304-03 Base Award No.: K23DK090304 Direct Budget: \$0 Total Budget: \$172,287 Start Date: 2013-08-01 End Date: 2014-07-31 Finance Type: training Grant Type: Individual K	Sponsor No.: 7K23DK090304-03 Base Award No.: K23DK090304 Direct Budget: \$208,428 Total Budget: \$224,902 Start Date: 2013-08-01 End Date: 2014-07-31 Finance Type: training Grant Type: Individual K	Sponsor No.: 7K23DK090304 Base Award No.: K23DK090304 Direct Budget: \$0 Total Budget: \$0 Start Date: 2013-08-01 End Date: 2013-08-01 Finance Type: training Grant Type: Individual K	IN USE Sponsor No.: 1R010923784978 Base Award No.: 1R010923784978 Direct Budget: \$2,000,000 Total Budget: \$0 Start Date: 2017-09-07 End Date: 2019-09-07 Finance Type: research Grant Type: R01	Sponsor No.: 5K23DK090304-02 Base Award No.: K23DK090304 Direct Budget: \$0 Total Budget: \$0 Start Date: 2011-08-01 End Date: 2016-08-01 Finance Type: Individual K

Interpreting Individual Data

Thoughts? Ideas?



GROUPS OF SCHOLARS



Groups: Domains Encountered

- **Overall Grant Progression**
- **Grants** – What is your K-to-R conversion rate?
- **Demographics** – Breakdowns
- **Quick Statistics** – Dashboards

- **Cohorts/Sub-Groups:** For a given characteristic, what is your institution's performance?

Overall Grant Progression



VANDERBILT UNIVERSITY
MEDICAL CENTER

- Home
- General
- View
- Wrangle
- Scholars
- REDCap
- Dashboards
- Cohorts / Filters
- Mentors
- Resources
- Help

- Demographics Table
- Stylized CDA Table
- Publication List
- Compare Data Sources
- REDCap Reports
- Missingness Report
- Search Within a Timespan
- List of Scholar Names
- R01-Equivalent Conversions

Flight Tracker Central

Watch Your Scholars Fly
from [Edge for Scholars](#)

PRODUCTION (cron)

Last Federal RePORTER Download
2020-03-24

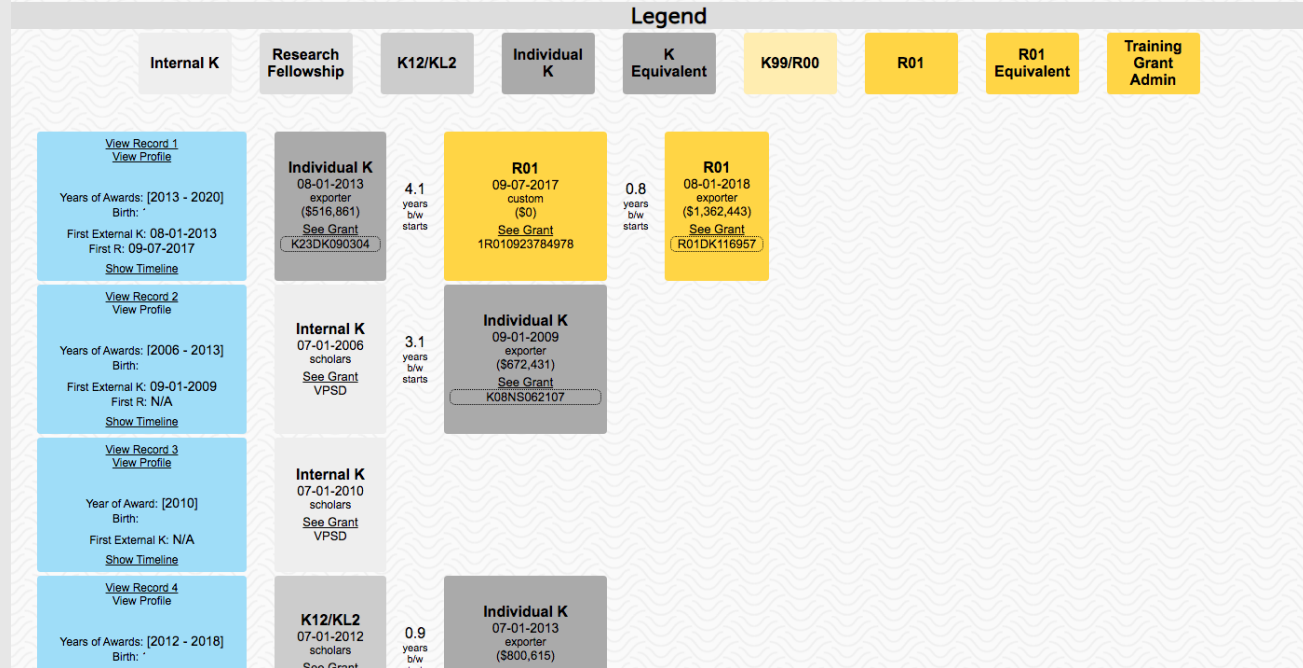
Download

Search

Search Grants

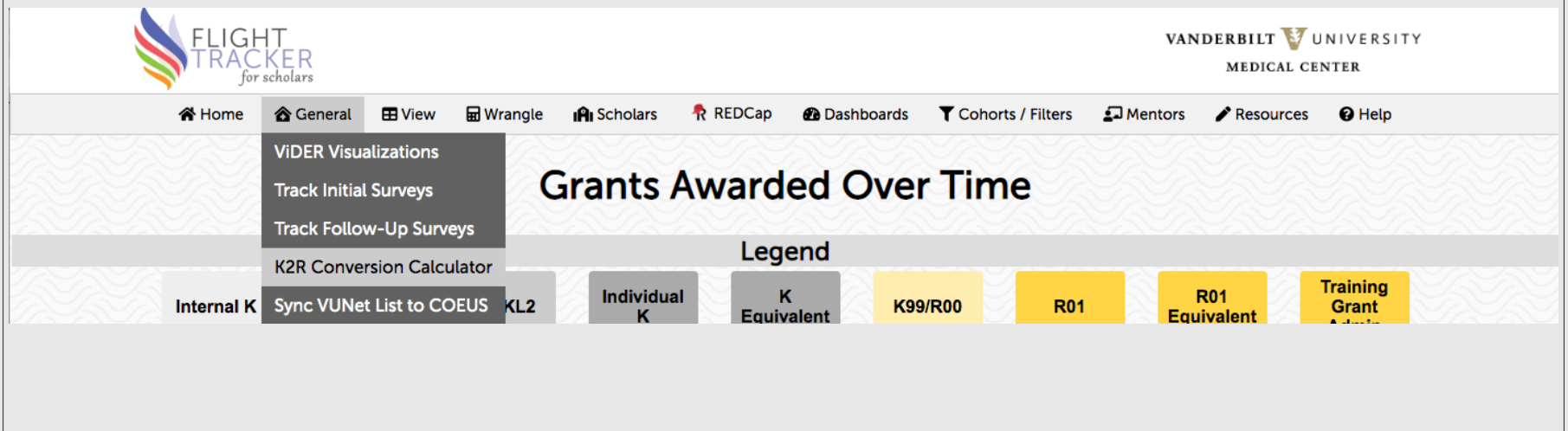
Overall Grant Progression

Grants Awarded Over Time



K-to-R Conversion Rate

- Sensitive information
- Results depend on the conditions of your calculations



The screenshot displays the FLIGHT TRACKER for scholars interface. At the top left is the logo, and at the top right is the text "VANDERBILT UNIVERSITY MEDICAL CENTER". A navigation bar includes links for Home, General, View, Wrangle, Scholars, REDCap, Dashboards, Cohorts / Filters, Mentors, Resources, and Help. A dropdown menu is open under "General", listing options: ViDER Visualizations, Track Initial Surveys, Track Follow-Up Surveys, K2R Conversion Calculator, and Sync VUNet List to COEUS. The main content area is titled "Grants Awarded Over Time" and features a "Legend" section with color-coded boxes: Individual K (grey), K Equivalent (grey), K99/R00 (yellow), R01 (yellow), R01 Equivalent (yellow), and Training Grant (yellow).

K-to-R Conversion Rate

K2R Conversion Calculator

This page is complex. [Click here to show help.](#)

Conversion Rate

Select Cohort (optional):

---ALL---

Exclude those within 5 years of receipt of most recent K who have not converted
(leave blank if you want all conversions)

Type of K: Any & All Ks

Start Countdown At: Last K

- R01 & R01-Equivalents
 R01s only

Calculate

Who is on a K Award?

Length of Internal-K / K12 / KL2 Award: 3 years

Length of Individual-K / K-Equivalent Award: 5 years

- Show Names

Calculate

K-to-R Conversion Rate

K2R Conversion Calculator

This page is complex. [Click here to show help.](#)

Entire Population Averages

Average K-To-R Conversion Rate (Any & All Ks)

- Omit anyone with a most-recent CDA less than 5 years old
- Omit anyone with no matched CDA
- Omit anyone with a K99/R00
- Omit anyone who has left Vanderbilt who has not converted and who did not fill out a Initial Survey
- Omit anyone with a CDA of the given type that is less than 5 years old

%
(n=181)

Average Age (n=387)

Average Age at First CDA (n=387)

Average Age at First R / R-Equivalent (n=142)

K-to-R Conversion Rate

K2R Conversion Calculator

This page is complex. [Click here to show help.](#)

Number of Scholars on a K Award

people are on K Awards.

No R/R-Equivalent Awards.
Individual-K / K-Equivalent lasts 5 years.
Internal-K / K12 / KL2 lasts 3 years.

← These values can be configured!

K-to-R Conversion Rate



Flight Tracker Epi PhD

- Home
- General
- View
- Wrangle
- Scholars
- REDCap
- Dashboards
- Cohorts / Filters
- Mentors
- Resources
- Help

- List of Scholar Names
- K2R Conversion Calculator
- Search Grants
- Search Publications
- Configure Application
- Configure Summaries
- Logging
- Custom Programming
- Enable ViDER Visualizations
- Sync VUNet List to COEUS

Flight Tracker Central

v2.11.2

Watch Your Scholars Fly
from [Edge for Scholars](#)

Flight Tracker Epi PhD

Last NIH ExPORTER
6 Days Ago

General RePORTER Download
5 Days Ago

Q Search

Search Grants

K-to-R Conversion Rate

Configure Flight Tracker

Length of K Grants

Internal K Length in Years (default: 3)

K12/KL2 Length in Years (default: 3)

Length of NIH K Grants in Years (default: 5)

Demographic Breakdowns

Variable	Population	Value
Average Age	Entire Society	
Average Age at First CDA	Entire Society	
Average Age at First R	Entire Society	
Any-K-to-R Conversion Rate (omit within 5 years)	All with Any K	
Any-K-to-R Conversion Average	All who Converted	
External-K-to-R Conversion Rate (omit within 5 years)	All with External K	
External-K-to-R Conversion Average	All who Converted	
Ever Internal K	Entire Society	
Ever Individual K or Equivalent	Entire Society	
Ever K12/KL2	Entire Society	
Ever R01 or Equivalent	Entire Society	
Current CDA	Entire Society	
Total Finalized Publications	Entire Society	

Use the K-to-R Calculator for more precise results!

Demographic Breakdowns

Category	Total
Graduate Degrees	n=426
MD + PhD	
MD + other	
MD only	
Other	
PhD	
Gender	n=428
Female	
Male	
Race/Ethnicity	n=398
American Indian or Native Alaskan	
Asian	

Continues across many categories!

Dashboards

Overall Summary

Number at
Vanderbilt

Converted
(Overall)

Converted
while on K

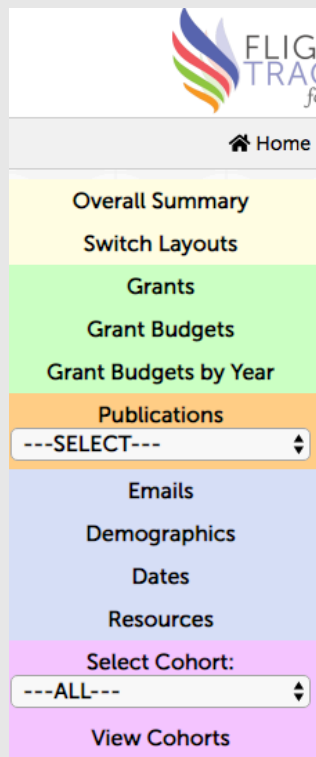
Converted
while not on K

Not Converted
(3 years for Internal K;
5 years for External K)

Not Eligible
(includes K99/R00s &
those on K-Grants)

Followup Lost to
Other Institution
(Not Eligible)

Dashboards



- Each dashboard gives snapshots of your data that summarize your data for the group.
- A group could be your entire population of scholars or a sub-group/cohort.
- Many dashboards are available and provided for you to explore.

Interpreting Population Data

Thoughts? Ideas?

Forming Sub-Groups/Cohorts

- Formed based off common characteristics
- For example:
 - All MDs
 - Everyone in a department
 - Everyone on a particular type of grant
 - Everyone who receives a K grant in certain years

Forming Sub-Groups/Cohorts



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- Resources
- Help

Overall Summary

Switch Layouts

Grants

Grant Budgets

Grant Budgets by Year

Publications

---SELECT---

Overall Summary

Number at
Vanderbilt

Converted
(Overall)

Converted
while not on K

- Add a New Cohort
- View Existing Cohorts
- Manage Cohorts
- Cohort Profiles
- Export a Cohort
- View Cohort Metrics

Live Demo of Sub-Groups/Cohorts

- https://redcap.vanderbilt.edu/plugins/career_dev/cohorts/addCohort.php?pid=66635
- Add a Cohort
- Manage Cohorts
- Cohort Profiles
- Almost all the features we mention about viewing group data can be applied to individual cohorts as well.

Using Sub-Groups/Cohorts

- Almost all the features we mention about viewing population data can be applied to individual cohorts as well.
- → Easy comparison from cohort vs. cohort or cohort vs. population. For example:
 - Compare the demographic breakdown of MDs vs. non-MDs
 - Compare K-to-R conversion rate of URMs vs. population

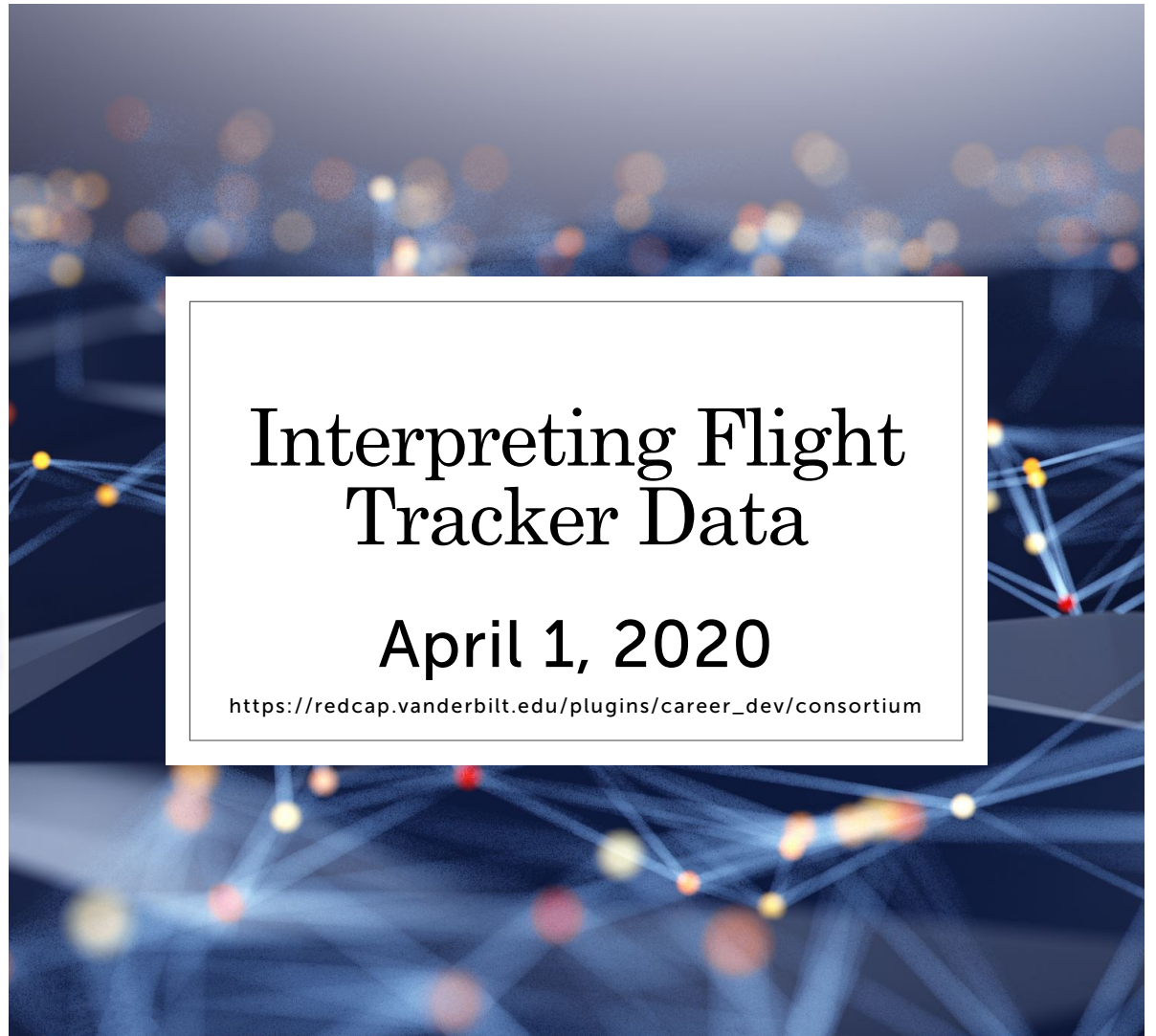
Interpreting Sub-Group Data

Thoughts? Ideas?



What's New and What's Next?

- Update on Upcoming Work: NIH Tables
 - Tables 5A/5B (publications) are designed
 - Tables 6A/6B (applicants) are designed
 - Tables 8A/8C (outcomes) are coming
 - Need to test
- April 15: Publication Wrangling



Interpreting Flight Tracker Data

April 1, 2020

https://redcap.vanderbilt.edu/plugins/career_dev/consortium