

# Data Content Analysis\_Program

1. **Count**  
~83000 tweets

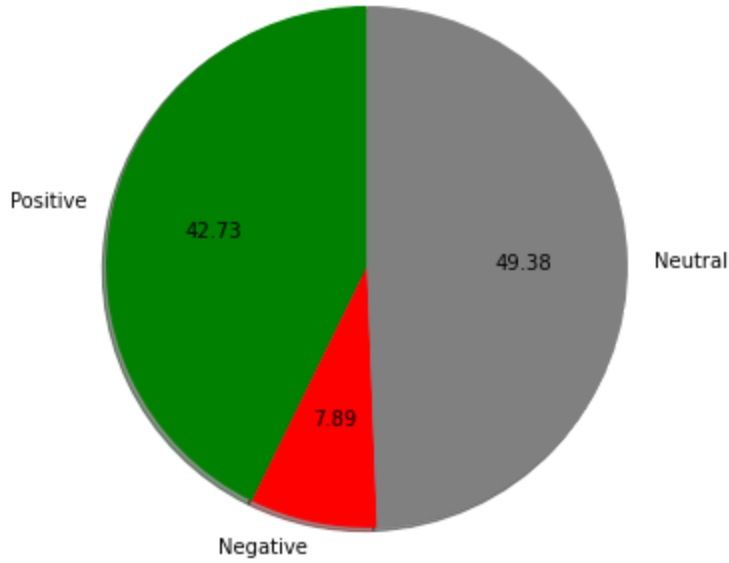
2. **Sentiment Analysis**

**Sentiment**

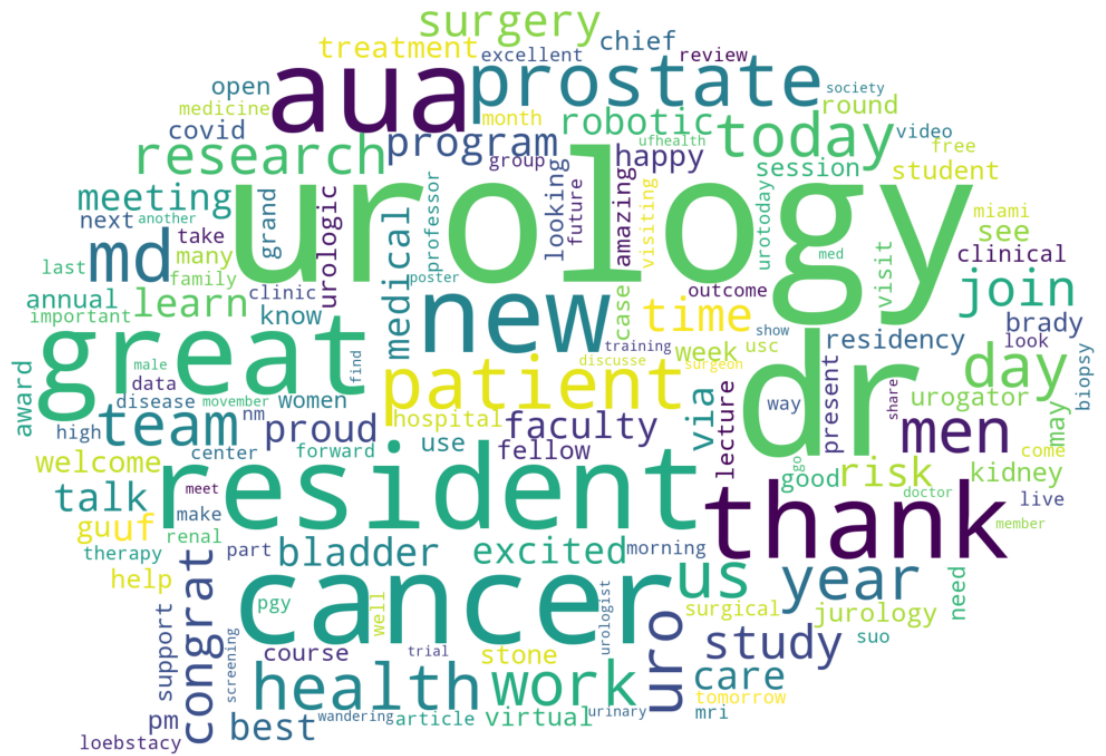
**Positive Sentiment 42.92596717183944 %**

**Negative Sentiment 7.931051179005471 %**

**Neutral Sentiment 49.14298164915509 %**



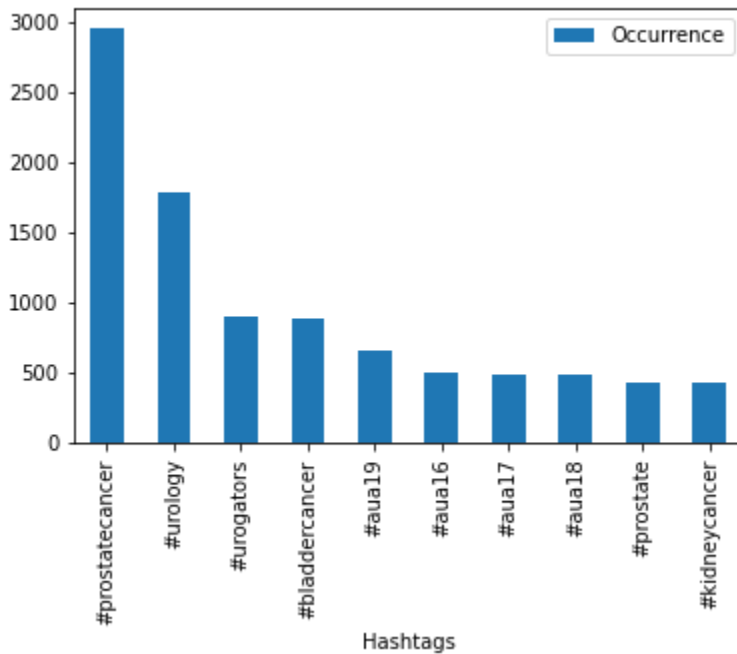
### 3. Word Cloud Analysis



#### 4. Hashtag Analysis

Hashtags	Occurrences
#prostatecancer	2951
#urology	1789
#urogators	901
#bladdercancer	892
#aua19	660
#aua16	499
#aua17	495
#aua18	491
#prostate	432
#kidneycancer	429

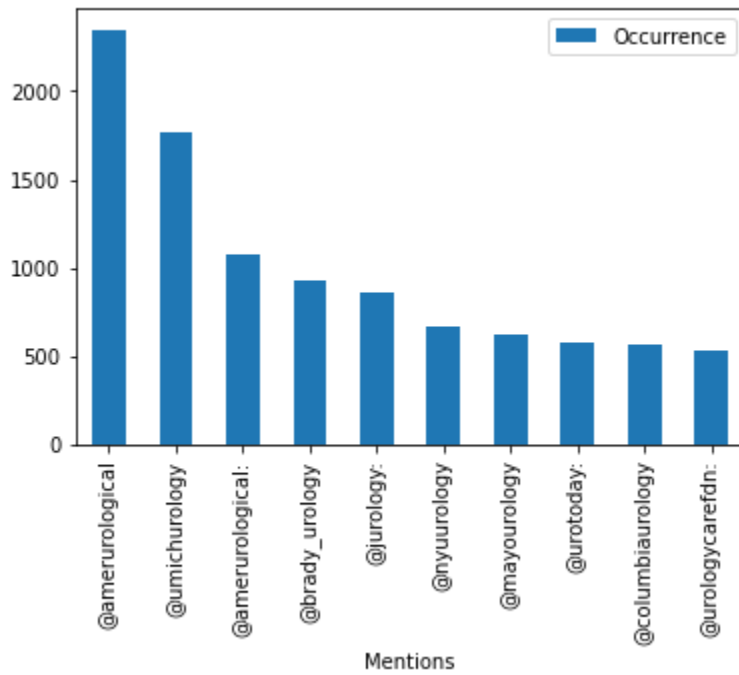
Top 10 Hashtags in Tweets by Programs



#### 5. Mention Analysis

Mentions	Occurrences
@amerurological	2349
@umichurology	1769
@amerurological:	1078
@brady_urology	930
@jurology:	857
@nyuurology	669
@mayourology	625
@urotoday:	572
@columbiaurology	570
@urologycarefdn:	526

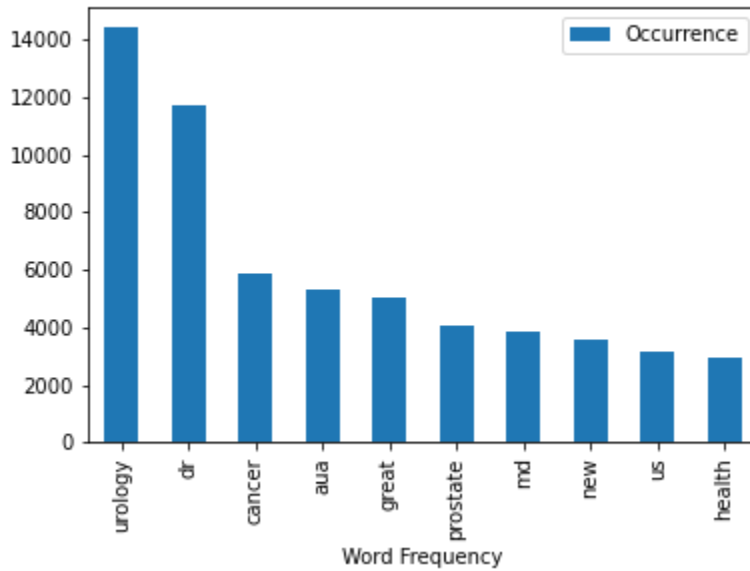
Top 10 Mentions in Tweets by Programs



## 6. Most Prominent Words

Words	Occurrences
urology	14391
dr	11735
cancer	5862
aua	5302
great	5051
prostate	4064
md	3862
new	3602
us	3163
health	2963

Top 10 Frequent Words in Tweets by Programs



## 7. Languages

English was the most used language (over ~97% tweets)

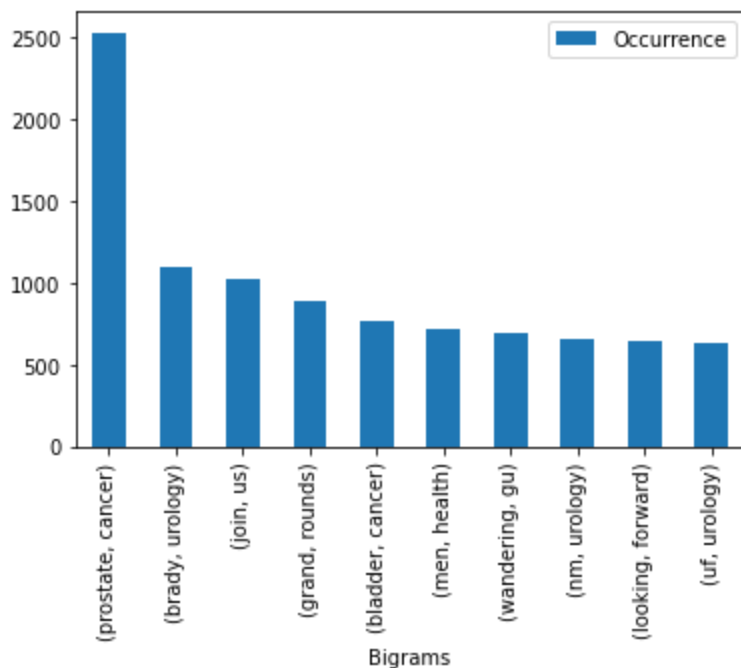
Spanish, Romanian and French were the other most used languages

## 8. Bigram Analysis

### Most occurring 2 word pairs

Bigrams	Occurrences
(prostate, cancer)	2531
(brady, urology)	1096
(join, us)	1027
(grand, rounds)	892
(bladder, cancer)	765
(men, health)	722
(wandering, gu)	689
(nm, urology)	651
(looking, forward)	644
(uf, urology)	633

Top 10 Bigrams in Tweets by Programs

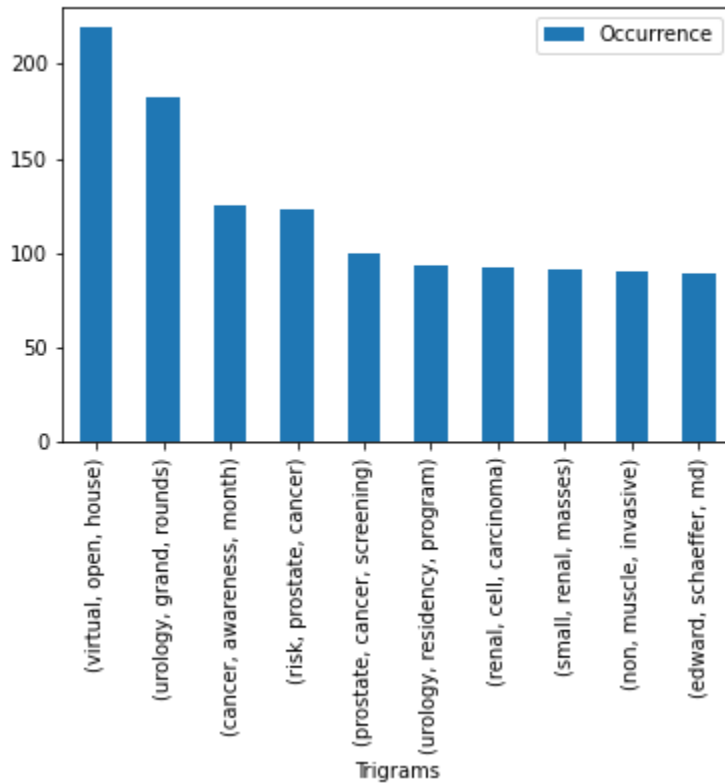


### 9. Trigram Analysis

Most occurring 3 word pairs

Trigrams	Occurrences
(virtual, open, house)	219
(urology, grand, rounds)	182
(cancer, awareness, month)	125
(risk, prostate, cancer)	123
(prostate, cancer, screening)	100
(urology, residency, program)	94
(renal, cell, carcinoma)	92
(small, renal, masses)	91
(non, muscle, invasive)	90
(edward, schaeffer, md)	89

## Top 10 Trigrams in Tweets by Programs



## 10. Topic Modeling

Topics for Given Tweets

Major topics around which conversation took place

(0, '0.000\*\*dr" + 0.000\*\*urology" + 0.000\*\*cancer" + 0.000\*\*today"')

(1, '0.000\*\*dr" + 0.000\*\*urology" + 0.000\*\*cancer" + 0.000\*\*prostate"')

(2, '0.000\*\*dr" + 0.000\*\*urology" + 0.000\*\*cancer" + 0.000\*\*day"')

(3, '0.024\*\*dr" + 0.023\*\*urology" + 0.017\*\*cancer" + 0.009\*\*prostate"')

(4, '0.000\*\*dr" + 0.000\*\*urology" + 0.000\*\*cancer" + 0.000\*\*health"')

## 11. Data Summarization- Basic Statistics

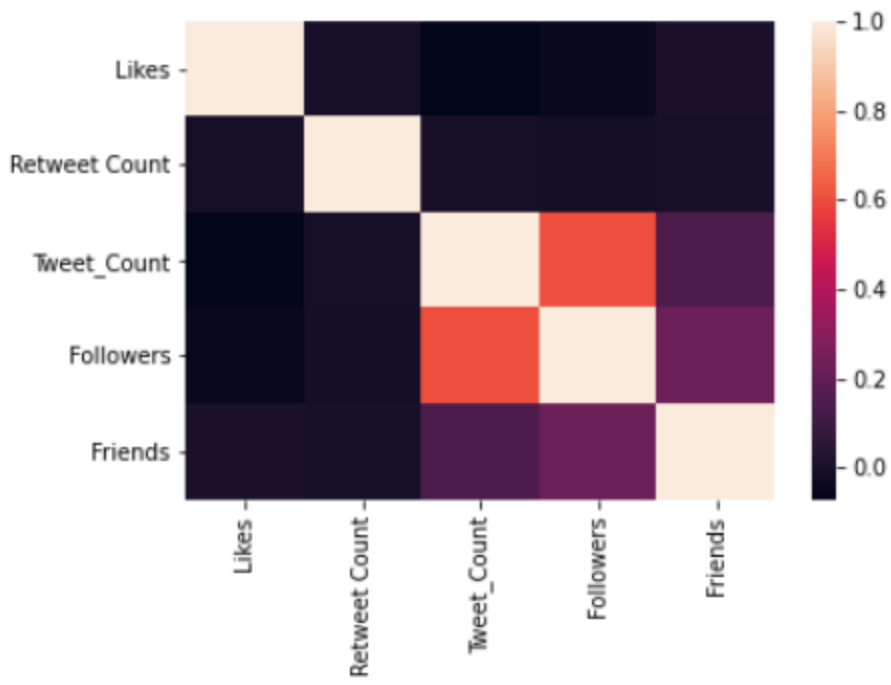


	count	mean	std	min	25%	50%	75%	max
<b>Tweet_Count</b>	113.0	797.371681	1251.777616	7.0	110.0	359.0	890.0	8707.0
<b>Followers</b>	113.0	1326.256637	1080.835406	91.0	620.0	1009.0	1640.0	5365.0
<b>Friends</b>	113.0	579.070796	681.551784	11.0	192.0	359.0	731.0	4124.0

	count	mean	std	min	25%	50%	75%	max
<b>Likes</b>	82998.0	3.063423	8.814542	0.0	0.0	0.0	3.0	368.0
<b>Retweet Count</b>	82998.0	32.374503	1328.824713	0.0	1.0	2.0	4.0	163808.0
<b>Tweet_Count</b>	82998.0	2195.531109	1875.079125	7.0	872.0	1748.0	3051.0	8713.0
<b>Followers</b>	82998.0	2553.728945	1361.611082	91.0	1509.0	2201.0	3956.0	5365.0
<b>Friends</b>	82998.0	968.386660	818.915398	11.0	307.0	801.0	1198.0	4124.0

## 12. Correlation Matrix

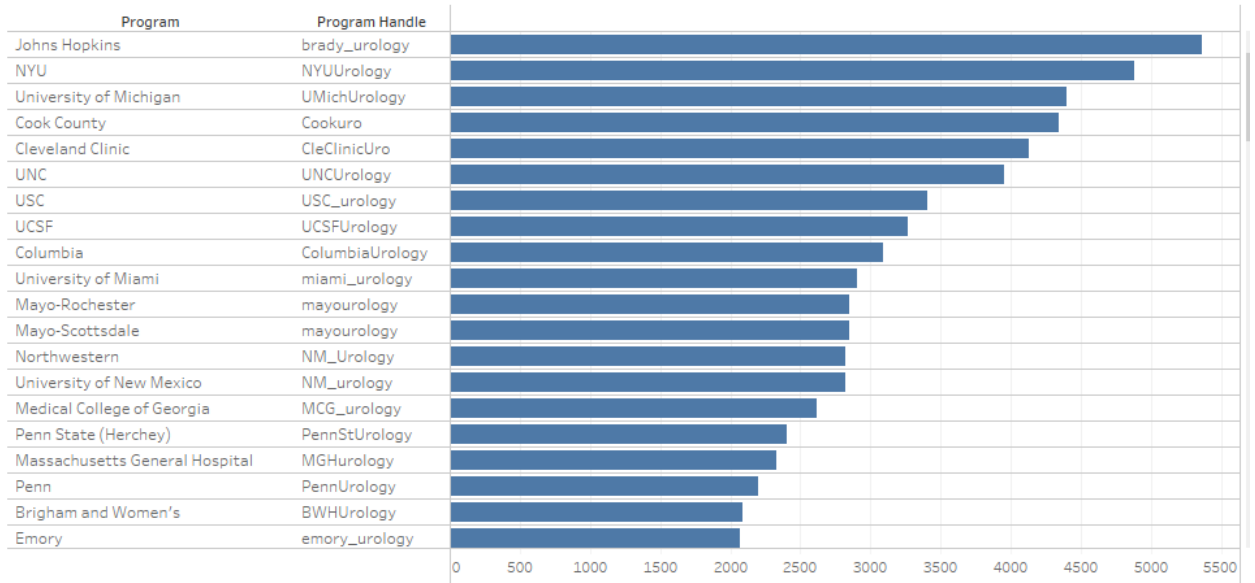
	Likes	Retweet Count	Tweet_Count	Followers	Friends
<b>Likes</b>	1.000000	-0.007326	-0.071083	-0.048052	0.007654
<b>Retweet Count</b>	-0.007326	1.000000	-0.006970	-0.013815	-0.003335
<b>Tweet_Count</b>	-0.071083	-0.006970	1.000000	0.604075	0.145876
<b>Followers</b>	-0.048052	-0.013815	0.604075	1.000000	0.225597
<b>Friends</b>	0.007654	-0.003335	0.145876	0.225597	1.000000



### 13. Average Follower Count

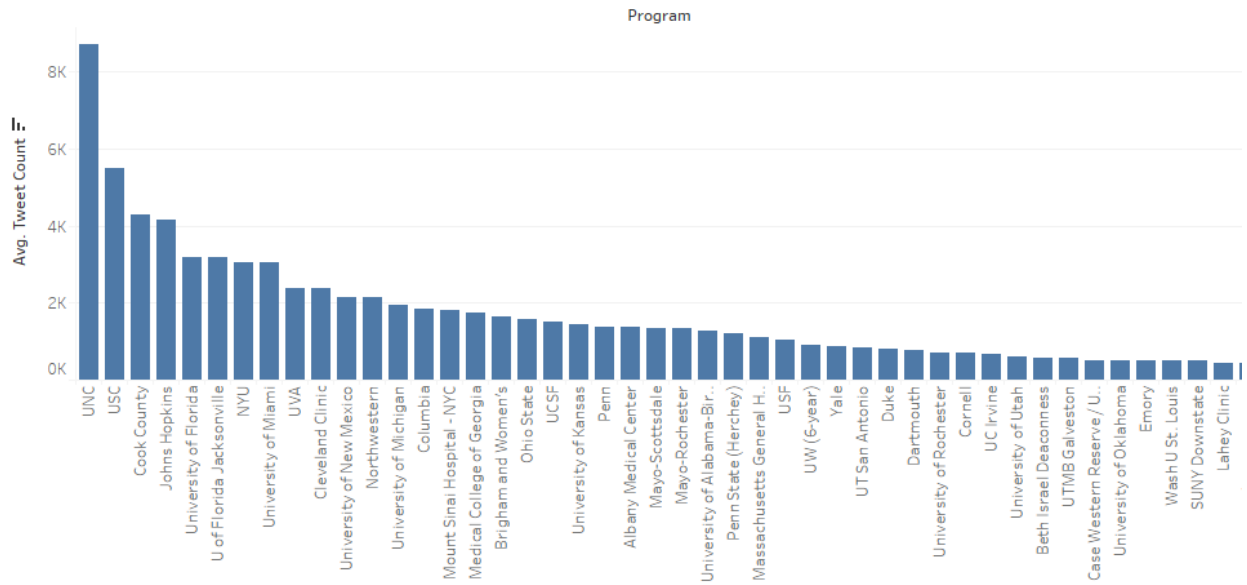
Program	Avg. Followers
Johns Hopkins	5,365.00
NYU	4,882.00
University of Michigan	4,396.00
Cook County	4,347.00
Cleveland Clinic	4,129.00
UNC	3,956.00
USC	3,409.00
UCSF	3,264.00
Columbia	3,093.00
University of Miami	2,902.00
Mayo-Rochester	2,851.00
Mayo-Scottsdale	2,850.00
Northwestern	2,822.00
University of New Mexico	2,822.00
Medical College of Georgia	2,614.00
Penn State (Herchey)	2,402.00
Massachusetts General Hospital	2,334.00
Penn	2,201.00
Brigham and Women's	2,087.00
Emory	2,066.00
University of Alabama-Birmingham	2,020.00
Dartmouth	1,958.00
Tulane	1,879.00
Yale	1,697.00
Ohio State	1,669.00
Lahey Clinic	1,660.00
University of Utah	1,656.00
Vanderbilt	1,648.00
UC Irvine	1,640.00
UVA	1,572.00

### Average Follower Count - Programs

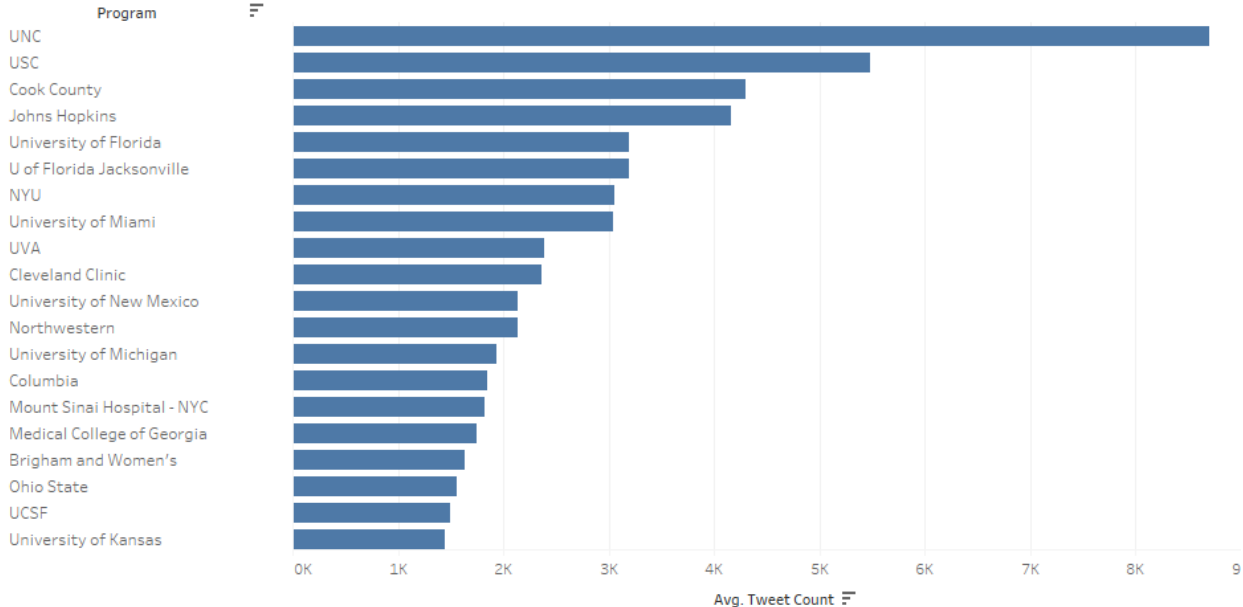


## 14. Average Tweet Count

### Average Tweet Count - Programs



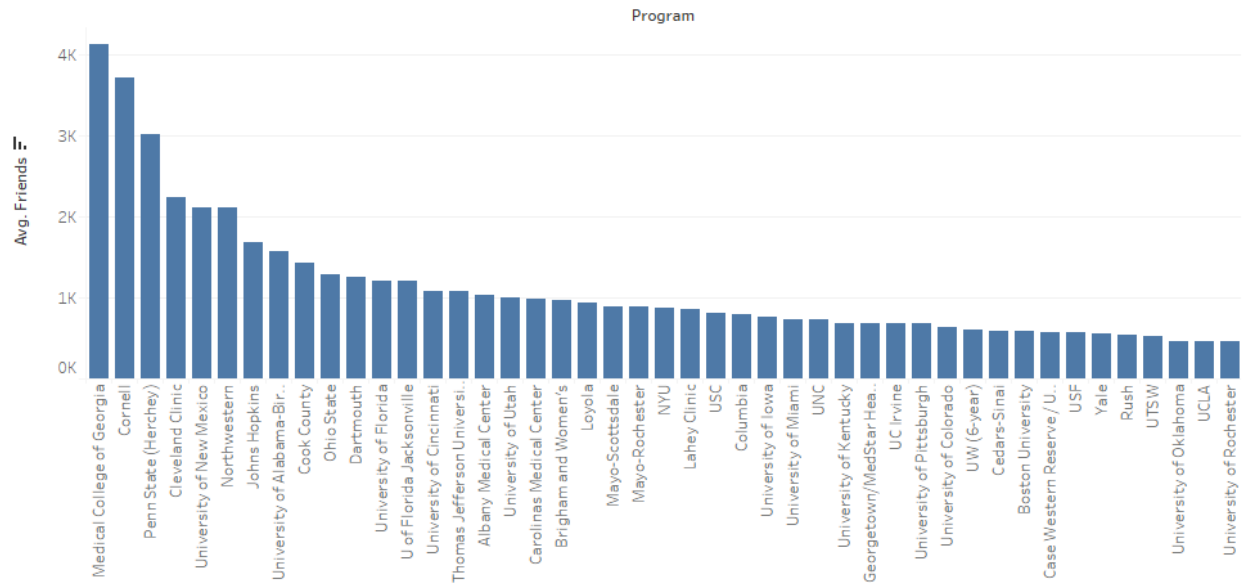
**Average Tweet Count - Programs**



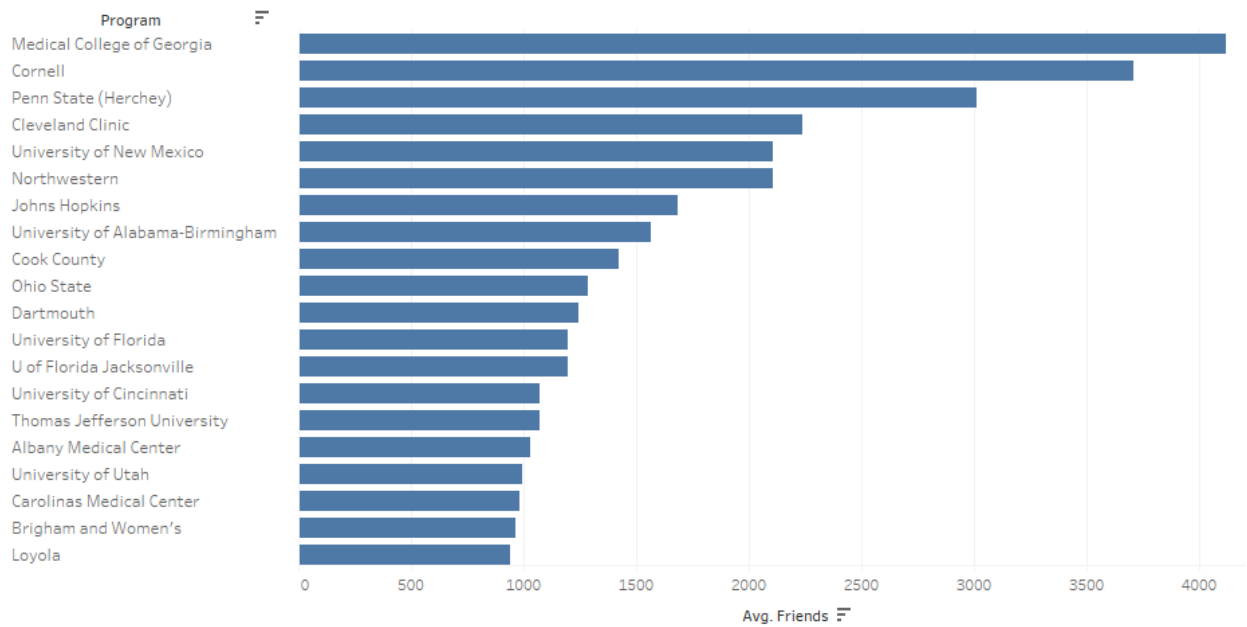
Program	Avg. Tweet Count
UNC	8,707.00
USC	5,480.00
Cook County	4,299.00
Johns Hopkins	4,167.00
University of Florida	3,190.00
U of Florida Jacksonville	3,190.00
NYU	3,051.00
University of Miami	3,047.00
UVA	2,386.00
Cleveland Clinic	2,362.00
University of New Mexico	2,139.00
Northwestern	2,139.00
University of Michigan	1,937.00
Columbia	1,848.00
Mount Sinai Hospital - NYC	1,822.00
Medical College of Georgia	1,748.00
Brigham and Women's	1,630.00
Ohio State	1,563.00
UCSF	1,502.00
University of Kansas	1,441.00
Penn	1,376.00
Albany Medical Center	1,364.00
Mayo-Scottsdale	1,352.00
Mayo-Rochester	1,352.00
University of Alabama-Birmingham	1,269.00
Penn State (Herchey)	1,222.00
Massachusetts General Hospital	1,111.00
USF	1,037.00
UW (6-year)	890.00
Yale	872.00
UT San Antonio	835.00
Duke	794.00
Dartmouth	783.00

## 15. Average Friend Count

### Average Friends Count - Programs



### Average Friends Count - Programs



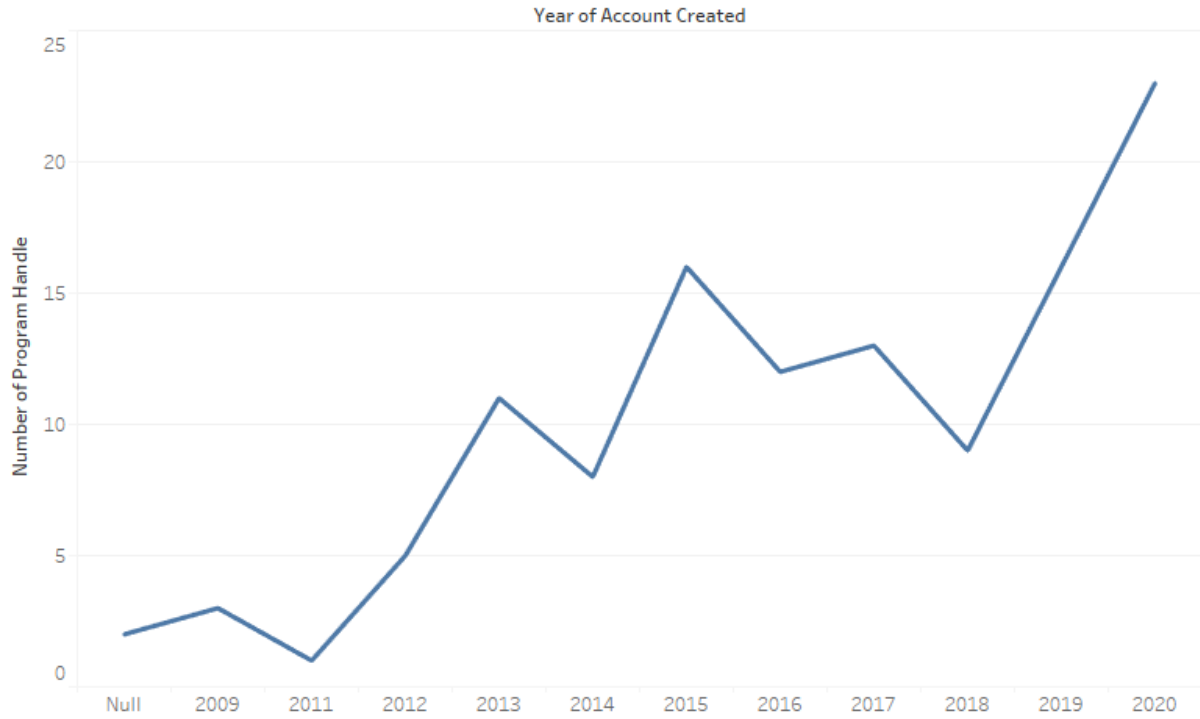
Program	Avg. Friends
Medical College of Georgia	4,124.00
Cornell	3,709.00
Penn State (Herchey)	3,012.00
Cleveland Clinic	2,239.00
University of New Mexico	2,108.00
Northwestern	2,108.00
Johns Hopkins	1,685.00
University of Alabama-Birmingham	1,565.00
Cook County	1,425.00
Ohio State	1,285.00
Dartmouth	1,247.00
University of Florida	1,198.00
U of Florida Jacksonville	1,198.00
University of Cincinnati	1,074.00
Thomas Jefferson University	1,073.00
Albany Medical Center	1,033.00
University of Utah	993.00
Carolinas Medical Center	982.00
Brigham and Women's	962.00
Loyola	943.00
Mayo-Scottsdale	887.00
Mayo-Rochester	887.00
NYU	874.00
Lahey Clinic	854.00
USC	807.00
Columbia	801.00
University of Iowa	767.00
University of Miami	736.00
UNC	731.00

## 16 Account Creation

There was a huge spike not only for Candidates but many(23) programs created their twitter accounts in 2020.



## Account Creation Timeline - Programs



**17 Account Creation in the Year 2020**

Account Creation - Programs - 2020							
Program / Month	January	February	May	June	July	August	September
Akron/NEOMED							
Baylor							
Creighton							
Detroit Medical Center							
George Washington University							
Kaiser LA							
LIJ (Hofstra)							
Maine Medical Center							
NYMC							
Oregon Health & Science University							
Rowan							
Rutgers NJMS							
SUNY Stony Brook							
SUNY Upstate							
Scott & White							
UC Davis							
UT Chattanooga							
UT Knoxville							
Univ of Puerto Rico							
University of Chicago							
University of Iowa							
University of Toledo							
William Beaumont							

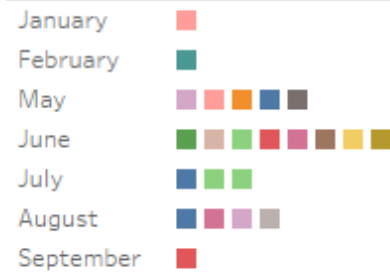
Program

- Akron/NEOMED
- Baylor
- Creighton
- Detroit Medical Center
- George Washington University
- Kaiser LA
- LIJ (Hofstra)
- Maine Medical Center
- NYMC
- Oregon Health & Science University
- Rowan
- Rutgers NJMS
- Scott & White
- SUNY Stony Brook
- SUNY Upstate
- UC Davis
- Univ of Puerto Rico
- University of Chicago
- University of Iowa
- University of Toledo
- UT Chattanooga
- UT Knoxville
- William Beaumont

## Account Creation - Programs 2020

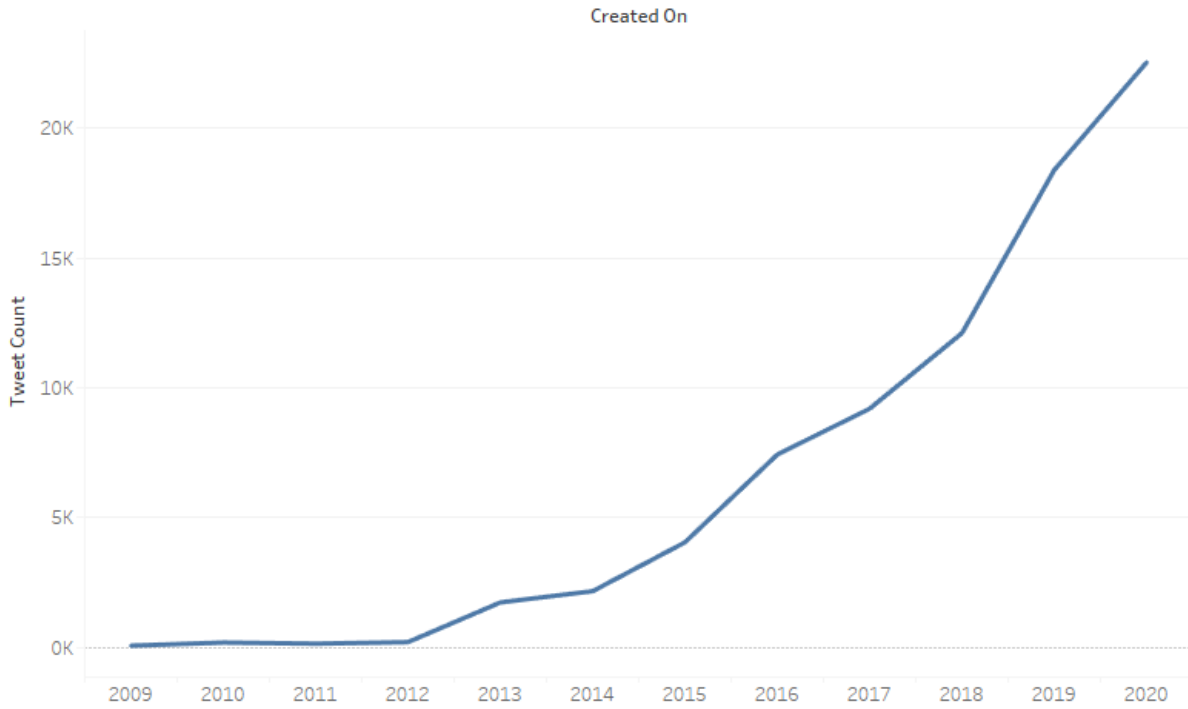
Month of A..

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## 18 Tweet Timeline

## Tweet Count Timeline



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### Tweet Timeline - Programs

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Tweet Year	Tweet Count
2009	62
2010	181
2011	139
2012	197
2013	1,729
2014	2,161
2015	4,046
2016	7,428
2017	9,196
2018	12,108
2019	18,397
2020	22,544
2021	1,167

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