

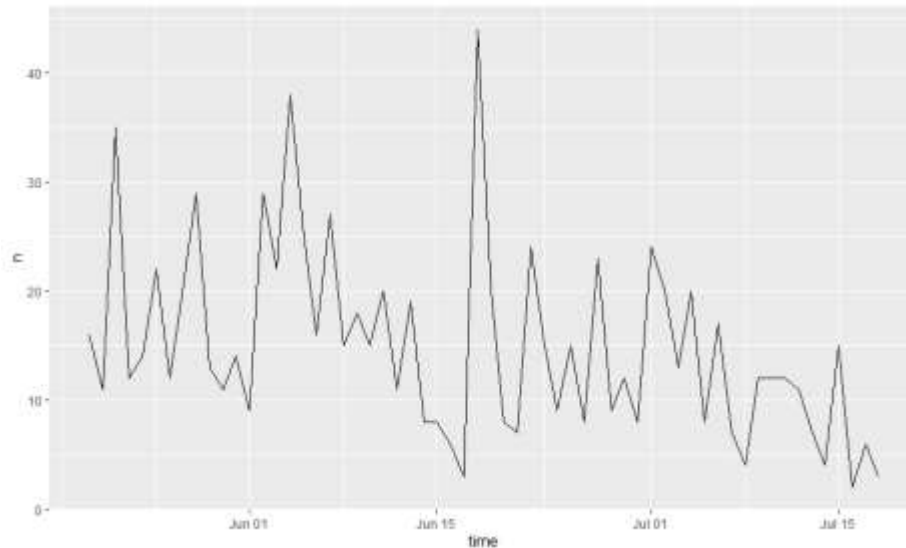
## Comparison of Biden and Trump tweets

The data was collected using the following R command and the rtweet library:

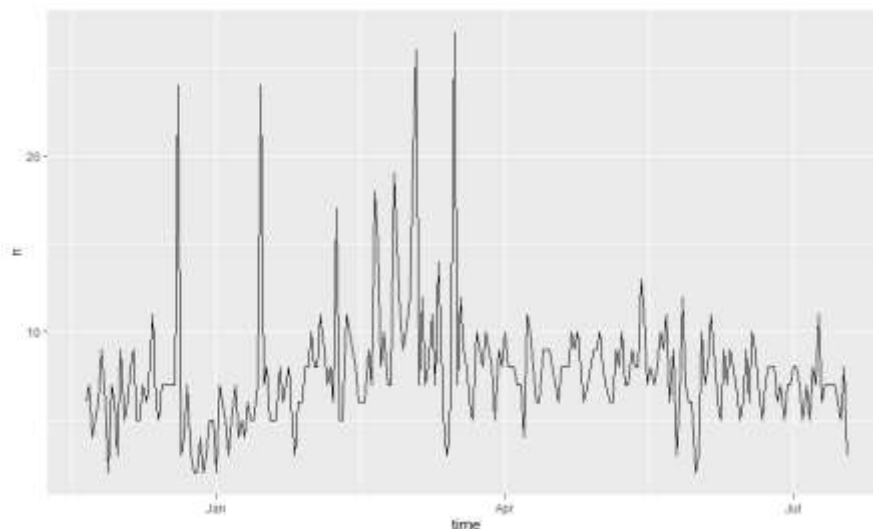
```
rt<-get_timeline(searchString, n=2000)
```

Two search strings were used @RealDonaldTrump and @JoeBiden.

**Trump's Twitter Timeline** is shown below. After removing retweets etc. Trump sent 898 tweets. It is hard to believe but the screenname for all these tweets is realDonaldTrump, a rate of  $898/35\text{days} = 25$  per day.



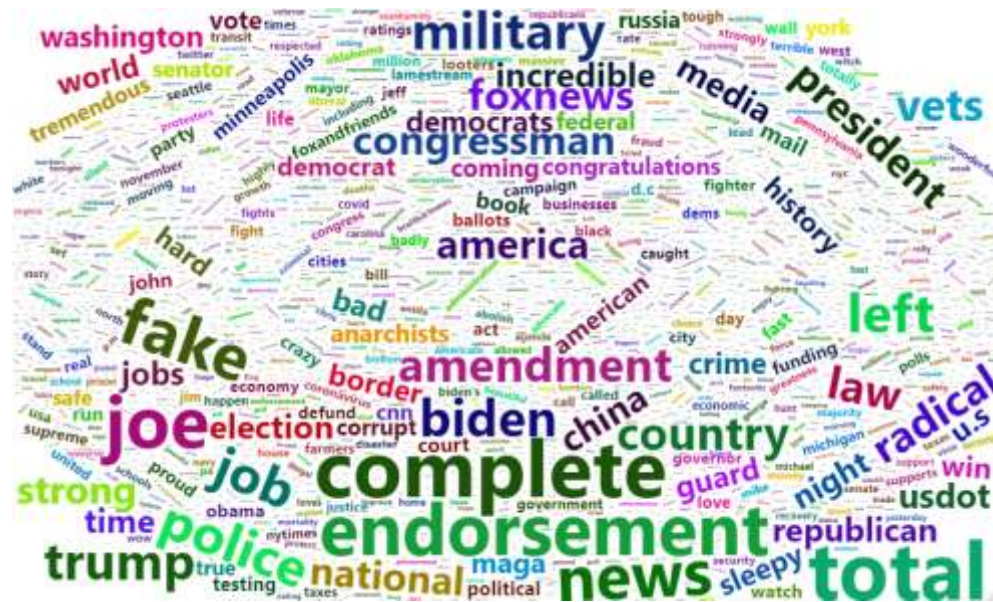
**Biden's Timeline** – to get to 2000 tweets data was retrieved from as far back as Dec 2019.



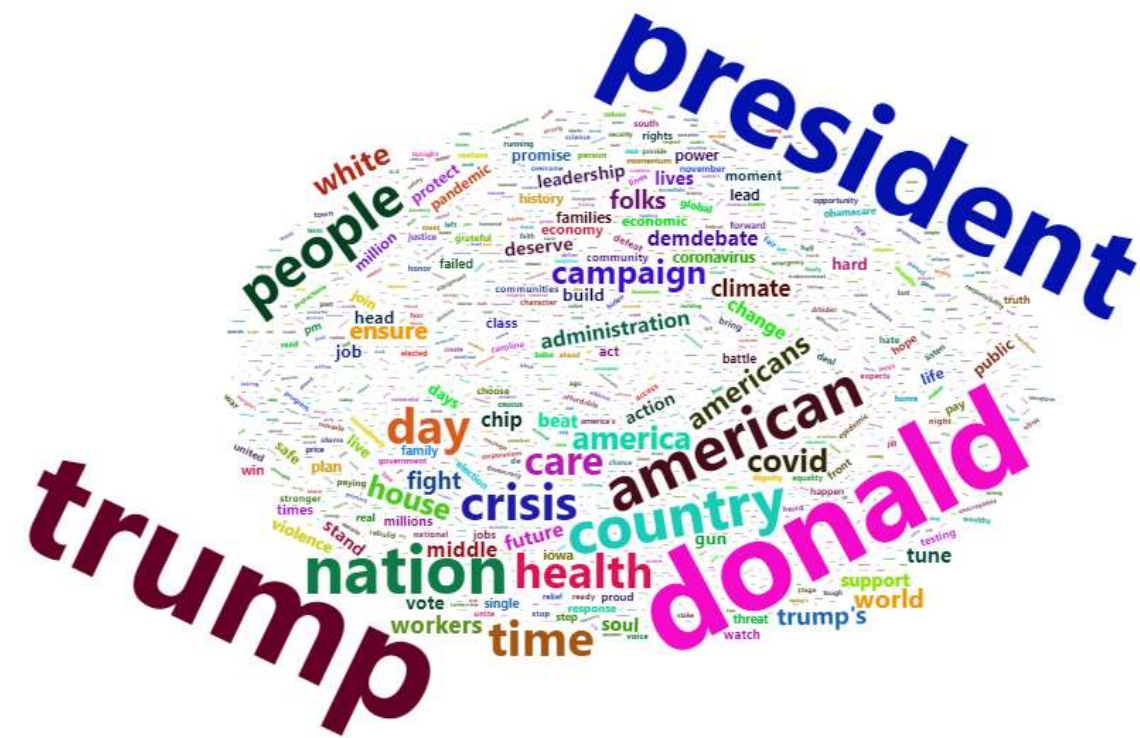
There are 1857 tweets. Giving  $1857/9\text{months} = 206$  tweets per month, or  $206/30 = 8$  per day.

```
wordcloud2(data=df[df$Freq>0,], size=0.6, color='random-dark')
```

## Trump's wordcloud



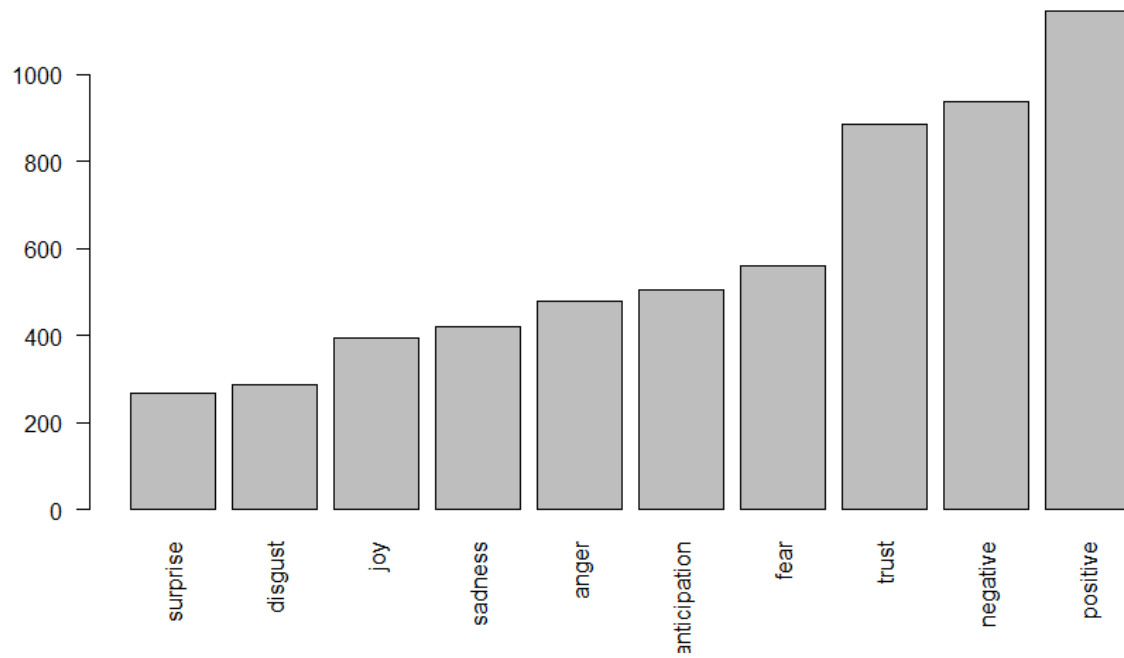
**Biden's wordCloud** wordcloud2(data=df[df\$Freq>1,], size=0.6, color='random-dark')



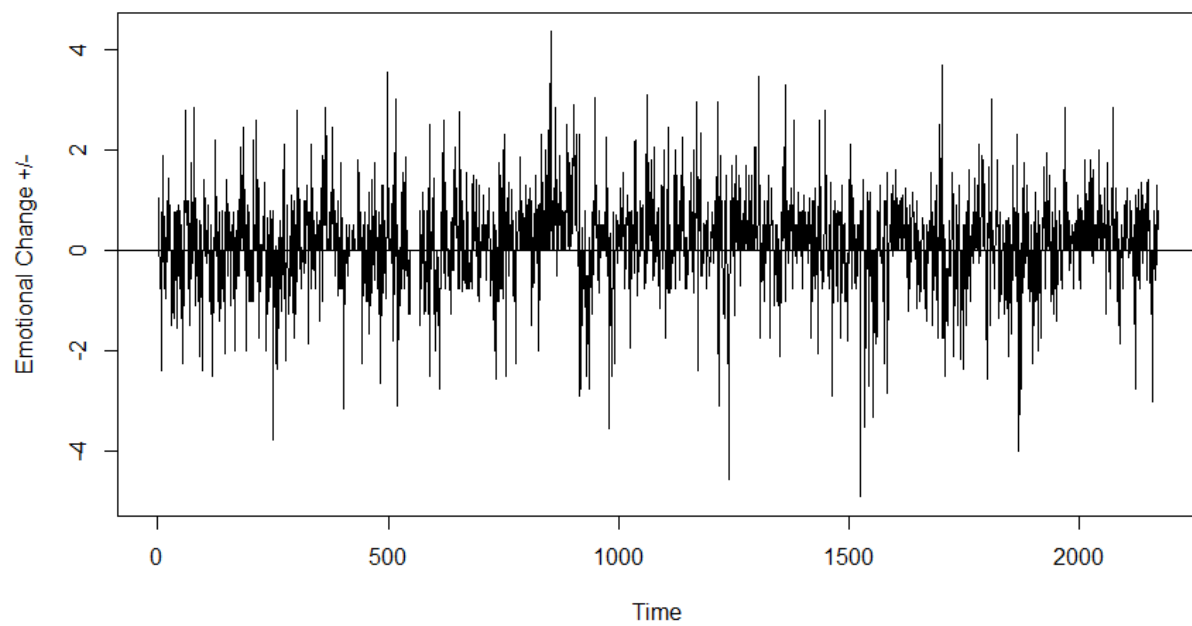
Bidens top 20 Words			Trump's top 20 Words		
1617	ensure	84	foxnews		37
5741	world	87	2247	president	38
198	americans	101	2368	radical	39
2401	house	102	1622	law	40
5676	white	105	3218	vets	40
193	america	107	582	country	41
1022	covid	107	90	amendment	42
631	campaign	113	243	biden	45
649	care	136	3096	trump	45
2272	health	157	1514	job	46
1129	day	166	1855	military	46
5154	time	167	1650	left	47
1044	crisis	168	2205	police	47
3778	people	194	1976	news	57
1006	country	201	981	fake	58
195	american	213	901	endorsement	63
3384	nation	225	1516	joe	63
1396	donald	427	512	complete	70
3948	president	430	3054	total	71
5278	trump	510	2148	people	105

## Sentiment

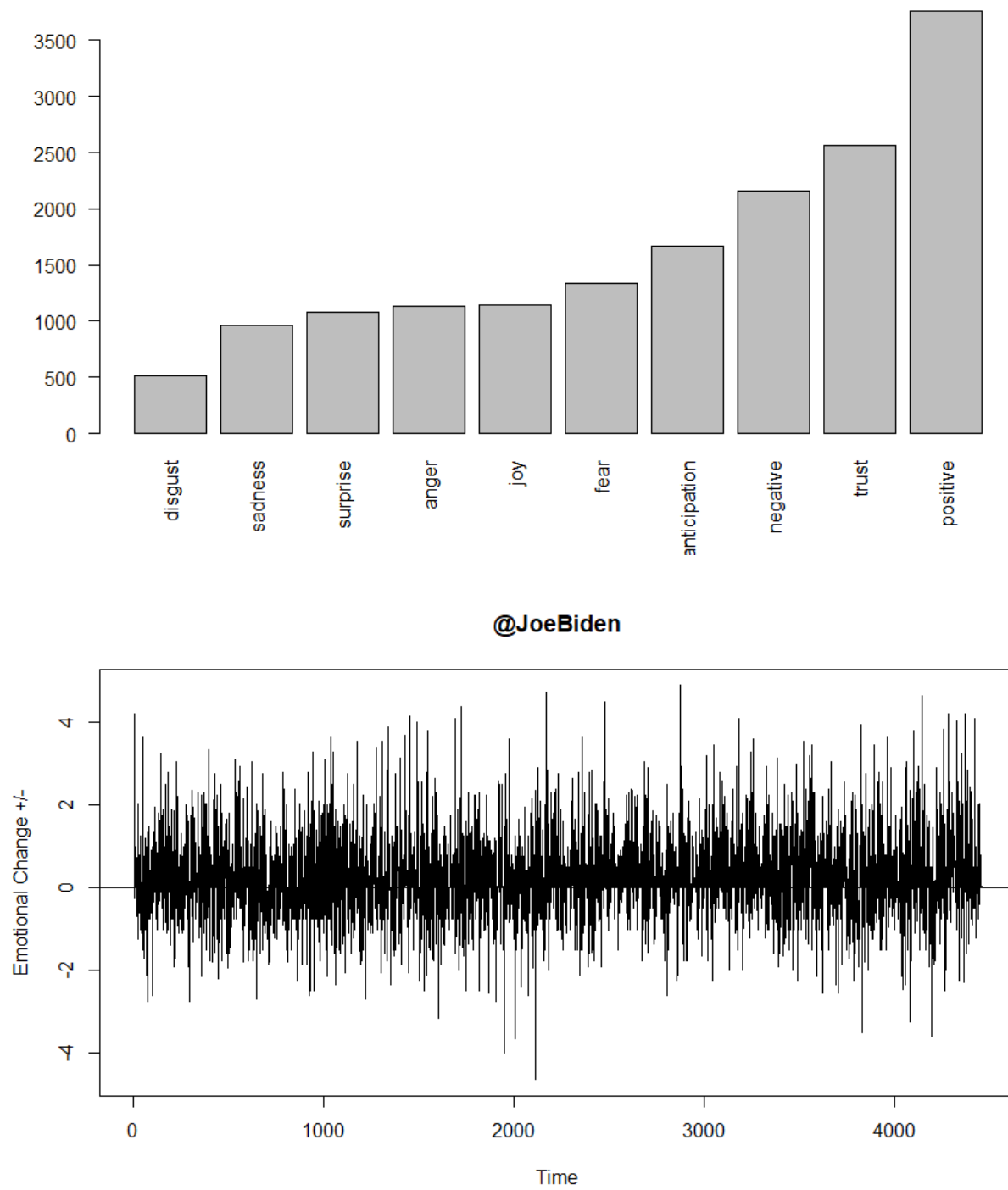
### Trump's Sentiment



### @RealDonaldTrump

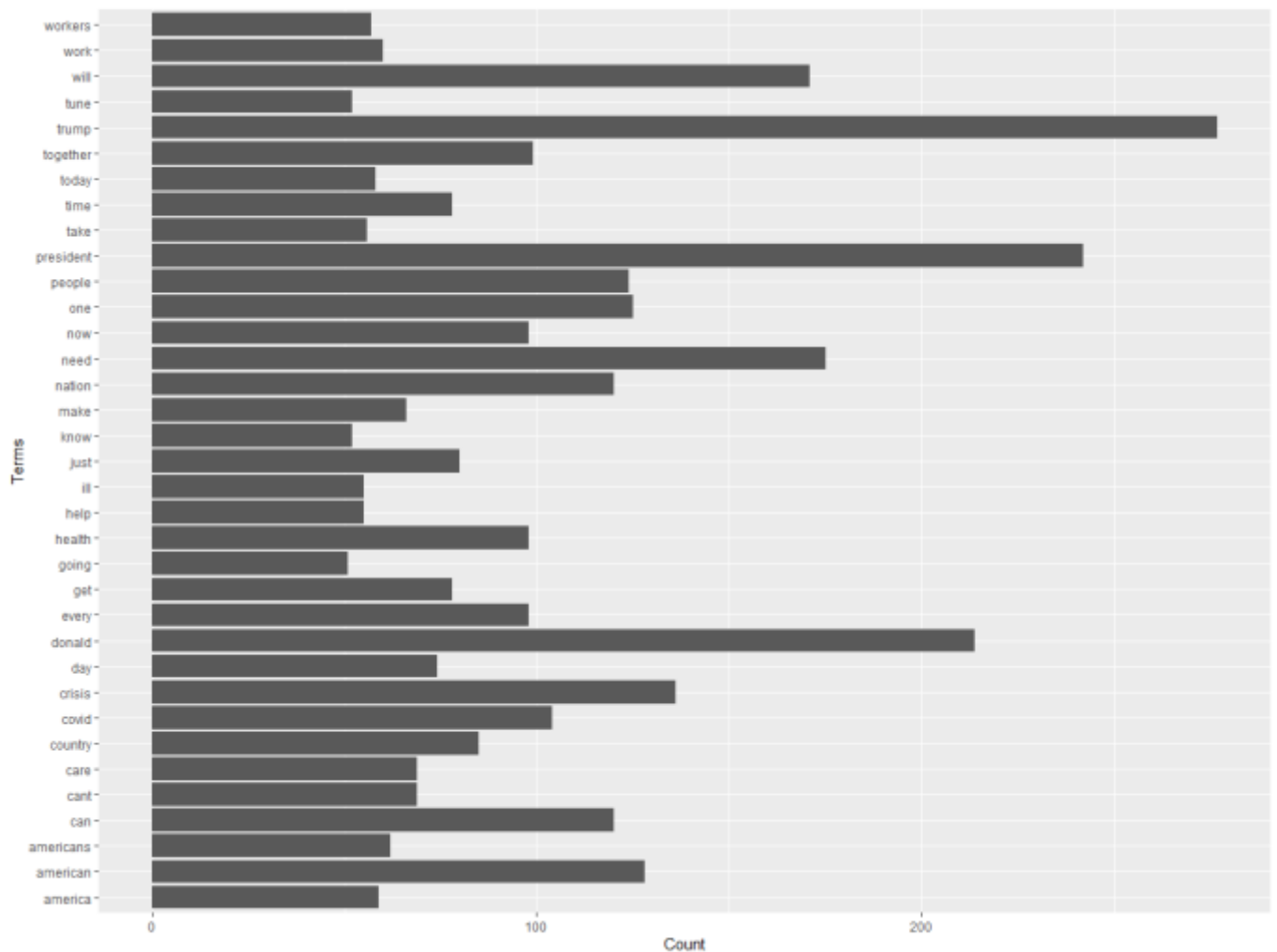


## Biden's Sentiment



## Most common words

Biden wordcount > 50



We can investigate word associations

```
findAssocs(tdm, term, 0.25)
```

```
$trump  
donald failed  
0.7 0.3
```

```
> term<- "fail"
```

```
> findAssocs(tdm, term, 0.25)
```

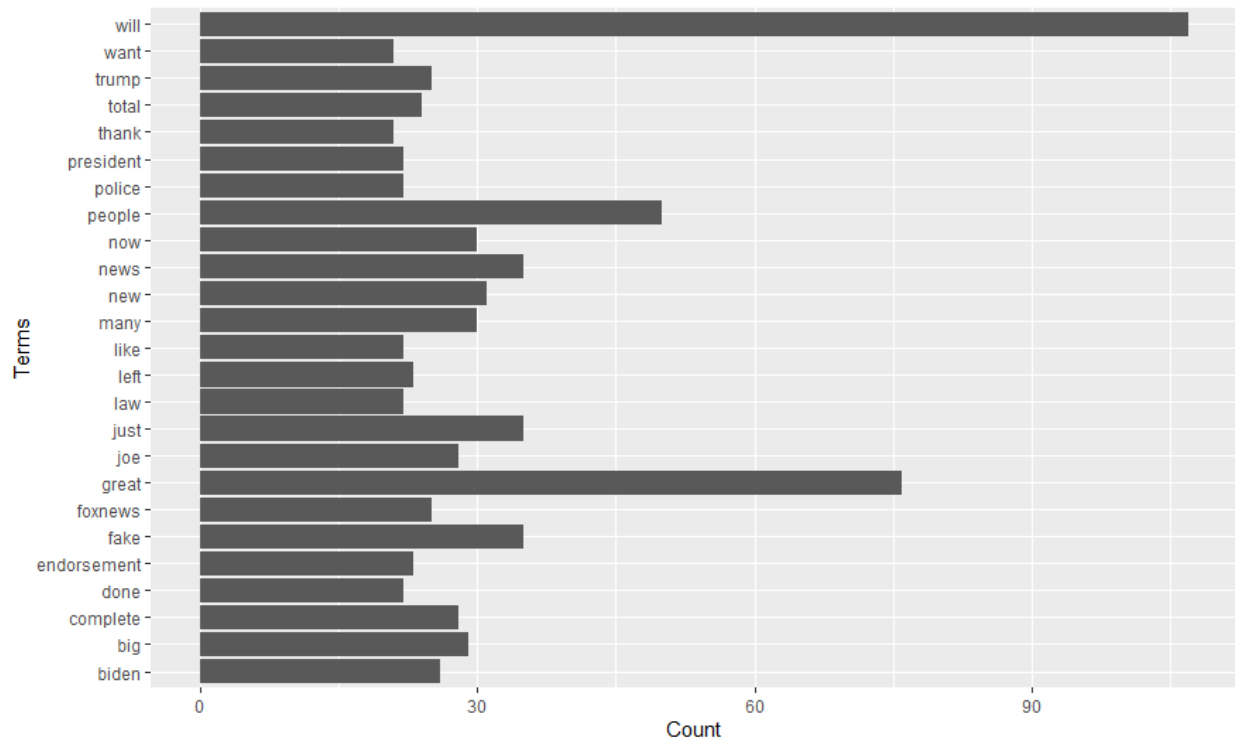
```
$fail  
essentials 1.00 medicine 1.00 postal 0.71 relying 0.58 prevent 0.38 service 0.38 congress 0.31 trying 0.27
```

```
> term<- "failed"
```

```
> findAssocs(tdm, term, 0.25)
```

```
$failed  
posed 0.37 action 0.34 downplayed 0.32 ignored 0.32 necessary 0.32 bad 0.30 trump 0.30 warnings 0.30 donald 0.27 price 0.27  
didn't 0.26
```

Trump n> 20



Word Frequencies Trump

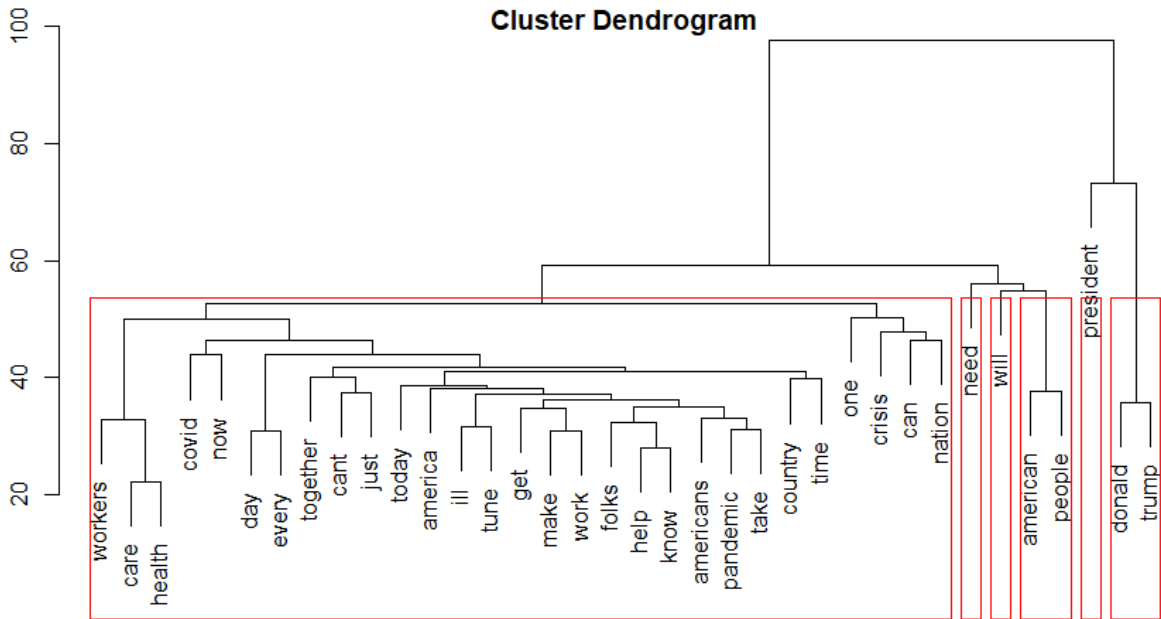
```
> findAssocs(tdm, term, 0.25)
$ Biden
  joe    corrupt  obama  campaign  comey  illegal  regulation  spying  suburbs  targeted
0.38    0.45    0.40    0.31    0.27    0.27    0.27    0.27    0.27    0.27
took
0.27

> term<-"perfect"
> findAssocs(tdm, term, 0.25)
$ perfect
  dreams      empty      ending      lets      ned      transform      vessel      destroying
1.00          1.00          1.00          1.00          1.00          1.00          1.00          0.71
  little      ryan tucker carlson      face      life
0.71          0.71          0.71          0.45          0.30

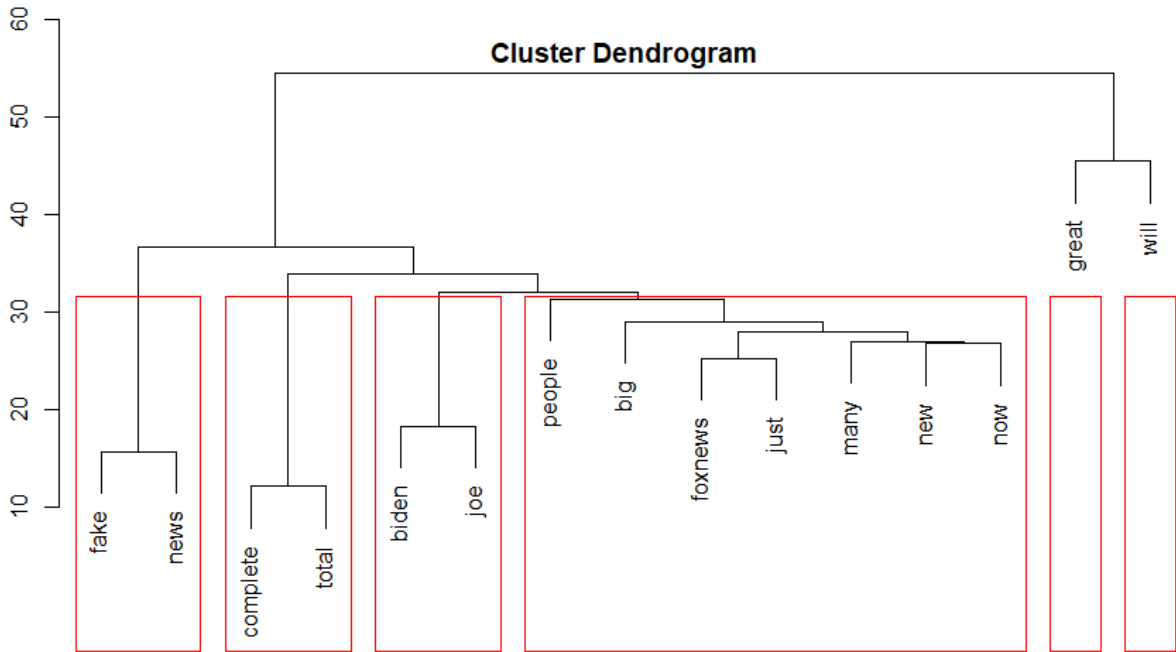
> term<-"obama"
> findAssocs(tdm, term, 0.25)
$ obama
  comey      spying      campaign      biden      caught      spied      around
0.50        0.50        0.46        0.40        0.40        0.40        0.35
  ate        band        business      catch      caughtbut      complains      crew
0.35        0.35        0.35        0.35        0.35        0.35        0.35
  criminality  cronies      destroyed      dirty      endlessly      exercise      exhaustion
0.35        0.35        0.35        0.35        0.35        0.35        0.35
  forget      funny      golf      handlers      illegally      james      leaking
0.35        0.35        0.35        0.35        0.35        0.35        0.35
  lobster      lobstering      lots      lover      lunch      lying      maria
0.35        0.35        0.35        0.35        0.35        0.35        0.35
  mariabartirone  mccabe      mention      mitt      obamas      page      passion
0.35        0.35        0.35        0.35        0.35        0.35        0.35
  pat        peter      place      played      playing      politics      pres
0.35        0.35        0.35        0.35        0.35        0.35        0.35
  quick      rampant      reading      romney      round      ruin      statement
0.35        0.35        0.35        0.35        0.35        0.35        0.35
  stone      taken      thought      toomey      unchecked      wild      fishing
0.35        0.35        0.35        0.35        0.35        0.35        0.31
happens
0.31
```

Cluster Dendrogram Plot

Biden



Trump





## Topic Model

Bidne 6 topics, top 4 words in each

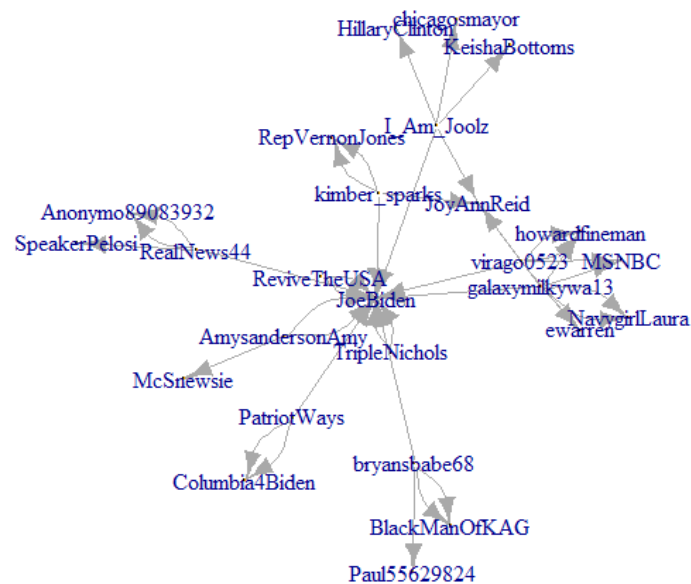
	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6
[1,]	"one"	"american"	"trump"	"president"	"trump"	"covid"
[2,]	"president"	"trump"	"will"	"need"	"donald"	"donald"
[3,]	"trump"	"together"	"donald"	"people"	"can"	"trump"
[4,]	"will"	"can"	"nation"	"crisis"	"people"	"crisis"

	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6
[1,]	"trump"	"need"	"crisis"	"need"	"president"	"trump"
[2,]	"donald"	"crisis"	"donald"	"can"	"will"	"president"
[3,]	"american"	"will"	"trump"	"american"	"one"	"donald"
[4,]	"one"	"together"	"can"	"donald"	"care"	"people"

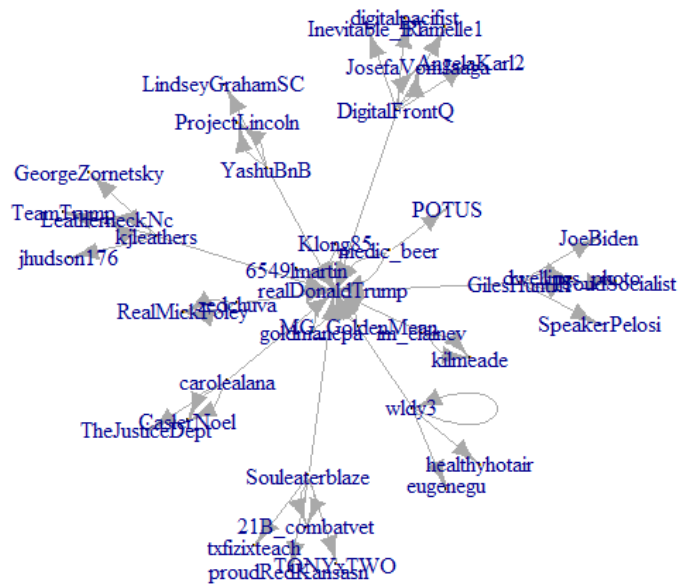
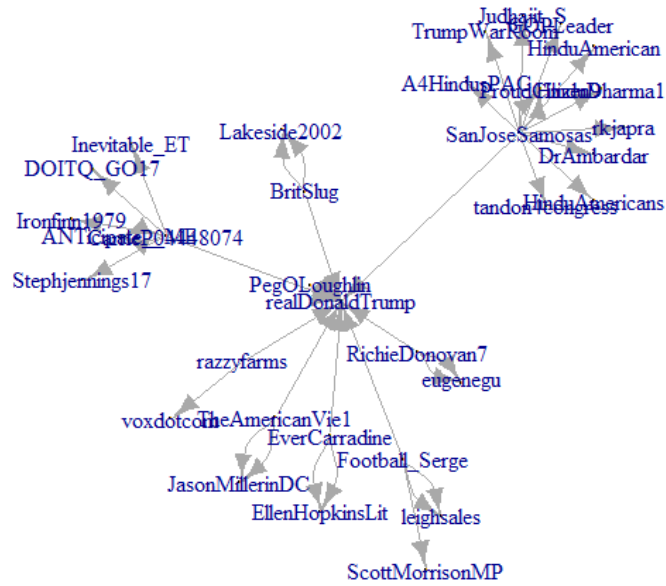
## Network Diagrams

Get messy, this is 1% sample.

Biden



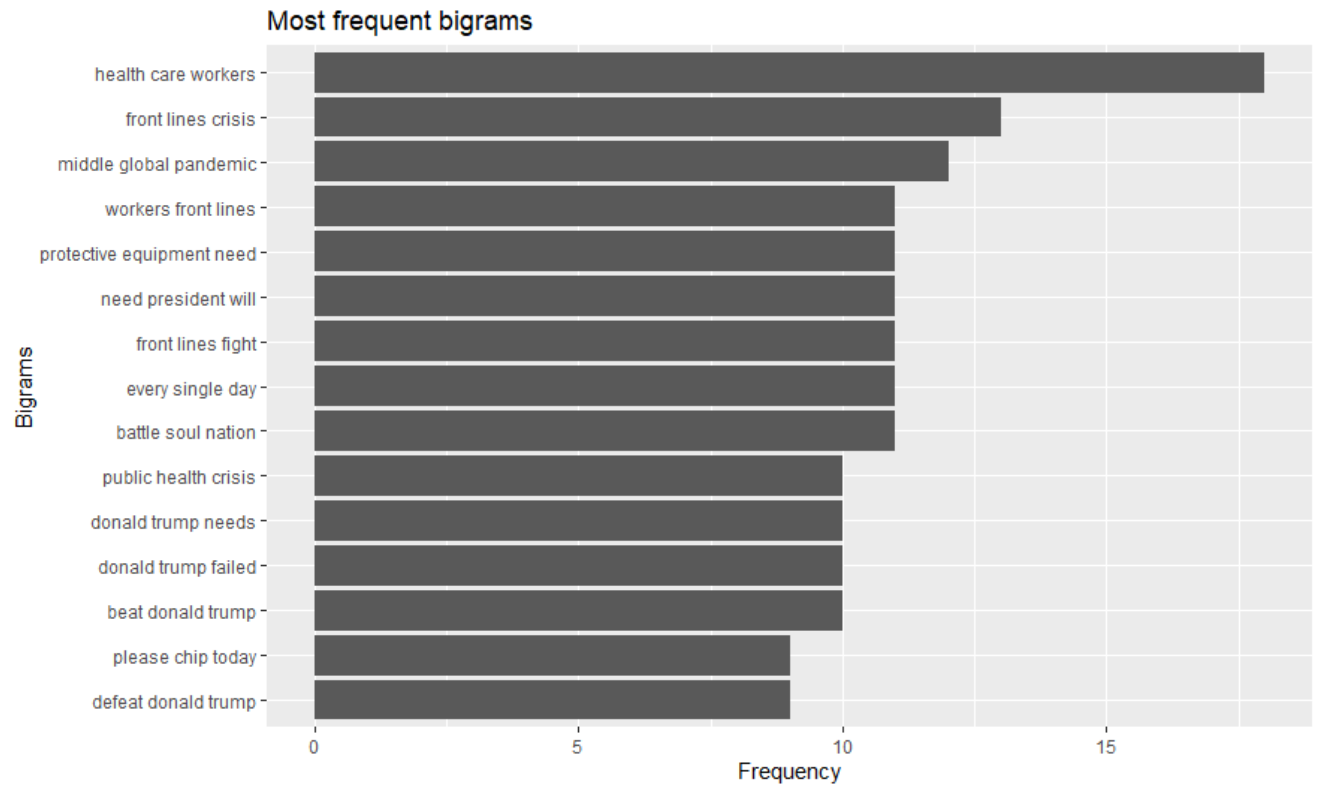
Trump – two plot3 first,  $n = 0.003$  of 5000, second  $n = 0.002$



Biden

As a wordcloud: wordcloud2(x[x\$Freq>1,], size=0.3, color='random-dark')



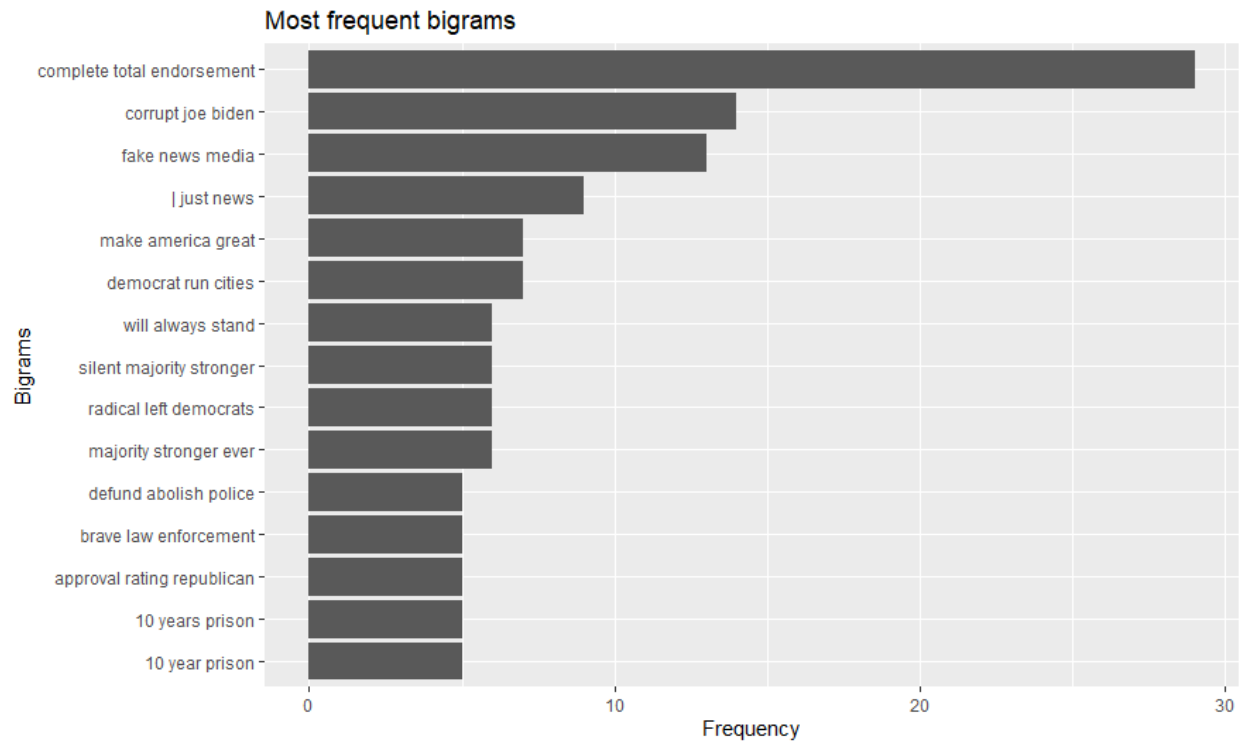




# Trump

		ng Freq
1	complete total endorsement	29
2	corrupt joe biden	14
3	fake news media	13
4	just news	9
5	democrat run cities	7
6	make america great	7
7	majority stronger ever	6
8	radical left democrats	6
9	silent majority stronger	6
10	will always stand	6





**Where tweets came from.**

**Biden** – `search_tweets(searchString, n = 5000, include_rts = FALSE, since="2020-7-1", lang="en")`

(11AM EST AUST, 21/7/2020)



**Trump: ditto above**

