

# Quanteda

Susan Kamal for R-ladies meeting 07.06.2018

[https://www.tandfonline.com/doi/abs/  
10.1080/19312458.2017.1387238?  
journalCode=hcms20](https://www.tandfonline.com/doi/abs/10.1080/19312458.2017.1387238?journalCode=hcms20)

rnner

# Analysis in R

bers , Wouter Van Atteveldt & Kenneth Benoit 

| Published online: 02 Nov 2017

citation  <https://doi.org/10.1080/19312458.2017.1387238>



 Figures & data  References  Citations  Metrics  Reprints & Permissions

Get access

ACT

# Background

- PhD in pharmacy- HIV medication adherence.
- Used quanteda in «Word Frequency and Content analysis of Antiretroviral Adherence Enhancing Interview Reports”, published in PEC 2018, May.

# Background



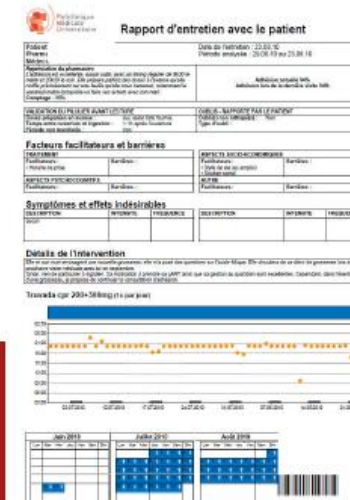
## Motivational interviewing patient-pharmacist (MI)

- Face-to-face
- Patient-centered
- Directive & goal-oriented
- Short but repeated



## Medication Event Monitoring System (MEMS®)

- Objective and dynamic measure of daily medication intake

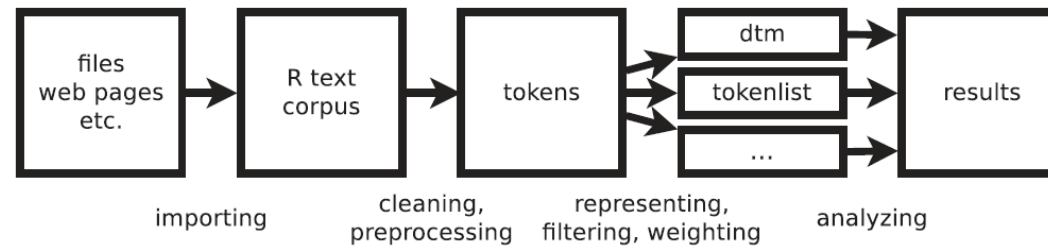


## Medication adherence report

- Data collection and secure record
- Feedback to the patient/physician
- Continuity of care

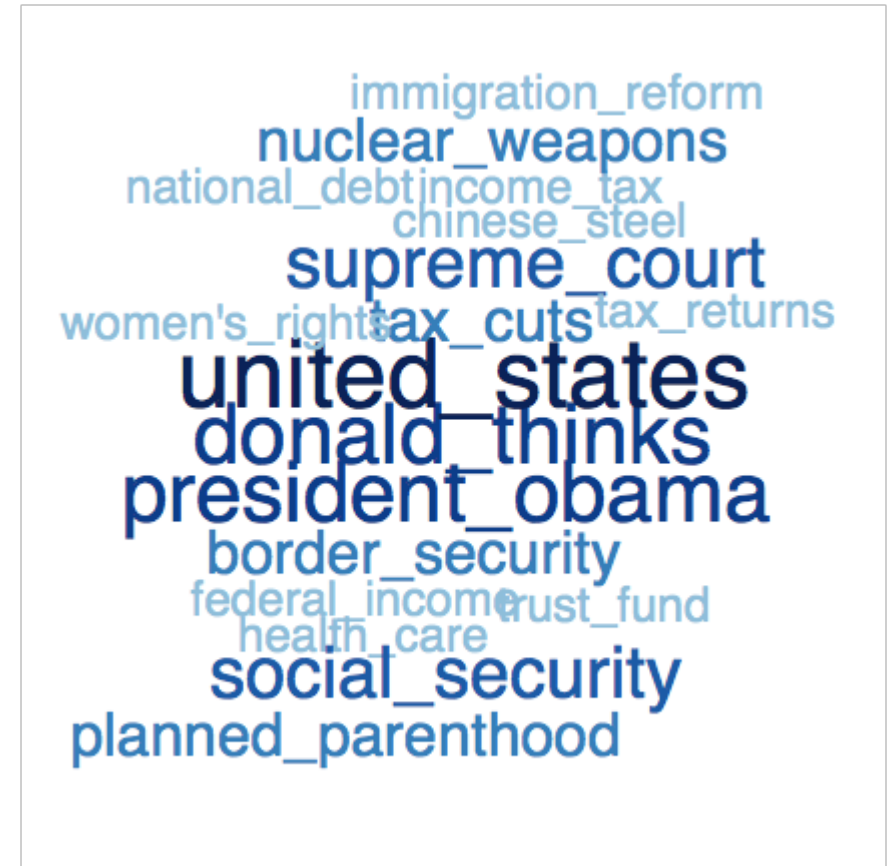
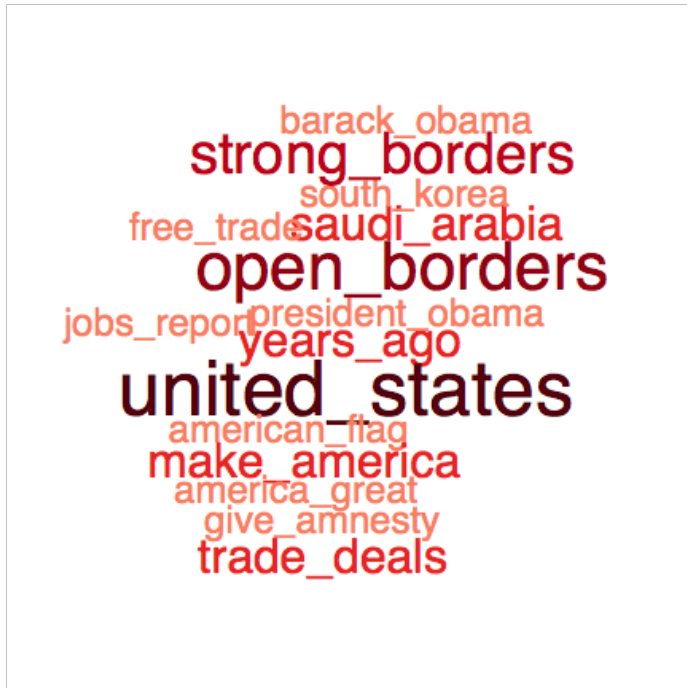
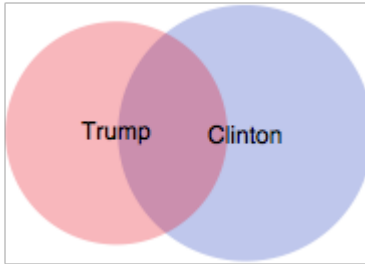
Krummenacher, Cavassini, Bugnon, Schneider. AIDS Care 2011; 23(5):550-61  
Krummenacher, Cavassini, Bugnon, Spirig, Schneider. PWS 2010; 32:776–786  
Lelubre, et al. BioMed research international 2015 (2015)

# Method



# Method

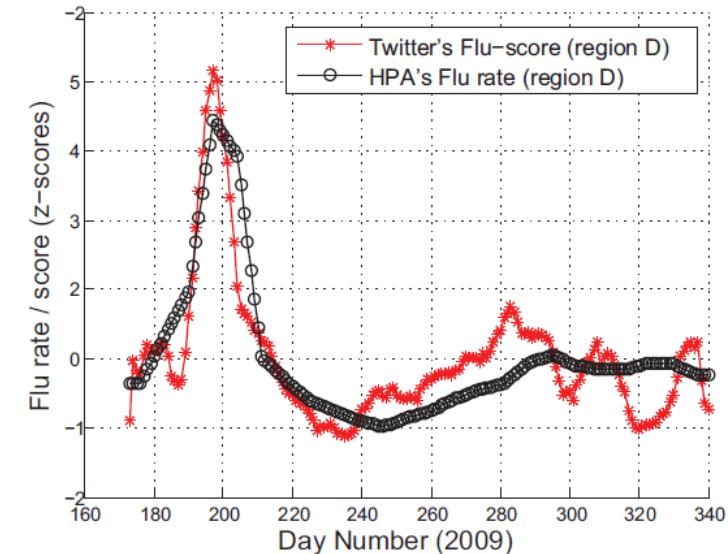
## Presidential Debate of 2016



# Method

## Tracking the flu pandemic by monitoring the social web

lung	unwel	temperatur	like	headach	season
unusu	chronic	child	dai	appetit	stai
symptom	spread	diarrhoea	start	muscl	weaken
immun	feel	liver	plenti	antivir	follow
sore	peopl	nation	small	pandem	pregnant
thermomet	bed	loss	heart	mention	condit
high	group	tired	import	risk	carefulli
work	short	stage	page	diseas	recognis
servic	wors	case	similar	term	home
increas	exist	ill	sens	counter	better
cough	vomit	earli	neurolog	catch	onlin
fever	concern	check	drink	long	far
consid	ach	breath	flu	member	kidnei
mild	number	sick	throat	famili	water
read	includ	swine	confirm	need	nose
medic	phone	cancer	disord	unsur	suddenli
runni					





# Code

```
library("quanteda") library("magrittr") library("dplyr") library("glmnet") library("ggplot2") library("xtable")
runModel <- function(triPatMat, combDf, type, a) { if (type == "logit", 0.01)
wordWeights$Positive <- ifelse(wordWeights$estimate > 0, wordWeights$estimate, 0)
wordWeights$Negative <- ifelse(wordWeights$estimate < 0, wordWeights$estimate, 0)
# some analysis just on the non-text data
# context search dv <- select(comb, c(-text)) fullCorpus <- corpus(comb$text, docvars = dv)
kwic(fullCorpus, "adhésion selon")
wordcloud::comparison.cloud((as.matrix(wct)), title.size = 1.2, random.order = FALSE, rot.per = 0,
scale = c(1, 2))
# Extra stopwords here (French default stopwords list is already used) extra <- c("apparemment", "vrac",
"apres", "suivregestion", "mems.je", "sans", "vas", "aucun")
thisCondition <- intervisitAll thisCondition$id <- as.factor(thisCondition$id)
```

# Results I

## Words [within context]\*\* associated with high adherence ( $\geq 90\%$ )

“have disappeared “ [the side effects...]
“excellent motivation”
“social support”
“mutually” [ patient and others support the medication intake mutually]
“very regular hours” [...of treatment intake]
“patient is happy” [...to see good adherence results as shown by EM]
“MEMS* as memory aid”
“women” [female patient discusses her HIV status with other HIV+ women]
“partner”
“husband”

## Words [within context] associated with low adherence ( $< 90\%$ )

“DOT” [ Pharmacist suggested switching to directly observed therapy]
“ TEL ” [ pharmacist telephoned the treating ID physician]
“cry”
“prepares in advance” [patient...their doses]
“discrete” [patient want to be ...about their HIV status]
“small sachets” [patient keeps their medication in]
“name of ID physician”
“garbage bag” [ patient uses a garbage bag to hide their medication]
“homeless” [patient is]
““other appointments” [...with several doctors]
“bitter taste” [ of medication]
“baggage” [travel]
“name of psychosocial nurse”

# Results II

premiers\_jours Positive sait\_qu'il\_peut  
d'excellente adhésion.le patient  
qu'il\_peut patiente a mentionné  
demandé\_d'en  
bien\_depuis Horaires très réguliers  
conjoint signalé oubli\_depuis d'effets  
cessea\_disparu séropositif premiers  
okplaît traitement l'inclusion plus\_d'ei  
venait régulière\_entrefait\_partei  
tante suivi\_a dot tems selon nez  
chien représentatif car trop avis  
restand stop mems plus vite partait  
complexe domicile fixe  
4ème prépare toujours gardiol vide  
a\_surtout servent valise facteurs  
parlait détermine selon tel  
frèresdit être fatigué miracle  
plus\_discret Negative mems tous  
petite\_soeur