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# GREY'S ANATOMY OVER THE YEARS

METIS NLP PRESENTATION 3/22/22  
BY MELANIE ACKERMAN



# HOW HAS THE SHOW CHANGED?

- 18 seasons
- Changing cast
- Medical advances in the last 2 decades



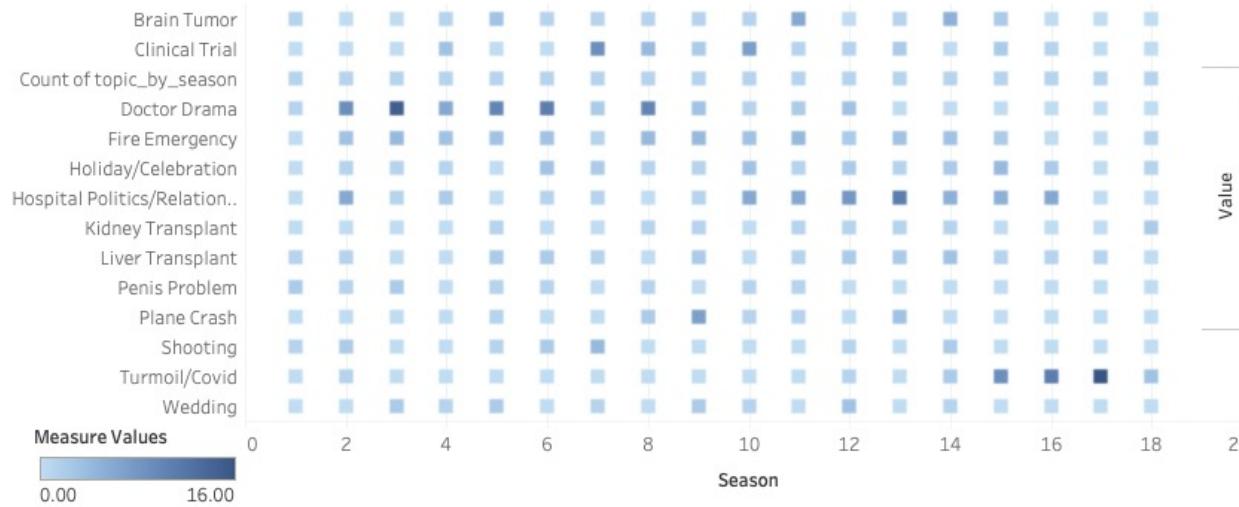
# TOPIC MODELING

- Use TFIDF word vectors and NMF modeling
- 13 topics
- Count number of episodes per topic
- Aggregate topics by season

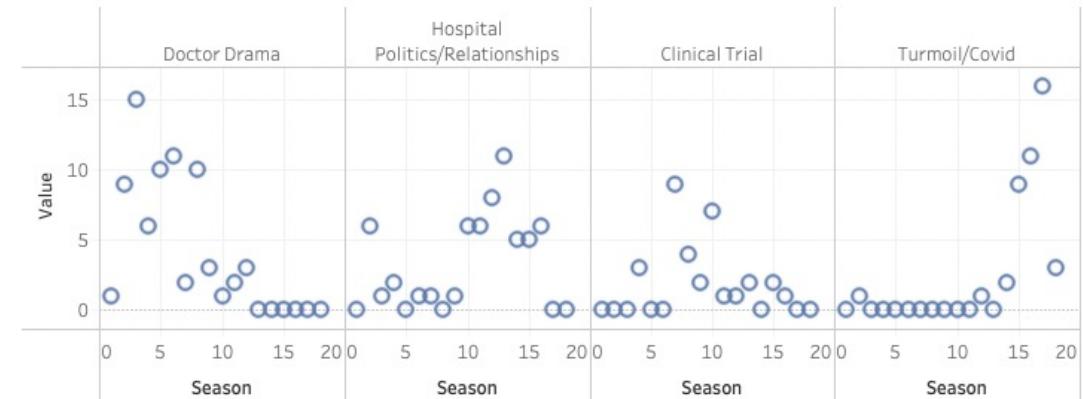
	num_eps	0	1	2	3	4	5	6	7	8	...	10	11
<b>Doctor Drama</b>	73	cancer	board	procedure	attending	slept	office	aneurysm	lunch	trailer	...	mistake	sorry
<b>Wedding</b>	13	wedding	dress	church	aisle	married	bride	marry	guest	minister	...	altar	ceremony
<b>Brain Tumor</b>	24	tumor	radiation	brain	remove	contest	gallery	diaper	risk	seed	...	cord	flashback
<b>Kidney Transplant</b>	9	kidney	transplant	dialysis	donor	organ	match	pacemaker	flip	failure	...	renal	donate
<b>Penis Problem</b>	10	penis	rapist	organ	begin	restaurant	key	stitch	date	apartment	...	reattachment	penile
<b>Plane Crash</b>	15	plane	leg	crash	wood	worm	suddenly	oclock	flight	flying	...	lying	surge
<b>Fire Emergency</b>	43	ambulance	firefighter	chest	paramedic	bomb	burn	bleeding	supply	hallway	...	police	dead
<b>Hospital Politics/Relationships</b>	59	upset	leg	pregnant	sends	shocked	date	push	ultrasound	continues	...	confused	school
<b>Turmoil/Covid</b>	43	therapy	pandemic	beach	tent	vent	chamber	ventilator	receives	share	...	hyperbaric	world
<b>Shooting</b>	13	gunshot	shooting	shot	bullet	officer	police	wound	floor	cop	...	duck	chest



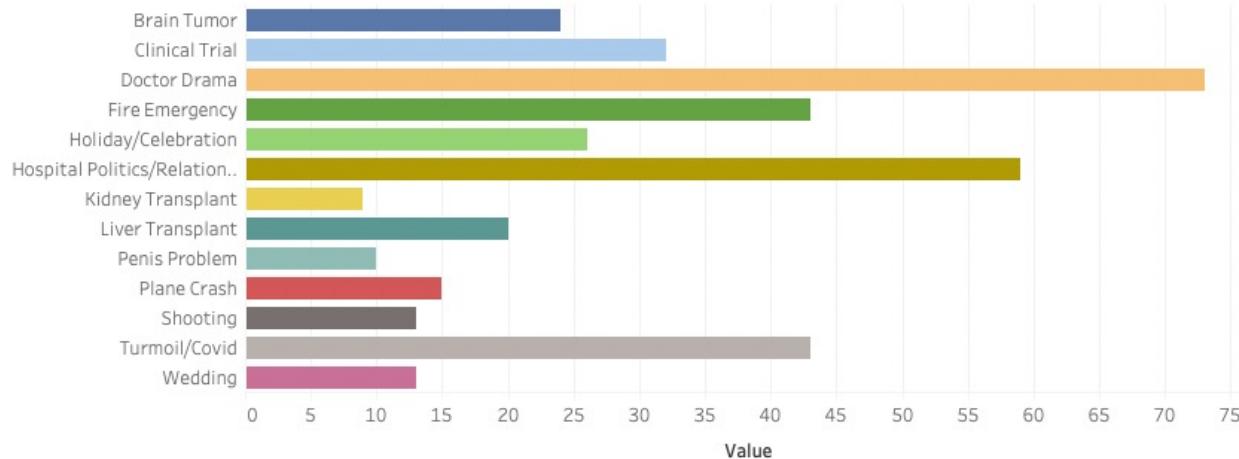
## All Topics and Seasons



## Select Topics Over Time



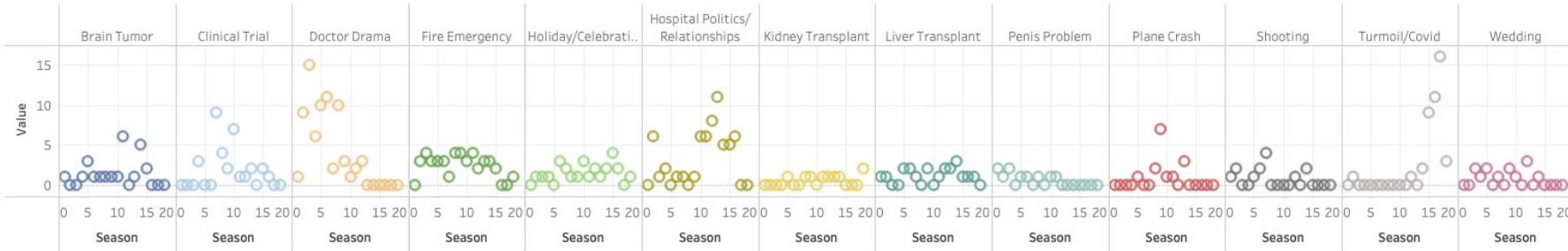
## Topics Overall



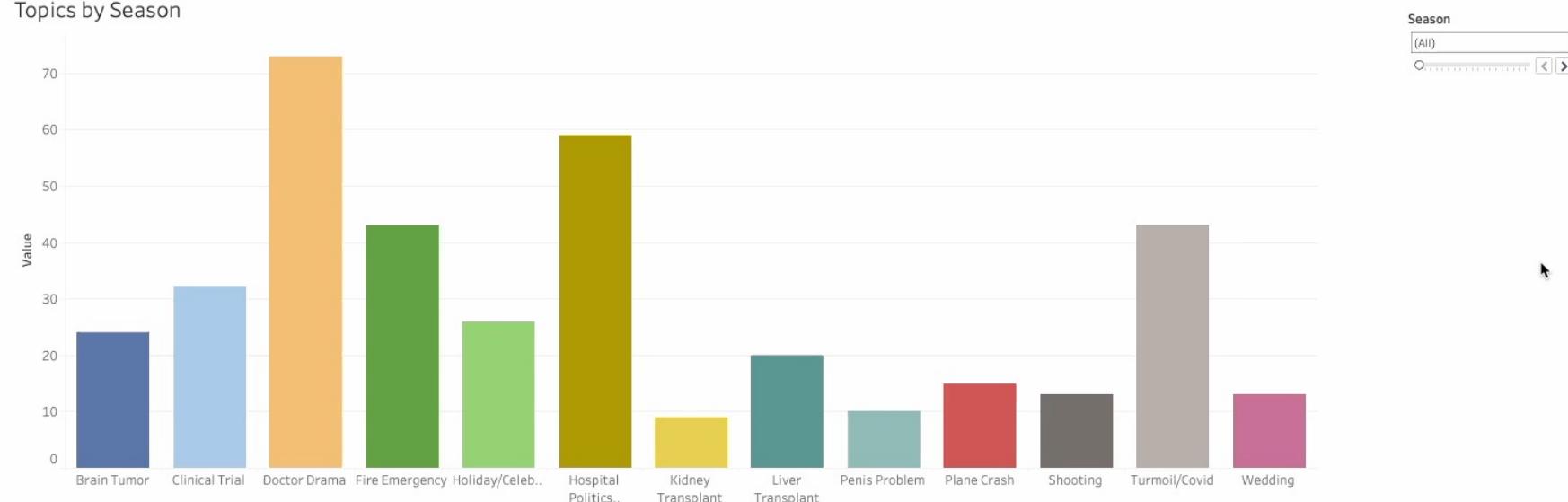
## Measure Names

Brain Tumor
Clinical Trial
Doctor Drama
Fire Emergency
Holiday/Celebration
Hospital Politics/Relationships
Kidney Transplant
Liver Transplant
Penis Problem
Plane Crash
Shooting
Turmoil/Covid
Wedding

## Topics Over Time



## Topics by Season



# CONCERNS ABOUT THE MODEL

- Generally good topic splits
- A couple topics too vague
- Using summaries vs. full transcripts
  - Potential issues with fan site's summaries



# MOVING FORWARD

- Do transcripts generate similar topics?
- Episode recommender based on topic preferences



# THE END



Who here feels like they have no idea  
what they're doing?