

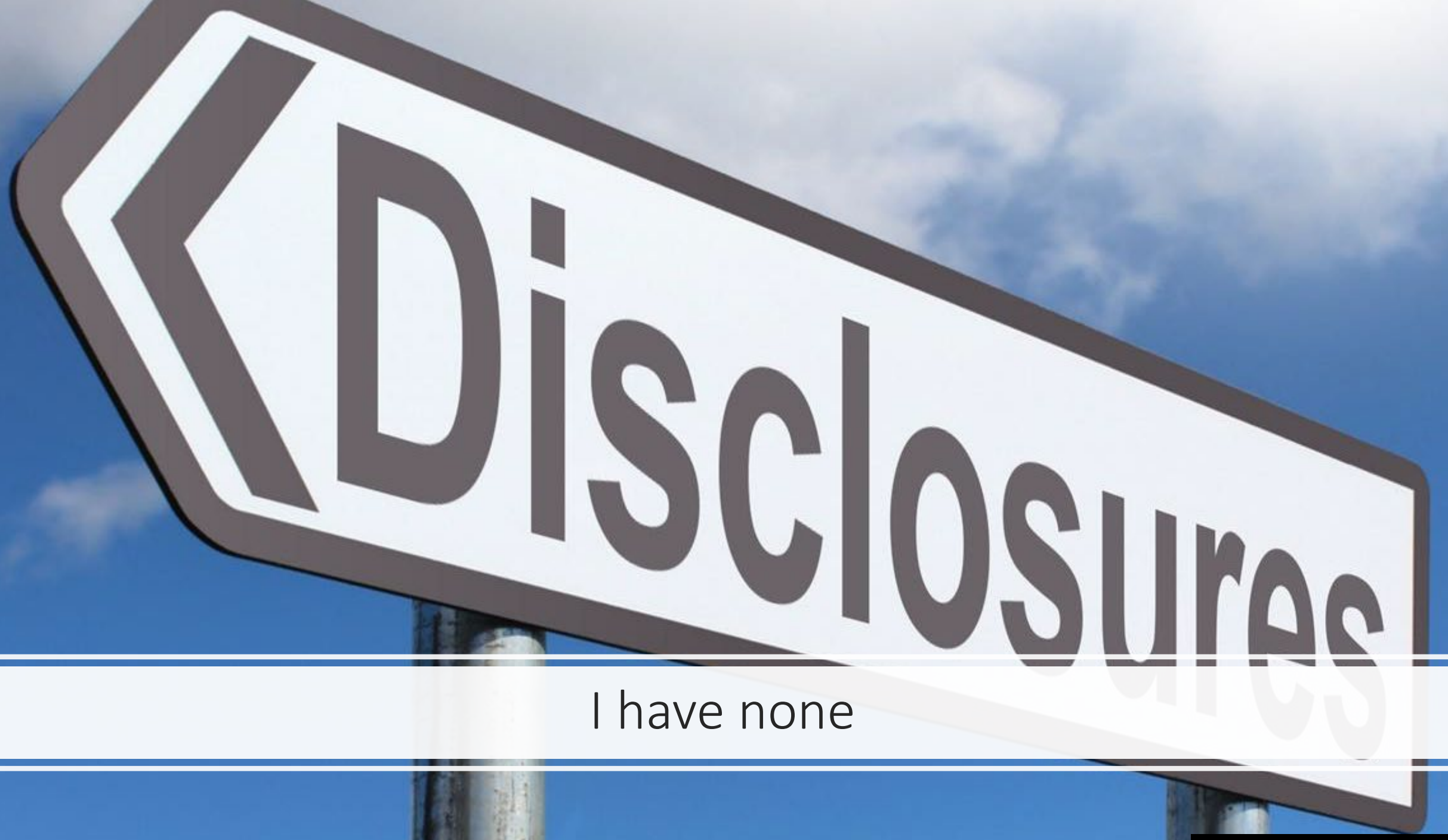
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Healthcare Social Media (#hcsM) Supports Our Mission

Jasmine R Marcelin MD FACP
Co-Director Digital Innovation & Social
Media Strategy
Assistant Professor, Division of
Infectious Diseases





I have none

Objectives

- ✓ Describe examples of social media use for education
- ✓ Identify examples of innovative social media use for healthcare research
- ✓ Recognize use of social media to directly impact patient care



UNMC & Nebraska Medicine Mission



“Our mission is to lead the world in transforming lives to create a healthy future for all individuals and communities through premier educational programs, innovative research and extraordinary patient care.”



Digital Media in healthcare

Evolution of the Electronic Medical Record



1968

Problem-Oriented Medical Records Developed by Dr. Lawrence Weed

The goal of the POMR was to take the stream-of-consciousness-style record keeping and turn it into an effective way for clinicians to understand a more complete and accurate picture of their patient's health and treatment needs. While effective, this framework meant that clinicians were spending too much time creating progress notes which made the process very lengthy.



1972

The Dawn of the EHR System

The first EHR system is created by The Regenstrief Institute in Indianapolis & Clement McDonald, a medical doctor. Together, they wanted to create a system that would solve database design issues & allow clinicians to more easily link healthcare organizations, as well as healthcare providers in other disciplines, so everyone could access the same records through one central system. Despite partnering with Purdue University to write entirely new code, the first EHR system was prohibitively expensive and was not adopted by many clinicians due to its steep cost.



Early 1990s

The Internet's Effects on EHR

"The Computer-Based Patient Record: An Essential Technology for Health Care" is written by Richard S. Dick, Elaine B. Steen and Don E. Detmer under the direction of the Governing Board of the National Research Council. Published in 1991, this book shook the industry out of complacency and helped drive the adoption of EHRs by breaking down the challenges associated with the technology. Thanks to improvements in tech, greater processing power could be completed in much smaller packages, making EHRs much more affordable.



1996

The Health Insurance Portability and Accountability Act (HIPAA) is Introduced

In response to a surge in electronic medical information, HIPAA was introduced to protect patients and their medical data. Prior to the introduction of HIPAA, EHR systems did not have any standards they needed to conform to. While this change in policy led vendors to scramble for compliance, it also helped create a structural foundation for the next wave of EHR evolution.

Evolution of the Electronic Medical Record



The 2000s

EHR Standardization & Adaptation

The 2000s saw a new generation of EHRs built around the security requirements that are still in place today. Physical, technical and administrative safeguards began to appear in all new EHR products, including protections for automatic data backups, automatic log-offs, data encryption, audit trails, and access controls. Creators of systems became more interested in achieving standardization and courted the leading health organizations of the time, such as Health Level 7 International. During this time, the leaders of the EHR industry began moving toward integrated and centralized systems, in which all of a patient's data could be accessed through a single system rather than cycling through pages from disparate systems.

2009



The Health Information Technology for Economic and Clinical Health (HITECH) Act is Enacted

This legislation tightened HIPAA restrictions and improved their enforcement to ensure patient data was kept private and secure. As a result, all best-in-class EHRs worked harder to make security compliance easy. Encryption, access controls with individual authentication and audit trail features were strengthened to make it simple for even a small practice to remain compliant without sacrificing time and resources.



EHRs Today

Current EHR Systems

Thanks, in part, to further legislation such as Meaningful Use and the Merit-Based Incentive Payment System (MIPS), EHRs have become nearly ubiquitous throughout medical and behavioral health settings — so much so that in 2015, the adoption rate for hospital clinics reached 92 percent! Practices that adopt EHR systems enjoy a variety of benefits that apply to both patient and practitioner such as: greater continuity of care, improved efficiency and better emergency preparedness & response. EHRs are also developing functions outside of charting to include helpful practice management tools such as secure messaging systems, payment and billing integrations and automated appointment reminders, which help reduce no-shows & eliminate wasted time filling out paperwork

Future EHRs



Imagining the Future of EHRs

With the rise of telemedicine, new legislation being introduced to allow for greater interoperability and big technology companies like Apple, Google and Amazon introducing ways for patients to access their health information and medical records from their smartphones, EHRs are likely to see improvements in the remote delivery of care by integrating with consumer technologies. Additionally, machine learning and artificial intelligence technologies may even make it possible to develop predictive models that can help avert negative outcomes in real-time or provide greater insight so health-related issues can be diagnosed and treated faster and more accurately.



“MyChart”



Chatbots



Ten threats to global health in 2019

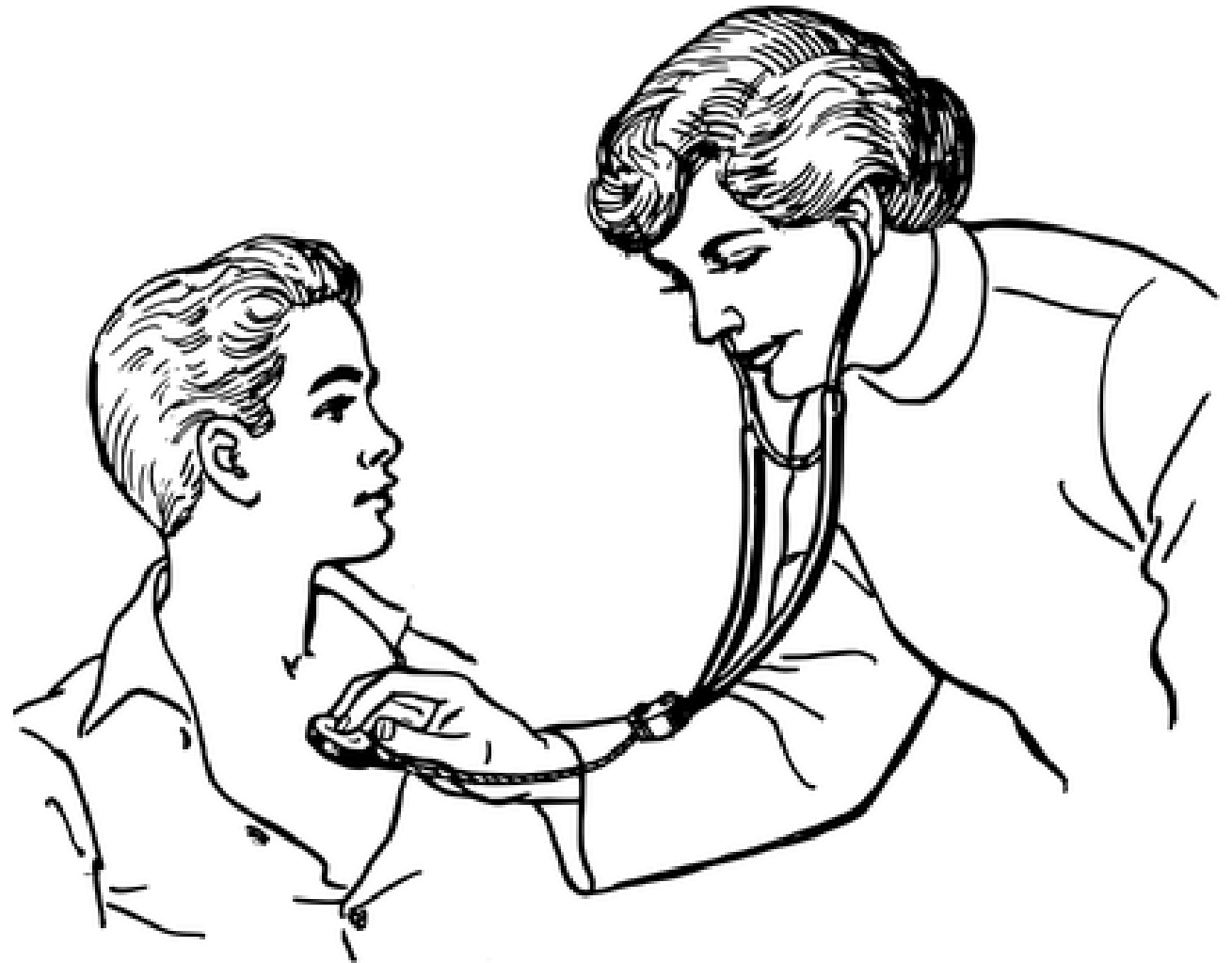
World Health Organization

<https://www.who.int/emergencies/ten-threats-to-global-health-in-2019>

- Air pollution & climate change
- Non-communicable diseases
- Global influenza pandemic
- Fragile & vulnerable settings
- Antimicrobial resistance
- Ebola & other high-threat pathogens
- Weak primary health care
- Vaccine hesitancy
- Dengue
- HIV

#hcsnm for patient care & patient education

- Building communities for patients
- Helping patients access better care
- Helping clinicians provide better care



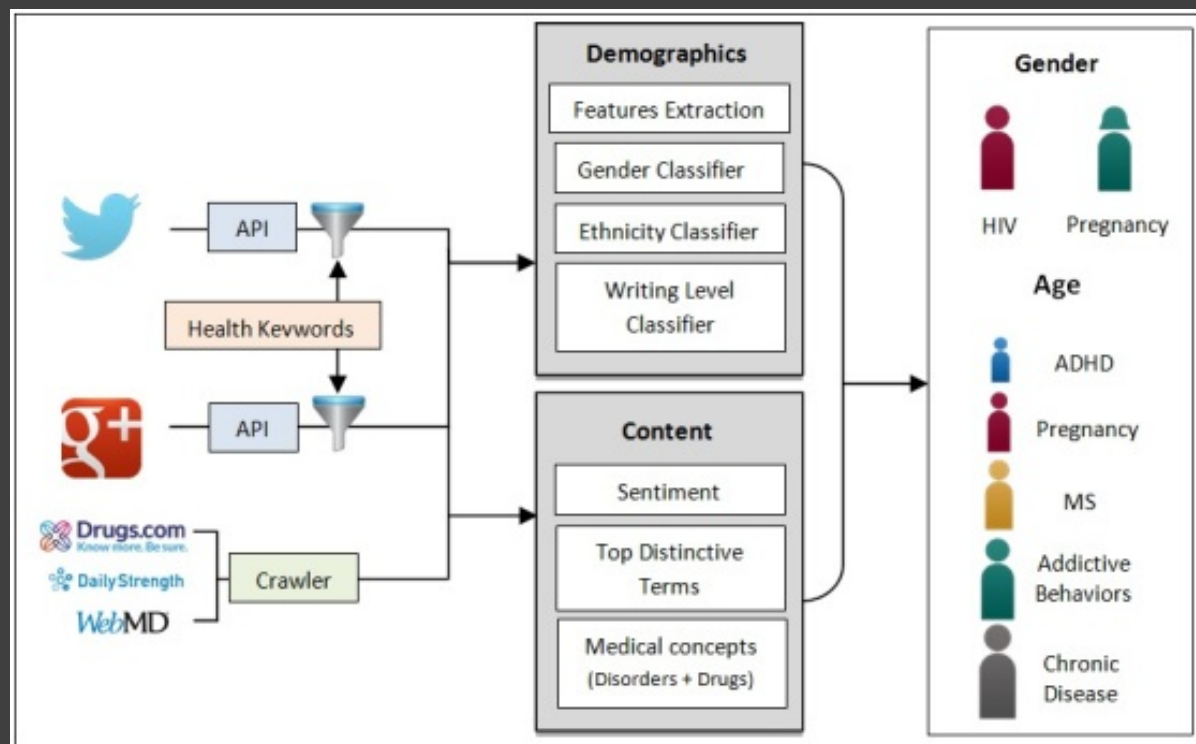


Table 2

Top 10 distinctive terms by gender.

Gender	TwitterHealth	Google+Health	Drugs	Forums
Male	Prostate, Gay, Testicular, Viagra, Tumor, AIDS, Obamacare, Marijuana, Medicare, Insurance	Pharmacology, Encephalomyelitis, Amphetamine, Pertussis, Fukushima, Pfizer, Novartis, Neutrophil, Biomed, Viagra	Wife, Oxycontin, Urine, Lisinopril, Cholesterol, Hydrocodone, Disc, Spinal, Libido, Diovan	HIV, Wife, Tinnitus, Gay, Cholesterol, Artery, AA (alcoholic anonymous), Valium, Cardiologist, Alcohol
Female	Cry, Migraine, Moody, Frown, Pound, Laugh, Nap, Eczema, Headache, Tension	N/A	Ovulation, IUI (intrauterine insemination), Pregnancy, Clomid (used to cause ovulation in women), IVF (in vitro fertilization), Pregnant, Birth, Boyfriend, BC (birth control), Fibromyalgia	Miscarry, PCOS (polycystic ovary syndrome), Endometriosis, Lupron, Uterus, Hysterectomy, Infertility, Ovarian, Rheumatologist, Progesterone

What are patients looking for?

- Community
- Answers
- Validation



Variable content

81 lumbar
discectomy videos
for review
(2,722,964 views)

Good quality (16)

Average quality
(25)

Poor quality (40)

Using YouTube?

- Inspire with stories
- Educate with common terms
- Consider attention spans
- Use strong visuals
- Make videos accessible



YouTube has a **BILLION** Monthly Active Users. If YouTube was a country it will be the **3rd** most populated in the world behind China & India.

80%

of YouTube's Views are Outside of the US



On Average, A User Spends

40 MINUTES

on YouTube on their Mobile Device per Day



4 MILLION

YouTube Videos are Viewed per Day



6 BILLION

Hours of Videos watched on YouTube every Month

300

Hours of Video are Uploaded to YouTube every Minute



YouTube Reaches More

18-49

Year-olds than Any Cable Network in the US



Videos are Shared

2X more in Facebook than Text or Image-Based Content



40%

of YouTube views come from Mobile Devices

#hcsn for
patient
education

Infographics:
Short, Visually
appealing,
easy to share

**Can I feel better without
antibiotics?**



Respiratory viruses usually go away in a week or two without treatment. To stay healthy and keep others healthy, you can:



Clean Hands



Cover Coughs



Stay Home When Sick



Get Recommended
Vaccines

To learn more about antibiotic prescribing and use,
visit www.cdc.gov/antibiotic-use.



Facebook Live Interviews:

Timely, brief, patient-
directed questions

Alberto Marcelin, MD
Chalco Health Center

Kayla Thomas
Nebraska Medicine

YOUR GPS DOC, LLC

www.yourgpsdoc.com

Founder/CEO: Nicole Rochester, MD

Like Following Share ...

Be relatable: vary the topics



JOIN ME
FOR
"NAVIGATOR
NUGGETS"
EVERY
MONDAY
AT 8 PM ET

www.facebook.com/
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2 dates left

Navigator Nuggets

Your GPS Doc

We're keeping it going in 2019! Join me every Monday here on this page at 8 pm EST for useful "nuggets" of information about navigating the healthcare system.... [More](#)

DEC 16 Mon 8 PM EST

DEC 23 Mon 8 PM EST



Topic 2

As a patient, what do you wish your doctors knew (and did) about the patient experience of being hospitalized?

12/9/19 JHM chat

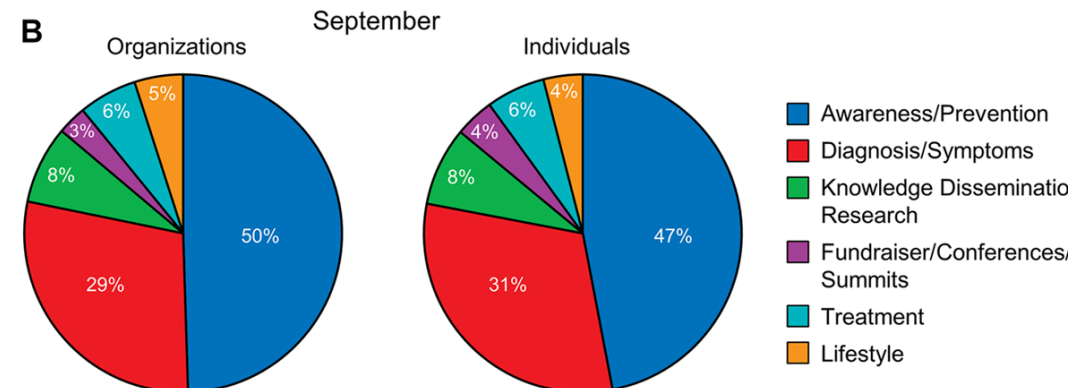
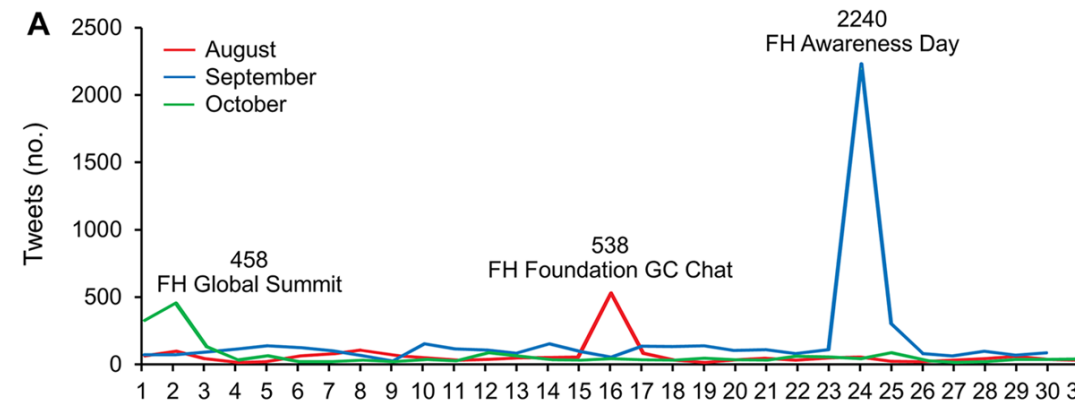
#hcsn for patient engagement

- Meet patients where they are
- Invite them into conversations healthcare professionals are having

https://twitter.com/hashtag/JHMChat?src=hashtag_click

Raise Awareness

- September = National Cholesterol Education Month (NCEM)
- Familial Hypercholesterolemia (FH) tweets increased by 153% in September vs. August, then decreased by 59% in October
- Highest number of tweets on the recognized awareness day
- Can you use awareness days to help boost discussion of your campaigns?



Protecting Science on #SoMe: Misinformation countermeasures



Provenance



Engagement



Transparency



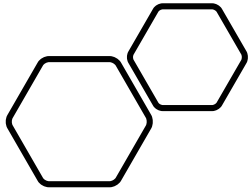
Narrative



Reputation



Connection



Ever asked a colleague how they would approach a challenging case?



<https://cure.ncats.io/#/explore>

Crowdsourcing ideas on managing difficult cases

Hi Jasmine,

following is the list of updates in Cure ID since 12-13-2019:

1. New discussion started:

Elevated Absolute Cd8 In Well Controlled Hiv Positive

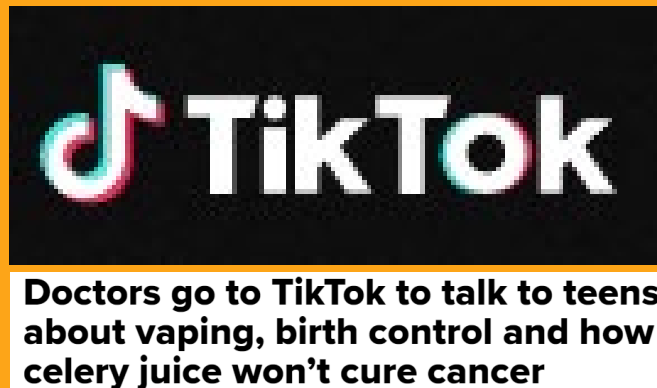
Already consulted with San Francisco Clinical Consultation Service, and they had no concerns. Pt is a 55 y/o African American Male well controlled on ART (Rx Genvoya) for his HIV Infection. No acute infections but his CD8 absolute is ~4x upper limit of normal. CD4 counts have always been within normal ranges, and HIV Viral Load remains undetectable.

12/03/19: CD4 1069, CD8 3623 (!!), CD4/CD8 ratio: 0.30
05/29/19: CD4 714, CD8 1890, CD4/CD8 ratio: 0.38
02/25/19: CD4 778, CD8 2318, CD4/CD8 ratio: 0.34
02/27/18: CD4 675, CD8 2109, CD4/CD8 ratio: 0.32
01/12/17: CD4 730, CD8 2481, CD4/CD8 ratio: 0.29
05/05/14: CD4 608, CD8 1885, CD4/CD8 ratio: 0.32

Anyone aware of immunologic/HIV researchers who could comment on the significance of this very elevated CD8 cell count?

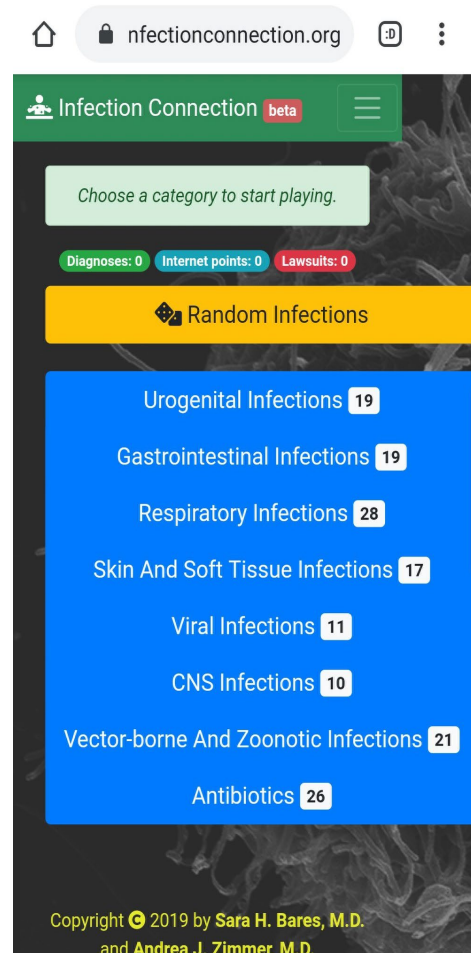
Thanks!

#hcsM for medical education



- Innovative
- Brief
- Accessible

Reach learners where they want to learn





Credit: Getty/KARRASTOCK

How Twitter is changing medical research

From online journal clubs to 'tweetorials' to conference updates, social media is changing the dissemination and discussion of biomedicine.

Wetsman, N. *Nat Med* (2019)

Use #hccsm to talk to the public about your trial

← **MERINO Trial**
142 Tweets



MERINO Trial
@MerinoTrial

RCT of Meropenem vs. Piperacillin-Tazobactam for Definitive Treatment of Bloodstream Infections Due to ESBL-producing E.coli and Klebsiella spp.

📍 Brisbane, Queensland 📅 Joined June 2015

207 Following 1,117 Followers

Followed by Amy Hanson, DrewCamps_PedsID, and 261 others you follow

Tweets Tweets & replies Media Likes

📌 Pinned Tweet

MERINO Trial @MerinoTrial · Mar 17, 2018

We will be presenting the headline @MerinoTrial results in late breaker clinical trials session @ECCMID in Madrid - looking forward to sharing the results after years of hard work from many investigators in 9 countries @UQMedicine @UQ_News @ASIDANZ @davidantibiotic @padstamundo

4 37 82

← **SNAP Trial**
9 Tweets



SNAP Trial
@snap_trial

SNAP=Staph aureus Network Adaptive Platform Trial, multicountry pragmatic RCT testing multiple questions to improve Rx of SAB, lead by the ASID CRN

📍 The World! 🔗 snaptrial.net 📅 Joined May 2019

4 Following 343 Followers

Followed by Amy Hanson, DrewCamps_PedsID, and 98 others you follow

Tweets Tweets & replies Media Likes

SNAP Trial @snap_trial · Dec 9

Excited to announce that Australia's NHMRC have funded the SNAP trial! Congrats @sytong @Josh_S_Davis and the whole team. Things will really ramp up now!

6 9 68



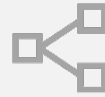
clinical trials social media

At the Crossroads of Social Media and Clinical Trials Executive Summary

How can you use #hccsm in clinical trials?



Get on Board: Sign up your research group for #hccsm



Treat Patients as Partners & actively engage them



Engage Health Care Providers

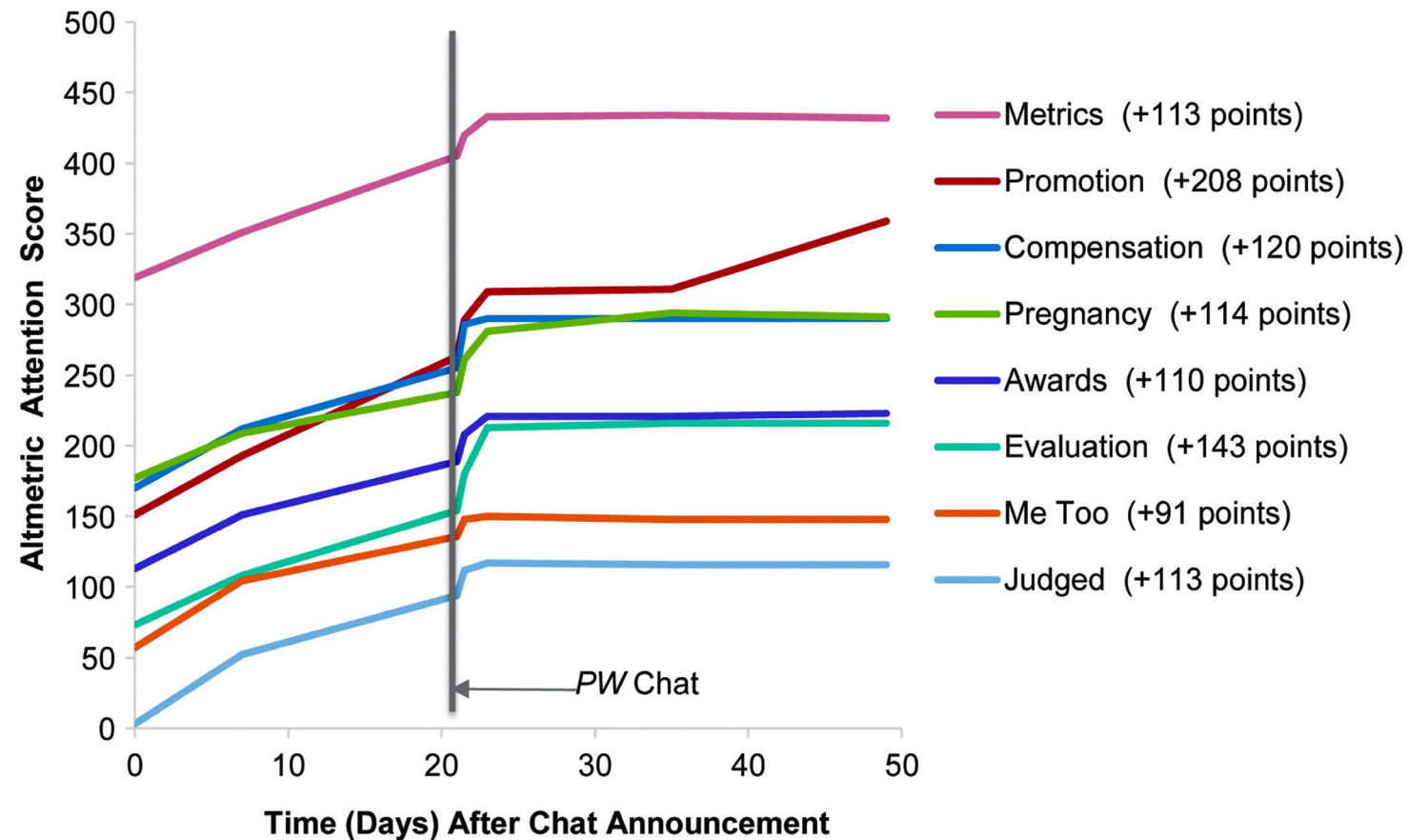


Ensure trial recruiting includes underrepresented populations



Use social media tips for communication

Strategic Dissemination of published clinical research



Kelly A. Cawcutt, Lillian M. Erdahl, Meridith J. Englander, Diane M. Radford, Amy S. Oxentenko, Linda Girgis, Lindsey L. Migliore, Julie A. Poorman, and Julie K. Silver. *Journal of Women's Health*. Jun 2019

Twitter Chats can be helpful:

- Build momentum
- Engage influencers
- Keep the discussion going

Platform	0–30 days after publication			31–60 days after publication			Total		
	SoMe group, (n = 34)	NoSoMe group, (n = 34)	P value ^a	SoMe group, (n = 34)	NoSoMe group, (n = 34)	P value ^a	SoMe group, (n = 34)	NoSoMe group, (n = 34)	P value ^a
Twitter									
Median (25th; 75th percentile)	90 (64; 138)	1 (0; 14)	< .001	23 (5; 96) ^b	0 (0; 1) ^b	< .001	117.5 (96; 281)	1 (0; 15)	< .001
Fewest; most visits for an individual article	0; 1,076	0; 333		0; 488	0; 246		0; 1,085	0; 579	
Facebook									
Median (25th; 75th percentile)	526 (274; 1,194)	2.5 (1; 6)	< .001	6 (2; 31) ^b	0 (0; 3) ^b	< .001	633.5 (286; 1,288)	3.5 (1; 11)	< .001
Fewest; most visits for an individual article	0; 4,533	0; 1,445		0; 467	0; 2,145		0; 4,637	0; 3,161	
LinkedIn									
Median (25th; 75th percentile)	31.5 (12; 54)	0 (0; 1)	< .001	1 (0; 6) ^b	0 (0; 0) ^c	< .001	32 (13; 64)	0 (0; 1)	< .001
Fewest; most visits for an individual article	0; 497	0; 80		0; 35	0; 19		0; 506	0; 80	
Total									
Median (25th; 75th percentile)	654 (322; 1,334)	4.5 (2; 15)	< .001	52 (12; 175) ^b	0.5 (0; 3) ^b	< .001	810 (428; 1,559)	5 (2; 16)	< .001
Fewest; most visits for an individual article	0; 6,046	0; 1,786		0; 904	0; 2,325		0; 6,135	0; 3,620	

Abbreviations: RCT indicates randomized control trial; SoMe, articles promoted via social media; NoSoMe, articles not promoted via social media.

^aP value from rank-sum test comparing number of visits for the SoMe group versus the NoSoMe group.

^bSigned rank test $P \leq .001$ for within-group comparison of the number of visits for the month of publication versus the month following publication.

^cSigned rank test $P = .02$ for within-group comparison of the number of visits for the month of publication versus the month following publication.

Promote across multiple platforms

- Number of Article Views With Social Media Promotion in the Month of Publication and the Month Following Publication for 68 Articles in an RCT on the Effect of Promotion via Social Media on Access of Articles, 2015

A large, diverse group of people is seated in a conference hall, facing towards the front. In the foreground, a professional video camera is mounted on a tripod. The room has a high ceiling with a balcony area where more people are visible. The overall atmosphere is that of a formal conference or meeting.

Tweet the meeting

- Engage with conference attendees
- Engage with others not attending the conference
- Engage with conference presenters



Advocating for equity in healthcare
using #hcsn impacts patient care



#BlackMenInMedicine #QueerInMedicine #LGBTQInMedicine

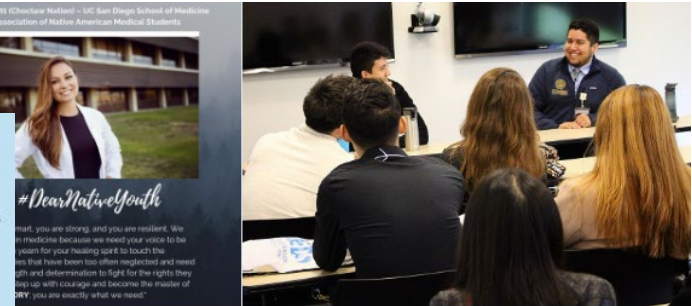
#DocsWithDisabilities

#BlackWomenInMedicine

Medicine
Live Mini-Interview
Sun, March 10 @ 3 PM EST
Diana Gutiérrez, MD
Internal Medicine resident,
SUNY Downstate/Kings County Hospital
HIV prevention & medical cannabis
researcher
@OMednews
#LatinasInMedicine



#WhatADoctorLooksLike



Mini-interview
@avglovermf
DR. ANGELICA



#LatinasInMedicine

#hcsbm and advocacy





When social media and
science do not mix

A HARVARD GENETICIST'S GOAL: TO PROTECT HUMANS FROM VIRUSES, GENETIC DISEASES, AND AGING

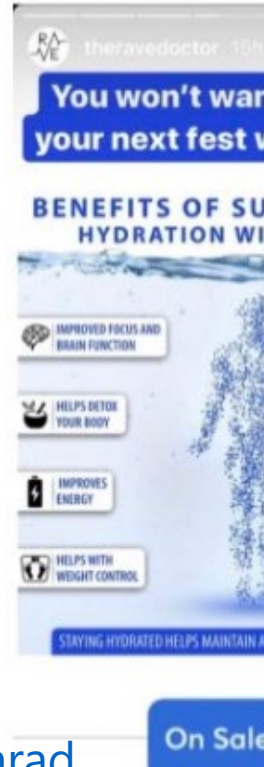
Eliminating genetic diseases and deadly infections, or eugenics dating app?

<https://www.cbsnews.com/news/harvard-geneticist-george-church-goal-to-protect-humans-from-viruses-genetic-diseases-and-aging-60-minutes-2019-12-08/>

Misleading Content on Social Media



[@Sarah Mojarad](#)



#hcsml influencers

AdventHealth resident in hot water for social media posts, side-gig

GP IDeA-CTR

The Great Plains IDeA-CTR is a collaborative effort between nine regional institutions.

The IDeA-CTR strives to provide training, education and mentorship; tools and resources; and funding to regional researchers.

BECOME A MEMBER



Back to the Mission: Healthcare Social Media #hcsn supports

Research

Education

Patient
Care

How is the GP IDeA CTR Network using #hccsm?

 **Great Plains Clinical & Translational Research Network**
December 2 at 11:17 AM · 🌐

Did you know that you could find out what researchers in our region were currently working on? Find out what's being studied and even become involved (some are actively recruiting) using our clinical and community-based research portals: <https://bit.ly/2sy7u5e>



GPCTR.UNMC.EDU
Outreach – GP IDeA-CTR
Community Engagement & Outreach (CEO) Office The Community...

👍 Like 💬 Comment ➦ Share

 **GP IDeA CTR Network @GPIDeACTR** · Nov 19

With our "Community Collaborators Registry" we have streamlined our goal to address community concerns by creating partnerships. Are you aware of a potential research collaboration that could address a [#communityhealth](#) issue? Learn more: bit.ly/2qv8nuF



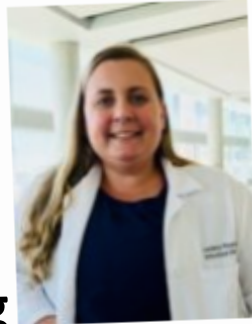
💬 ↺ ❤️ ↗

Using #hcsn for
education here on
campus: UNMC ID Blog

• Home

Unpacking the new IDSA Community-Acquired Pneumonia guidelines

Posted by [Jasmine Riviere Marcelin, MD](#) | December 10, 2019



We are always excited to have our ID fellows provide guest blog posts. Second year ID fellow Dr. Lindsey Rearigh (follow her on Twitter [@LRearigh](#)) was recently on her Antimicrobial Stewardship rotation and reviewed the [latest published guidelines for Community-Acquired Pneumonia \(CAP\)](#).

The American Thoracic Society (ATS) and Infectious Diseases Society of America (IDSA) recently released updated community-acquired pneumonia (CAP) guidelines. The first immediate implication is the healthcare-associated pneumonia (HCAP) definition is gone for good. IDSA had previously retired the term in the 2016 hospital-acquired pneumonia/ventilator-acquired pneumonia (HAP/VAP) guidelines.

Recent Posts

PharmToExamTable: What do we know about Etravirine for HIV?

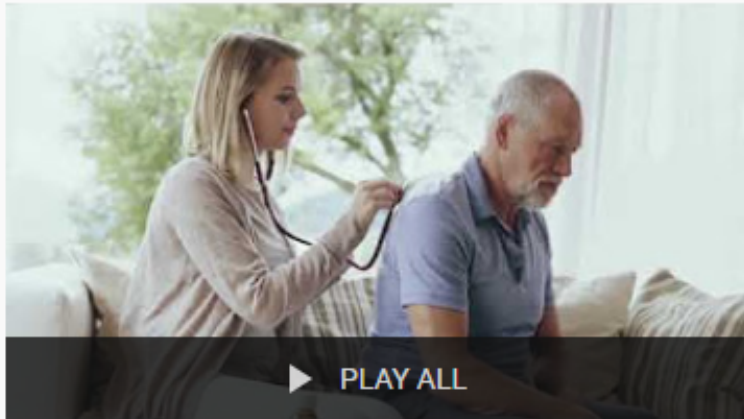
Unpacking the new IDSA Community-Acquired Pneumonia guidelines

Following up on pharmacist-led HIV pre-exposure prophylaxis

Fellowship MATCH DAY: Congratulations to our 2020 ID Fellows!

Thanks and Gratitude

Recent Comments



ASK UNMC 2019

137 videos • 49 views • Updated 2 days ago



UNMCEDU

SUBSCRIBE

19



ASK UNMC! I have a new baby. What should I do to take extra precautions during the flu season?

1:02 UNMCEDU

20



ASK UNMC! How can I prevent food poisoning and what should I do if I think I have it?

1:10 UNMCEDU

21



ASK UNMC! What can I do to prevent a stroke?

1:19 UNMCEDU

22



ASK UNMC! What treatments are used for sexually transmitted infections?

1:14 UNMCEDU

23



ASK UNMC! I've heard about precision medicine for cancer. What is it and why is it important?

1:10 UNMCEDU

24



ASK UNMC! After the flood waters recede, what should I be concerned about?

1:10 UNMCEDU

UNMC using YouTube for Patient Education



#hcsnm Summary



Just jump in



Be authentic



Focus on
engaging others



Use bright,
catchy media



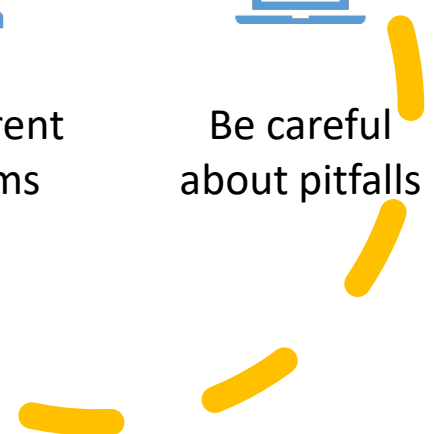
Be innovative



Try different
platforms



Be careful
about pitfalls



Reach out to keep the
discussion going...



Jasmine R Marcelin, MD FACP
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Twitter: @DrJRMarcelin