## Social Media in Radiology Education

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#### Disclosure

- Pediatrics Lead Author/Consultant for Amirsys-Elsevier
  - Royalties/Fees

- Use of various SoMe platforms for educational purposes
  - No Royalties/Fees

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- Use of various SoMe platforms for educational purposes
  - No Royalties/Fees
  - Not comprehensive

#### Other Disclosures...

- No demands that you use SoMe for education
  - MANY great ways to teach!

Term "Social Media" grammatically challenging

#### Other Disclosures...

Reserved user of social media personally & professionally

@acmerrow

#### Other Disclosures...







### @CincyKidsRad

#### Objectives

 Discuss possible roles for social media utilization in radiology education

 Review advantages and disadvantages of various social media platforms for engaging radiology learners

 Enable attendees to leverage social media applications for their teaching goals

#### Outline

Social media 101

Ideas for educational uses in radiology

How to get started

Specific platforms

## Social Media 101

#### What is it?

- Web/app-based platforms accessing networks to
  - Create content...
  - Disseminate content...
  - Consume content...
  - Facilitate interaction...



Widely & Rapidly

http://www.forbes.com/sites/steveolenski/2014/11/22/how-to-market-a-franchise-using-social-media/

#### What is it?

Just another form of communication, but with magnified advantages & drawbacks

#### SoMe 101: Advantages

Audience size can be massive, potentially global

New information can be presented rapidly

Permanent searchable record

Anyone can participate

#### SoMe 101: Disadvantages

Audience size can be massive, potentially global

New information can be presented rapidly

Permanent searchable record

Anyone can participate

#### What is it?

"Social media allows learners to interact and collaborate with content generators outside the confines of physical space and time"

Pearson D et al. Recommendations from the Council of Residency Directors (CORD) Social Media Committee on the Role of Social Media in Residency Education and Strategies on Implementation. West J Emerg Med. 2015 Jul;16(4):510-5.

#### Asynchronous learning

"Social media allows learners to interact and collaborate with content generators outside the confines of physical space and time"

Pearson D et al. Recommendations from the Council of Residency Directors (CORD) Social Media Committee on the Role of Social Media in Residency Education and Strategies on Implementation. West J Emerg Med. 2015 Jul;16(4):510-5.

#### Core principle

FOAMed=

Free Online Access Medical education

- Sharing of medical knowledge + interaction + collaboration benefits all
  - Learner
  - Patient
  - Teacher

#### SoMe 101: What is included?

- Blogs
- Microblogs
- Networking
  - Social
  - Professional
  - Theme
- Media sharing

- Wikis
- Podcast
- Curation/Filters
- RSS Reader
- Mashups
- Audience response
- Group IM

# Social Media 101: Why in Medicine?

#### Main Professional Uses

<u>Purpose</u>

Physician/practice promotion



Research collaboration

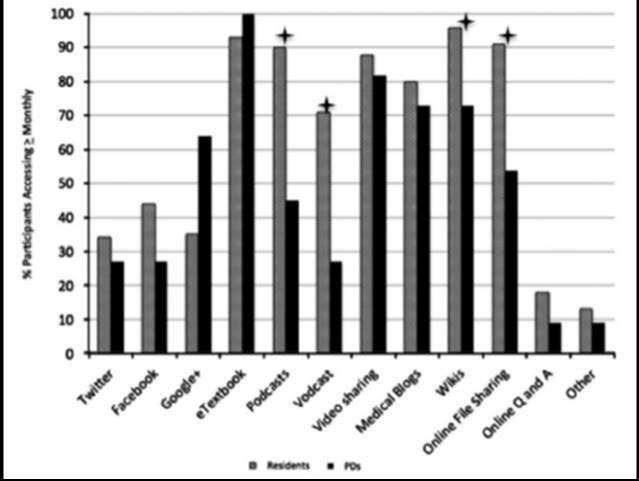
**Audience** 

Patients/Families

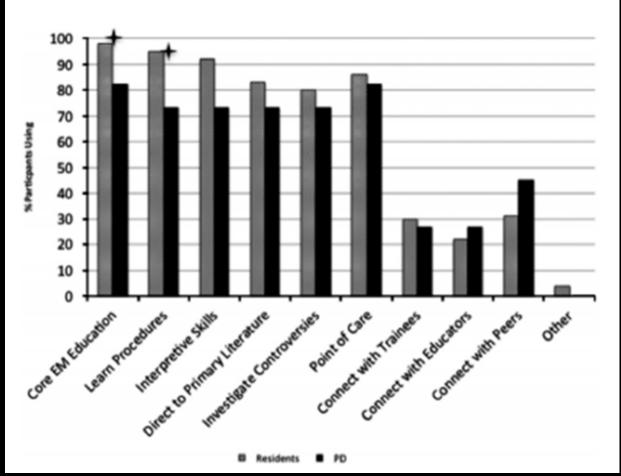


**Public** 

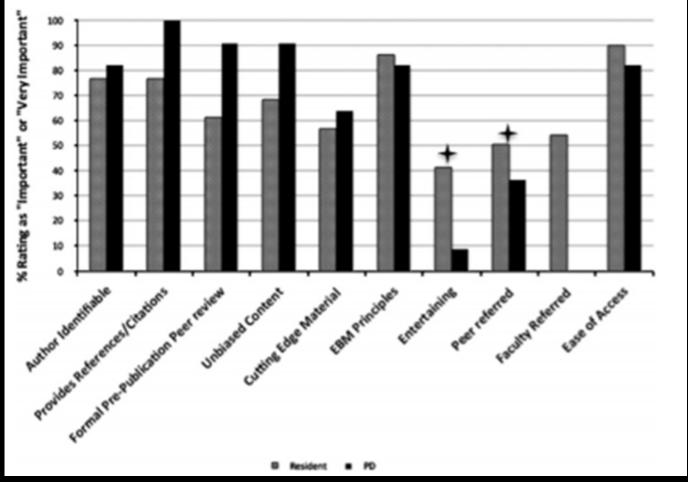
## Current Usage



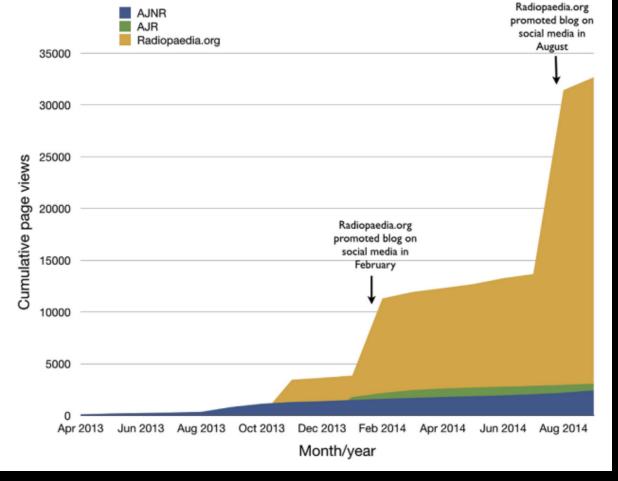
Purdy E et al. The use of free online educational resources by Canadian emergency medicine residents and program directors. CJEM. 2015 Mar;17(2):101-6.



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Purdy E et al. The use of free online educational resources by Canadian emergency medicine residents and program directors. CJEM. 2015 Mar;17(2):101-6.



Hoang JK et al. Using Social Media to Share Your Radiology Research: How Effective Is a Blog Post?

J Am Coll Radiol. 2015 Jul;12(7):760-5.

#### **GME** program incorporations

- Expand distribution & interaction of traditional teaching methods
  - Lectures
  - Case discussions
  - Journal clubs

Participation in creation of SoMe materials

#### Possibilities...

Global journal club by ALiEM, Annals of EM

- 6 facilitators
  - Medical education gurus
  - Social media presence (blogs, Twitter)

Event promotion (organizations, individuals)

Table 2. Aggregate analytic data from various social media-based discussions for the first 14 days of the event.

Metric	Metric Definition	Count
Page views	Number of times the Web page containing the post was viewed	1,222
Users	Number of times individuals from different IP addresses viewed the site (previously termed "unique visitors" by Google)	1,033
Number of cities	Number of unique jurisdictions by city as registered by Google Analytics	325
Number of countries	Number of unique jurisdictions by country as registered by Google Analytics	32
Average time on page	Average amount of time spent by a viewer on the page	4:11 minutes
Number of tweets from page	Number of unique 140-character notifications sent directly from the blog post by Twitter to raise awareness of the post	160
Number of Facebook likes	Number of times viewers "liked" the post through Facebook	32
Number of Google+ shares	Number of times viewers shared the post through Google+	6
Number of site comments	Comments made directly on the Web site in the blog comments section	36
Average word count per blog comment (excluding citations)		311
	Page views Users  Number of cities  Number of countries  Average time on page Number of tweets from page  Number of Facebook likes Number of Google+ shares  Number of site comments  Average word count per blog comment (excluding	Page views Users Number of times the Web page containing the post was viewed Number of times individuals from different IP addresses viewed the site (previously termed "unique visitors" by Google) Number of unique jurisdictions by city as registered by Google Analytics Number of unique jurisdictions by country as registered by Google Analytics Average time on page Number of tweets from page Number of tweets from page Number of unique jurisdictions by country as registered by Google Analytics Average amount of time spent by a viewer on the page Number of unique jurisdictions by country as registered by Google Analytics Average amount of time spent by a viewer on the page Number of unique jurisdictions by country as registered by Google Analytics Average amount of time spent by a viewer on the page Number of unique jurisdictions by country as registered by Google Analytics Average amount of time spent by a viewer on the page Number of unique jurisdictions by country as registered by Google Analytics Average amount of time spent by a viewer on the page Number of unique jurisdictions by city as registered by Google Analytics Average amount of time spent by a viewer on the page Number of unique jurisdictions by city as registered by Google Analytics Average amount of time spent by a viewer on the page Number of times viewers "liked" the post through Facebook Number of times viewers "liked" the post through Google+ Number of times viewers shared the post through Google+  Comments made directly on the Web site in the blog comments section

Hayes BD et al. Social media in the emergency medicine residency curriculum: social media responses to the residents' perspective article. Ann Emerg Med. 2015 May;65(5):573-83.

to receive the second tree entire second	zer.Bu. e. maceanar	Total deliber of recorded design that Bear traces and	
to track YouTube video viewing		session	
statistics	Number of views	Number of times the YouTube video was viewed	120
	Average duration of viewing	Average length of time the YouTube video was played in a single	5 min 13 s
		viewing	

#ALIEMRP

followers that participant has

Number of tweets containing the hashtag #ALiEMRP

Number of unique Twitter participants using the hashtag

How many impressions or potential views of #ALIEMRP tweets

Total duration of recorded Google Hangout videoconference

appear in users' Twitter streams, as calculated by number of tweets per participant and multiplying it by the number of 285

87

569,403

25 min 54 s

Symplur Analytics: a free online service

to track metrics for Twitter

hashtag #ALiEMRP11

engagement of health-related

hashtags; used to track Twitter

YouTube Analytics: a free online service. Length of videocast

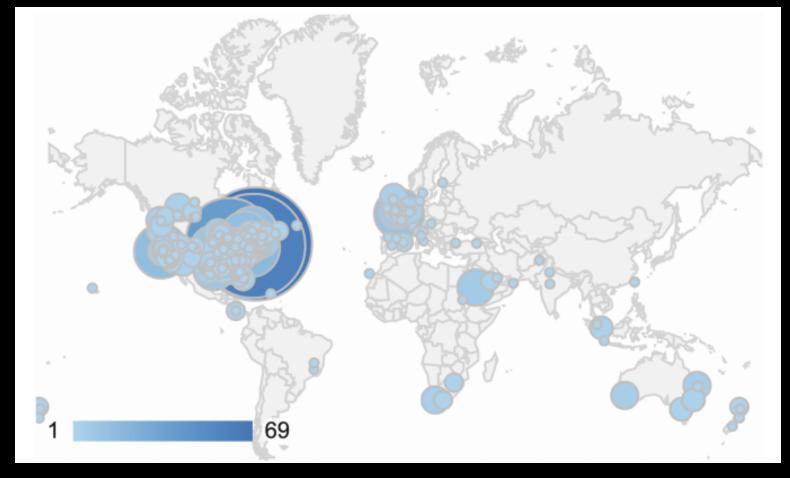
Number of tweets

Number of Twitter

participants

Twitter impressions

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#### Tweet Chat



#### **JACR**





T2: How can the #JACR and the Neiman Policy Institute promote more cross discipline collaboration? #RSNA15

1:13 PM - 30 Nov 2015









#### CancerGeek





T1: Success is that the dialogue is beginning in such places as this, as open, honest, & transparent w #physicians & #patients

1:13 PM - 30 Nov 2015

#RSNA15 #jacr





















1:13 PM - 30 Nov 2015







#### The Best of #FOAMed Emergency Medicine

- ECGWeekly posted Part 3 from Amal Mattu's ECG and lecture series on who needs to go emergently to the cath lab, from last June's SMACC conference. [MG]
- EM Cases offers a second episode on the new ALCS guidelines, this time looking at post-arrest care.
   [MG]
- ALiEM has a new capsule module on the pharmacology of emergency airway management, part two.
   [MG]
- GEMCAST, a new podcast from geriatric emergency physician Christina Shenvi, provides clinical
  topics for physicians, trainees, nurses, and paramedics (everyone!) who takes care of older adults,
  particularly in the acute care setting. Three podcasts are currently posted: High risk medications and
  ADEs, Dr Tintinalli on end of life care, and Delirium in older adults. [JS]
- The November Annals of Emergency Medicine audio summary is out. [MG]
- Most people's worst case scenario: neonatal resuscitation. Take a look at the fantastic blog from First10EM on the management of the situation. [SL]

## Social Media 101: Getting Started

#### **Initial Questions**

Who are you? vs.

Who do you want to be?

#### **Initial Questions**

# What do you want to accomplish?

#### **Initial Questions**

To whom are you responsible?

#### **Next Level**

- Target audience
- Content
- Interactions with followers
- Accountability

### Target Audience

- Public or private
- Broad group or focused to specific level
  - Planet Earth
  - Medically curious
  - Medical professionals
  - Physicians
  - Students

### Content

- Type
  - Text only
    - Short teaching point vs. longer discussion
  - Static images
  - Video
- Organization
  - Random or curriculum based
- Timeline

### Content

- Already created, must be adapted
- Created specifically for platform
- Created on platform

### **Interactions**

- Passive vs. prompted
- Routine interaction? How often?
- Metrics?

### Next steps

- Building following
- Planning/Creating content
- Meaningful interactions
- Platform connectivity
- Regular oversight

### Bottom line: Develop & follow plan!

- Sustainability
- Professionalism
- Quality
- Impact

### @CincyKidsRad

- 2012: Mission statement, planning
- 2013: Twitter, Facebook
- 2014: Blog, Instagram
- 2015: Figure 1











Log In

Search

Meet the Department Parent/Patient Info

Hospital Maps/Directions

Research

### Radiology Department



### Why Choose Us?

The Department of Radiology and Medical Imaging at Cincinnati Children's has the largest pediatric radiology department in the country and performs more than 200,000 examinations every year.

change the outcome

. . . . . .

Anderson

Eastgate Fairfield

Green Township

Kenwood

Liberty

Mason

Northern Kentucky

Maps and Directions

### Radiology Department

Overview

Meet the Staff

Services and Modalities

Radiation Safety

What to Expect

Research

Radiology Family-Centered Care Committee

Contact / Referral

### **Helpful Websites**

Alliance for Radiation Safety in Pediatric Imaging (Image

Gently)

Society for Pediatric Radiology (SPR)

American College of Radiology (ACR)

American Academy of Pediatrics (AAP)

Radiology Information

Visitor Information

Assistance for Out-of-Town Families

CarePages

Child Life

Family Resource Center

**Guest Services** 

International Patient Care **Program** 

Medical Records Resources

On-site Facilities

Patient Services

Social Services Special Needs Resource

Directory

Survey Readiness Resource Guide

A Look Inside

### Image Gently Links

Computed Tomography

Fluoroscopy

Interventional Procedures

Nuclear Medicine



CincinnatiChildrens.org Contact Us







change the outcome

Radiology

>> Learn more about Radiology at Cincinnati Children's

- > How We Do It (103)
- > Patient Stories (11)

- > Meet The Team (43)
- > What Makes Us Different (99)



### Keeping Radiation Doses As Low As Possible For Your Child

By: Alex Towbin on November 19, 2015



Your child is more sensitive to the effects of radiation than you are. That's why at Cincinnati Children's, we make every effort to reduce the amount of radiation your child receives during his or her imaging study. We use state-of-the-art equipment and innovative techniques to keep the radiation dose to your child As Low As Reasonably Achievable (a concept referred to as the ALARA principle in the medical world). While most hospitals focus on applying the ALARA principle to CT scans, at Cincinnati Children's we have worked to significantly ...

> About the Author

> Continue Reading

### A Place to Start

- Healthy Living
- Safety and Prevention
- Rare and Complex Conditions

### Subscribe

Sign up for updates from the Radiology team delivered to your email.

your email address



Send me all blog content, not just Radiology

### **Featured Faces**



🌃 The tradition of Opening Day is a big deal in Cincinnati. The return of baseball is treated as a hol

Share your story



### In the News

Antibiotics in animal feed can harm children, doctors warn

Kids in day care need more outdoor play

### Keeping Radiation Doses As Low As Possible For Your Child

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In interventional radiology (IR) the amount of radiation used during a procedure can be variable. At Cincinnati Children's, our IR department is performing ground-breaking research to reduce how much radiation your child is exposed to during interventional procedures.



A study performed in our Interventional Radiology Translational Research and Simulation Lab (IR-TRSL) led to the development of new protocols that can dramatically lower radiation doses. The IR group has been able to use these new protocols to reduce radiation doses for your child by up to 97.5% during angiography (a procedure performed to evaluate the blood vessels). The results of this research were presented at the Society of Interventional Radiology (SIR) annual meeting earlier this year. The IR group has also been able to show that the radiation doses for fluoroscopy (a form of x-rays that allow us to see things in real-time) are also decreased by up to 73% during certain procedures. This new research will be presented at the upcoming Radiological Society of North America (RSNA) Annual Meeting later this month and has been selected as a featured story for the meeting.

# Specific Platforms

### Most Common in Education

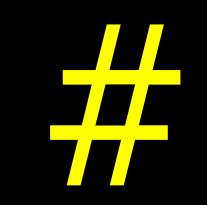
- YouTubeLecture-based
- Podcasts
- Wiki
   Traditional prose
- Blogs
- Twitter
- Instagram
- Figure 1

### Most Common in Education

- YouTubeLecture-based
- Podcasts
- Wiki
   Traditional prose
- Blogs
- Twitter
- Instagram
- Figure 1

### **Common Features**

- Short text
- Internal/external media attached
- Sent to all followers
- Interactive engagement
- Searchable by #
- Can be spontaneous



### Hashtag #

- Globally searchable term
- Makes you part of discussion (live or future)
  - Conversations
  - Conferences
  - Events

### Hashtag #

- #MedEd
- #FOAMEd
- #FOAMRad
- #PedsRad
- #POTD

- #Radiology
- #Pediatrics
- #HCSM

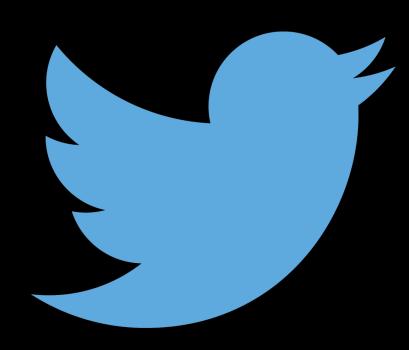
Clinical Tags		Scientific	Scientific Disciplines	
Hashtag	Topic	Hashtag	Торіс	
#AbdRad	Abdominal Radiology	#FOAMRad	Free and Open Access to Medical Education Radiology	
#ChestRad	Chest Radiology	#FOAMus	Free and Open Access to Medical Education Ultrasound	
#CTRad	Computed Tomography	#GlobalRad	Global Radiology	
#CVRad	Cardiovascular Imaging	#HITRad	Radiology Informatics	
#EMRad	Emergency Radiology	#MolRad	Molecular Imaging	
#HNRad	Head/Neck Radiology	#POCUS	Research Related to Point-of-Care US	
#IRad	Vascular Interventional Radiology	#RadCME	CME Offerings in Radiology	
#IROnc	Interventional Oncology	#RadEcon	Radiology Economics	
#Mammo	Mammography	#RadHSR	Radiology Health Services Research	
#MRI	MRI	#Radiology	Radiology	
#MSKRad	Musculoskeletal Radiology	#RadLeaders	Radiology Leadership	
#MSKUS	MSK Ultrasound	#RadPhys	Radiology Physics	
#NeuroRad	Neuro Radiology	#RadPolicy	Radiology Health Policy	
#NucMed	Nuclear Medicine	#RadQI	Radiology Quality Improvement	
#OBRad	Obstetrics Radiology	#RadRes	Radiology Residency	
#oncorad	Oncologic Radiology	#RadSafety	Radiation Safety	
#PedsRad	Pediatric Radiology	#TeleRad	Teleradiology	
#USRad	Ultrasound			

## Important info: Ontology

http://www.symplur.com/healthcarehashtags/ontology/radiology/

### **Specifics: Twitter**

- Text-focused
- Brief (140 characters)
- Simple, quick
- 3<sup>rd</sup> party plug-ins
  - Scheduling
  - Organizing
- Great for supplementing other SoMe + events



### Twitter Possibilities

- Meeting teaching points/discussion
- Links to web content
- Live Tweet chat, journal club
- Supplementing
  - Live webcast or lecture
  - App-based course syllabus/curriculum



### #WeekendReview case 5 (cont): rhabdomyosarcoma is the most common soft tissue tumor in children. Most common location is head/neck, #PedsRad



#WeekendReview case 4: obstructive hydrocephalus can be treated







SIR RFS @SIRRFS · Nov 8 RT @CincyKidsRad: Long-term cancer survivors can have many late effects of life-saving therapies. goo.gl/J0gejM #IDoR2015 #AskCKR



Childhood cancer. These words can seem like a bad dream for any parent. Unfortunately, cancer is a common reality for many parents, affecting 1 in 300 children and... cincinnatichildrensblog.org



Neil U Lall @NULall - Nov 8 @Figure1 I'm glad we play a key role in identifying child abuse, but just seeing it is gut wrenching & you never get adjusted to it #AskCKR View conversation



Jim Rawson MD @Jim\_Rawson\_MD · Nov 8 Radiology Chair at @MCG\_RAD in Augusta joining #askckr



Sharon Vorona @sharonvorona · Nov 8 @NULall @CincyKidsRad So does @Figure1! #AskCKR #IDoR2015



Neil U Lall @NULall · Nov 8 @CincyKidsRad Very true. We now have standing desks too! #AskCKR



View conversation

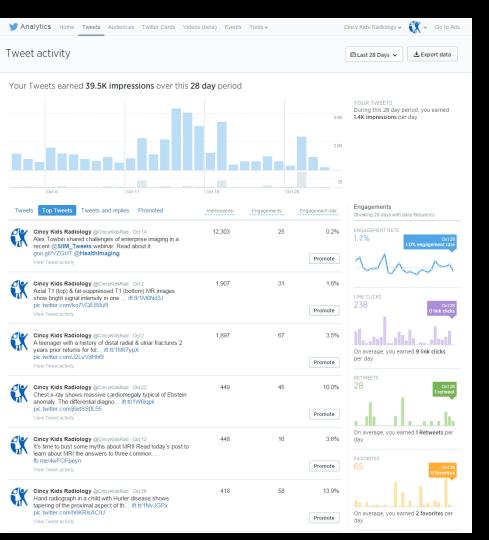


SIR RFS @SIRRFS · Nov 8 RT @CincyKidsRad: MRI elastography helps us measure liver stiffness. Read more on our blog: goo.gl/MxzkrK #IDoR2015 #AskCKR

### Twitter Metrics: Basic

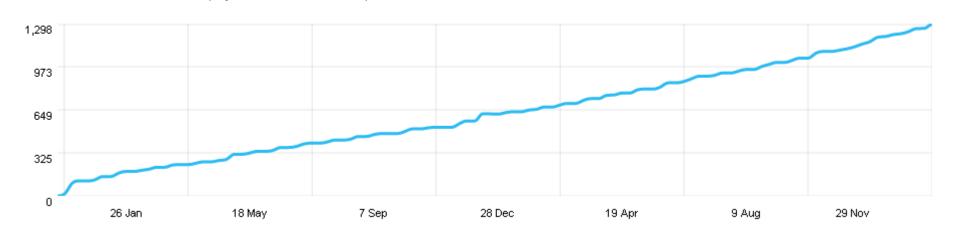


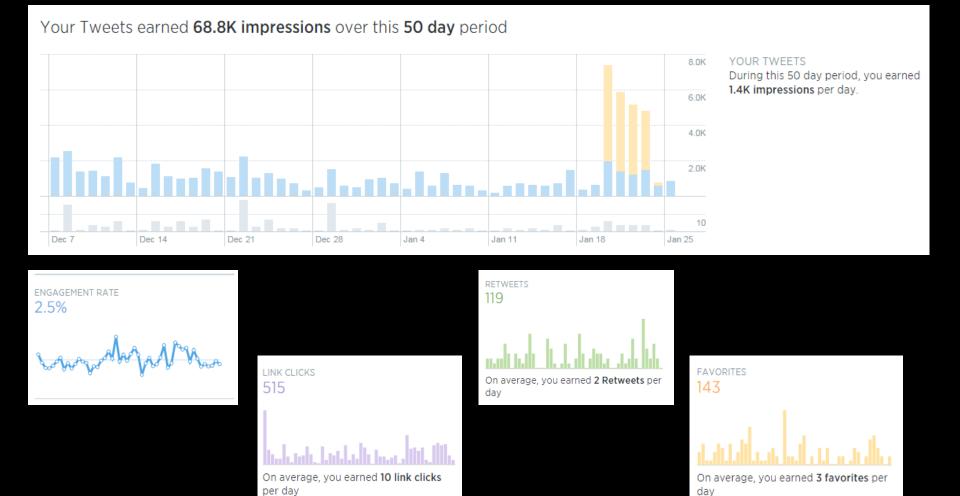
# Twitter Metrics: Advanced



# Twitter Metrics: Advanced

1,292 followers as of 1/24/2015 (days shown in Pacific time)





### Specifics: Instagram

- Image-focused
- Generous character limit on captions/comments
- More time consuming
- Few 3<sup>rd</sup> party apps





### Instagram Metrics



ANALYTICS SNAPSHOTS

MANAGE 18 PROMOTE CONTEST Search for users or hashtags





Updated on Oct. 30th, 8h18. Next update in about 15

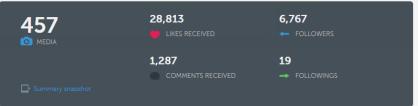
✓ Notify me by email

Get fresh stats everyday, track your hashtag, export your data and never lose history.

- ► Rolling month analysis
- ► Content

Overview

- ► Engagement
- Optimization
- ► Community
- Hashtag Performance
- ► Monthly Export New
- Brand Index
- ► Influencers Index













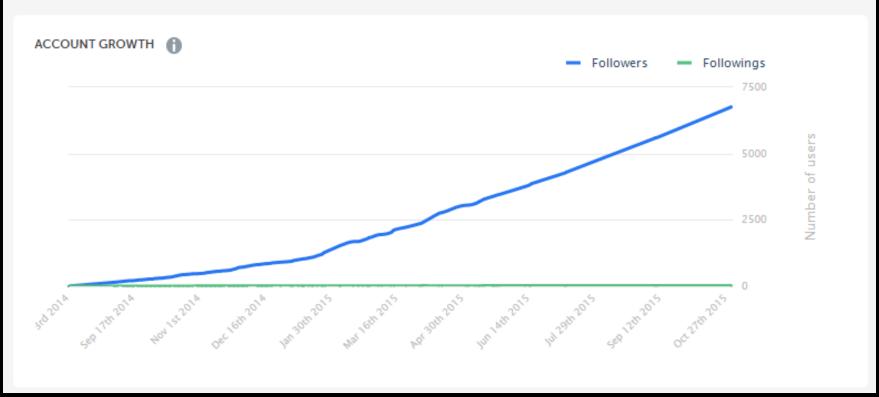
- View all media sorted by likes
- ▶ View all media sorted by comments

### Specifics: Instagram

- Launched 8/2014
- Posts to date: 496
- Followers:
  - -7560(12/2015)
  - **1288 (1/2015)**
  - -473 (10/2014)

### Specifics: Instagram

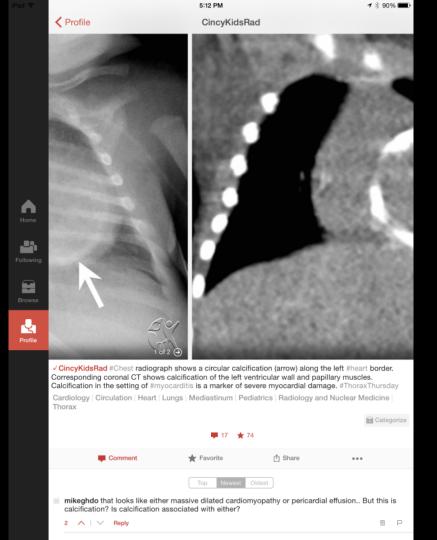


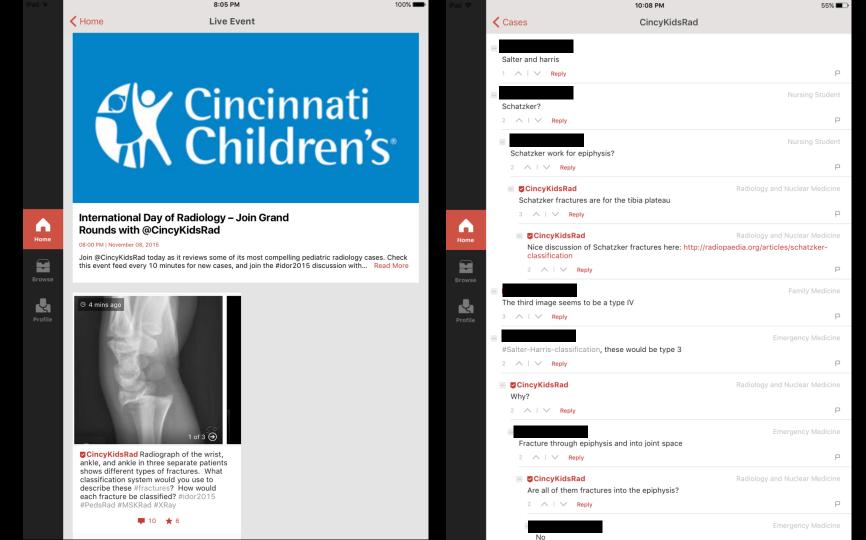


### Specifics: Figure 1

- Image-focused
- Multiple images per post
- Limited character limit on captions/comments
- Posts appear on common wall
- Focused on med ed
- Engaged user community







### Specifics: Figure 1

- Launched 1/2015
- Posts to date: 276
- 9,500,000 impressions

### Specifics: Read by QXMD

- "Flipboard for medical lit"
- Feeds new article listings
- Quick, full access with institution
- Easy to forward, create lists



### Other measures?

### Quality

- Traditional peer review lacking
- 2014 International Conference on Residency Education: Social Media Summit
  - Multidisciplinary panel reviewed 151 "indicators"
  - Applied to just blogs, podcasts
  - Found > 90% agreement on 13

Lin M et al. Quality indicators for blogs and podcasts used in medical education: modified Delphi consensus recommendations by an international cohort of health professions educators. Postgrad Med J. 2015 Oct;91(1080):546-50

### **Quality Indicators**

- Creator lists conflict(s) of interest?
- Identity of author clear?
- Clearly distinguish fact from opinion?
- Presented information accurate?
- Cite references?
- Consistent with references?
- Employ universally available technologies?

### **Quality Indicators**

- Differentiate content vs. advertisement?
- Content of good quality?
- Content professional?
- Useful/relevant for intended audience?
- Author well-qualified to write on this topic?

### Scholastic merit

 2014 International Conference on Residency Education: Social Media Summit

Authorship judged by ICMJE: "Authentic identity"

"Evidence of transparent critical appraisal"

### Scholastic merit

### Consensus statement

Social media-based scholarship in health professions education must:

- Be original
- Advance the field of health professions education by building on theory, research or best practice
- Be archived and disseminated
- Provide the health professions education community with the ability to comment on and provide feedback in a transparent fashion that informs wider discussion

Sherbino J et al. Criteria for social media-based scholarship in health professions education. Postgrad Med J. 2015 Oct;91(1080):551-5.

### Scholastic merit

- Document! How many...
  - Posts
  - Comments
  - Impressions

### Effectiveness

- Hard to measure in all educational arenas
  - Pre/post test
  - Survey of engagement
  - Long-term outcomes

More so in SoMe: No captive audience

### Is it worth the plunge?

- Does it have clinical impact?
- Is there sustainable infrastructure?
- Is there network proliferation?
- Is it personally & professionally satisfying?

### Conclusion

Excellent teaching comes in many flavors

- SoMe open up unique opportunities for content
  - Distribution
  - Interaction/Engagement
  - Collaboration

Careful planning/maintenance required!

# carl.merrow@cchmc.org

## Thank you!