Creation of a Virtual Team Room:
Using Secure Social Media
in Medical Education

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Disclosures

• MCW Learning Resources Fund

• No other disclosures
**Background**

- Barriers to clinical teaching
  - Duty hour restrictions
  - Competing faculty responsibilities
  - Distance between multiple clinical sites

- Increasing impact on quantity and quality of clerkship education

- Social media’s ability to augment traditional curriculum $^{1,4,5}$

**Aims**

1. To increase student exposure to CDIM training problems and core competencies

2. To overcome barriers to teaching/learning using social media

3. To foster student-initiated discussion regarding actual clinical experiences
Methods

• IRB approval
  – Expedited review
  – Pilot June-December 2012
  – Protocol amended and approved December 2012
  – Study January-June 2013

• Learning theory
  – Social Constructivism
  – Experiential Learning Theory

Methods

• Secure social media platform
  – Yammer®

• Student initiated discussions regarding:
  – Actual Clinical Experiences
  – “Pearls” from rounds or conferences
  – Student presentations made to team

• Faculty reinforcement of key concepts
• Broadened student clinical exposures
Why Yammer®?

- A “secure” social media platform
  - Requires mcw.edu domain e-mail and invitation to participate
  - Allows for “de-identified” patient information
- “Feels like” Facebook
- Features that enhance learning
  - Library of attached files
  - Tagging capabilities for searching

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Broadening Exposure

Methods

- Clerkship requirement
  - One-month rotation at primary teaching hospital
  - Minimum of eight substantive posts
- Faculty facilitation
  - M3 Clerkship Director
  - M4 Ambulatory and Sub-I Directors
  - Vice Chair for Education
Methods

- Student survey
  - Student satisfaction
  - Perceived educational value
- Discussion “tags”
  - CDIM training problems and core competencies
  - Additional tags added in vivo based on emerging student-initiated themes

Student-Initiated Post

January Virtual Team Room

Topic: Vancomycin and nephrotoxicity (creatinine jump to 5.90 in 4 days).

I have a patient with cerebral palsy who was recently admitted for sepsis and suspected pneumonia. What I found interesting was what happened during his most recent hospitalization around January 1st. At this time he received two days worth of IV vancomycin and a second 2/3 of the vancomycin was given orally (although oral vancomycin is not typically administered). The patient then developed a fever of 37.8, then 36.9 the following day, then 37.0 for the next 5 days. The patient’s creatinine doubled to 1.4, then 3.70. I think this is worth discussing.

We Practice What We Teach
Faculty Reinforcement

We Practice What We Teach

We Practice What We Teach

Example of Files

That’s exactly what it is and what we did. So the
night before the event we did a brainstorming that started 800
a.m. until 8:30 a.m. and we generated three
ideas. We had an idea to do a patient talk.

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a.m. until 8:30 a.m. and we generated three
ideas. We had an idea to do a patient talk.

Marty: How regular are you going to do this?

We Practice What We Teach
Heart Failure “Tag”

We Practice What We Teach

Results

January-June 2013

- 1513 total posts
  - 1029 (68%) by students
  - 484 (32%) by faculty

- Average of 10.3 posts/student
Results

CDIM Training Problems (N=33)

We Practice What We Teach

Training Problems Discussed

Abdominal Pain
Acute MI
Acute Renal Failure/Chronic Kidney Disease
Altered Mental Status
Anemia
Back Pain
Chest Pain
Common Cancers
COPD
Cough
Depression
Diabetes Mellitus
Dyslipidemia
Dyspnea
Dysuria
Fever
Fluid, Electrolyte, & Acid-Base Disorders
GI Bleed
Healthy Patient: Prevention & Screening
Heart Failure
HIV
Hypertension
Rheumatologic Problems
Liver Disease
Nosocomial Infections
Obesity
Pneumonia
Rash
Substance Abuse
Venous Thromboembolism
We Practice What We Teach
Training Problems Not Discussed

Knee Pain

Upper Respiratory Complaints

Smoking Cessation

Results

CDIM Core Competencies

- Discussed (N=14)
- Not Discussed (N=3)
Clinical Core Competencies

Diagnostic Decision Making
  Case Presentation
  History Taking & Physical Examination

Communication and Relationships with Patients and Colleagues
  Interpretation of Clinical Information

Therapeutic Decision Making
  Bioethics of Care
  Self-Directed Learning

Prevention
  Coordination of Care
  Basic Procedures
  Geriatric Care
  Community Health Care
  Nutrition
  Advanced Procedures
  Occupational Health Care

Continuous Improvement in Systems of Medical Practice

Results

• Student-initiated topics
  – High-Value Care (10.7% of all posts)
  – End-of-Life Care (3.8% of all posts)

• Topics not otherwise addressed in classroom sessions
High-Value Care

We Practice What We Teach

One thing I have noticed during chart review is the massive amount of studies that get an ethics or success test. Some of these patients have very little cardiac symptoms or risk factors for coronary disease.
January 9 at 4:30pm from iPad: Unlike, Reply, Share More

We’ve been getting EPP’s on patients with known heart failure. This is certainly improving with medication. I do think the ability to interpret an update of EPP is more as a diagnostic tool. Is there any utility of the test in the patient’s care?
January 10 at 12:30pm from iPad: Unlike, Reply, Share More

Mary Monte: SHPOs — one of my favorite (least favorite?) useful tests. Agree that it seems more useful to be used as a diagnostic test for heart failure in the setting of an echocardiogram. Some people use it “before” the severity of heart failure in a particular patient and there is some evidence for this — but I think the evidence is weak — but I always use it this way. Clinical exam is better — and making sure your patients’ CVP meads are treated is good.
January 11 at 5:00pm: Unlike, Reply, Share More

And if a patient with known CHF presents with a 12 lb weight gain, 53, and JVP in the setting of running out of meds for 2 weeks — I promise you don’t need the EPP to make the diagnosis.
January 11 at 5:00pm: Unlike, Reply, Share More

I’ve also asked about the utility of EPP. As my resident explained, it doesn’t change management much when the rest of the history and physical the CHF. But I could have... if you’re trying to sort out the cause of dyspnea in a patient who has multiple comorbidities that could be the etiology, such as someone with COPD and CHF.
January 12 at 11:00am: Unlike, Reply, Share More

High-Value Care

We Practice What We Teach

What percentage of patients in the hospital don’t need to be in the hospital? I think many stay longer than they need to stay. In my naive and inexperienced opinion, it seems to me that more money is saved on hospitalization than physician decision making. We want to always have a few patients on our team hanging out for stays waiting for placement in a surgery unit or on the floor.
January 12 at 12:30pm: Unlike, Reply, Share More

Plus, as long as we have a legal system as we do, most physicians, especially in non-academic practices with a layer of protection, will always order more tests. There is no reason why we do not, because it makes more sense to waste money... I do have the best interests of my patients, and nothing unthinkably happens, and their lawyer asks why you didn’t perform this test. My FP preceptor is solely responsible for this cynical thinking. 😊
January 15 at 4:00pm: Unlike, Reply, Share More

Janet Thomas: There is some evidence a distal RHP is helpful to predict future admissions/treatment, although I’ll say I never do it. Also, I tend to see daily COPPs on patients and repeat U&Ls when prior to surgery that were other medicine drops.
January 17 at 12:30pm: Unlike, Reply, Share More

Mary Monte: hemodynamic, Rarely initiated in the hospital from my standpoint.
January 17 at 9:00pm from iPad: Unlike, Reply, Share More

Can anyone add some situations where they’ve seen hemodynamics being useful? (For example: hemodynamic support) or maybe inappropriate? (January 17 at 9:00pm from iPad: Unlike, Reply, Share More)

In reply to Janet Thomas: I hear a 53 year old female that initially presented to the hospital in November for a sudden hematemesis that was complicated by intrahemal shock and chronic kidney disease, we used hemodynamics as part of the workup to try and determine the etiology of the hematemesis whether it would be metabolic in nature or purely prerenal etc. something else entirely. that was just one of the many tests that we did and seems appropriate based on the duration of the hematemesis and amount (5L/day) for screening in hospital. I’m not sure if hemodynamically appropriate was there a current presentation like in my patient.
January 18 at 3:00pm: Unlike, Reply, Share More

Mary Monte: hemodynamic, Rarely initiated in the hospital from my standpoint.
January 17 at 9:00pm from iPad: Unlike, Reply, Share More

My team had a patient who has been here for weeks with atrial fibrillation and several other issues who had a major drop in their Hb. We couldn’t find a source and a hemocrit was negative so we looked for occult blood which was negative. It turned out she had a soft tissue bleed in her gliomas Maxima.
January 19 at 6:30pm from iPad: Unlike, Reply, Share More

I liked by you...
Results

• 85 of 93 students (91%) consented to participate
• 59 participants (69.4%) completed the survey
• 44 of 59 students (74.5%) rated educational value as “Good” or “Excellent”
• 45.7% of students expressed interest in using Yammer® in other clerkships
  – 22% were “Undecided”
• Primary barriers to participation
  – Lack of time
  – Internet access restrictions

Student Feedback – “The good...”

• It “made me aware of what other students were experiencing and made me reflect more on my own experiences in the hospital.”

• “Easy way to communicate with other students information you are learning. It is helpful to talk about medicine with other students-- learning through interacting rather than just reading on your own.”

• “Yammer gave us a broader exposure to interesting cases that would not have been possible otherwise. I also liked that the discussions about other topics such as cost containment that are not discussed much during medical school.”

• “I picked up information that I wouldn’t have learned otherwise, and it encouraged me to read more literature on certain topics.”
Student Feedback – “The bad...”

- “I felt like I was forced to post on yammer, and some of the posts of other members were too lengthy. Often I felt like much of the posts on yammer were pretty complex and I won't remember them unless I am following a patient with similar findings. I generally don't like social media anyways.”

- “I don't particularly like social media. I have a Facebook, but I rarely go on it or post. I felt a little uncomfortable posting on the internet.”

- “I felt like it was just something else I have to do. I don't have time to study, read up on my patients, read up on my teams patients and then also read yammer. We just don't have that much time.”

- “It didn't feel appropriate to use in front of attendings/residents.”

Student Feedback – “The constructive”

- “Two of the cases I posted on Yammer turned out to be exactly like questions on the shelf exam. One of the questions I would have missed for sure if it wasn't for posting the case. I was very skeptical about the value of yammer but it turned out to exceed my expectations. It forced me to spend more time learning about all the patients on my team.”

- “Give access to students when they are at different sites so they can still participate in discussions and read about interesting cases.”

- “Have a daily feed about something relevant for boards and wards (e.g. practice questions with answers the next day).”

- “Consider opening up Yammer for non-mandatory participation between students on other clerkships.”
Conclusion

• Successful engagement of students and core faculty in asynchronous discussion
• Helpful in overcoming increasingly restrictive barriers to clinical teaching
• May be especially useful for
  – Developing teaching strategies for multiple and distant clinical sites
  – Addressing emerging themes less conducive to classroom-based sessions

Conclusion

• Barriers to broad implementation
  – Some students disliked it
    • Too busy
    • Discomfort in sharing patient information
    • Discomfort with social media
  – Social media platform “fit” and cost
  – Universal access to mobile technology
  – Faculty and staff time
    • Timely facilitation of clinical cases
    • Supervision of post appropriateness
Conclusion

• Continuing data analysis on tool’s utility in medical education
• Use of Yammer® expanded for 2013-14 academic year
  – All four inpatient sites
  – Two months of participation
  – Shifted some classroom time to patient care
  – Considering other curricular opportunities

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References


5. Rowe, M. “The use of assisted performance within an online social network to develop reflective reasoning in undergraduate physiotherapy students.” Medical Teacher 2012 34(7): e469-e475.

Questions?

Thank you!
**PHI - Acceptable Information**

*FROEDTERT ONLY*

- Hospital Unit and Room #
- Diagnosis
- Age
- Pertinent medical, surgical, family, and social history
- Pertinent physical examination findings
- Diagnostic test results
- Treatment plan
- EKG/x-ray – de-identify
- Pictures – patients must consent

**PHI - Unacceptable Information**

- Name
- Address
- Date of birth
- Phone or fax number
- E-mail or web addresses
- Social Security Number
- Medical record or account numbers
- Beneficiary information
- Certificate or license numbers
- Automobile-related numbers
- Medical device identifiers
- Biometric identifiers (voice, finger prints)
- Full face or comparable images
- Any other unique identifying number, characteristic, code
HIPAA Compliance

• Students are forbidden from copying, printing, saving, and/or sharing information outside of the Yammer network for any reason.

• Failure to adhere to this policy may constitute a HIPAA violation and subject the individual(s) to civil and criminal penalties.

Survey

1. What type of team did you work on?
   – Housestaff, Hospitalist, or Subspecialist

2. What device did you use?
   – iPod Touch, iPad/tablet, iPhone/smart phone, hospital computer, personal computer

3. Compared to other social media platforms you have used, the ease of use/navigability of Yammer is:
   – Much worse, worse, about the same, better, much better, not applicable
Survey

4. The educational value of using Yammer on the clerkship is:
   – Very poor, poor, neutral, good, excellent

5. If given the option, would you continue to use Yammer on your clerkships?
   – Yes, No

6. Please lists the strengths/positives.

7. Please list the weaknesses/negatives.

8. Please provide any additional comments or suggestions.