

A 6-Week Pilot Study of a Mystery Case Learning Experience

Chris Snyder, MD, MBA

Assistant Professor

Department of Internal Medicine, Division of Hospital Medicine

I have no financial relationships.

University of Nebraska
Medical Center



Nebraska
Medicine



Background

- Case based learning is a valuable pedagogical practice
 - Greater clinical knowledge
 - Enhanced teamwork
 - Improved patient outcomes





Background

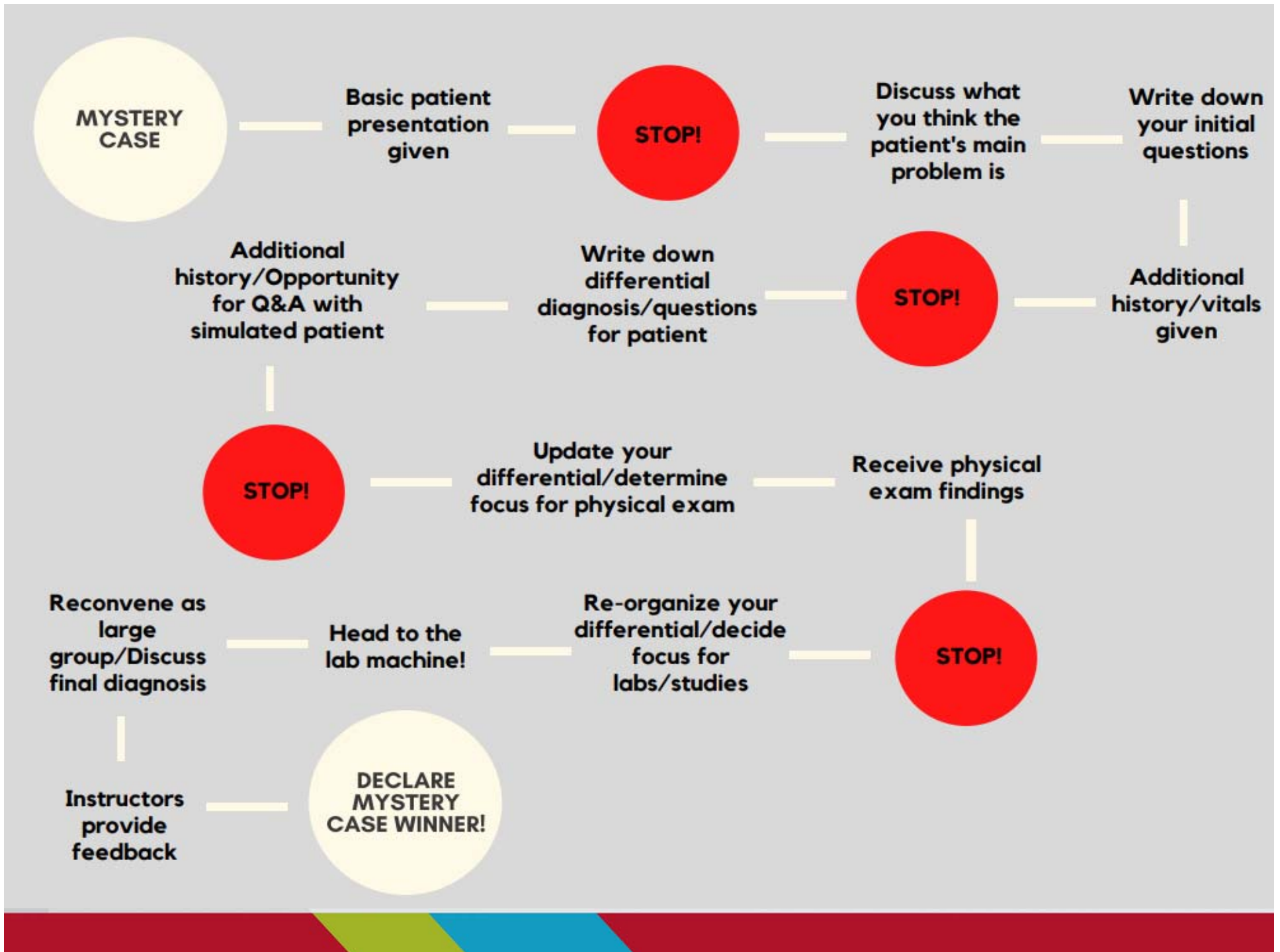
- Despite case-based learning becoming common practice
 - Few protocols exist to assess feasibility and impact
- Case based learning strategy developed
 - “Mystery Case of the Week”



Mystery Case of the Week

- Based on real cases
- Currently led by 2 MDs
- Semi-competitive
- Weekly 1-hour activity
- Offered to medical students, PA students, residents, attendings
- Teams of 2-3 participants
- Structured via schematic approach







Technology Utilized

- Microsoft PowerPoint
 - Case presentation/data and prompts
- Microsoft Teams
 - Used for discussion of teams, questions for the patient, and tracking Ddx evolution
- Microsoft excel
 - Labs, imaging and procedural data uploaded in excel document for learner to “order” from



Purpose of Study: To evaluate feasibility and participant perceptions of the mystery case pilot learning experience





Methods/Measures

- Process evaluation framework to assess fidelity, dose, reach and satisfaction

Outcome	Definition	Data Source
Fidelity	Program was delivered as intended	-Diagnostic accuracy (weekly log)
Dose Delivered/Received	Amount of program delivered/received	-Attendance (weekly log) -Length of experience
Reach	Number of participants reached	-Attendance (weekly log) -Social media presence (Twitter likes/comments/retweets)
Satisfaction	Opinion of program and its implementation	-Post-experience weekly survey (5 questions/likert-type data)



Post-experience survey



A 5-question mixed methods survey was distributed post-learning experience each week



Likert-type questions targeted learning experience, utilization of technology, areas for improvement



Open-ended questions targeted participant satisfaction/recommendations for improvement



Example question

1. Please answer the following questions regarding aspects of the session

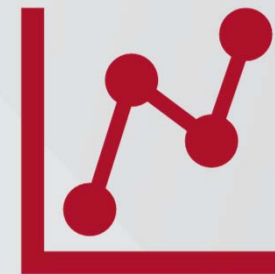
	Hated It	Dislike It	Indifferent	Liked It	Loved It
The Case	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Learning Points - approach to Abdominal Pain and chronic diarrhea	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The lab machine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching Effectiveness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technology (Teams, Zoom, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Analysis



Inductive thematic analysis utilized for open-ended questions



Descriptive findings were calculated for likert-type data/log data



Results

- (n=41) students/Internal Medicine residents participated in the mystery case experience over the 6-week pilot
- ~6 students were engaged each week
- ~1 team achieved an adequate diagnosis each week
- Social media posts successfully engaged ~1 sub-specialty each week (e.g., infectious disease retweeted)



Post-Experience Survey Findings (n=16)

- Case presentation
 - 100% of respondents reported “liking” or “loving” the weekly case
- Lab Machine/Technology Use
 - 80% reported “liking” or “loving” the lab machine and utilization of technology
 - 20% were “indifferent”
- Teaching Effectiveness
 - 100% of respondents reported “liking” or “loving” the teaching received



Qualitative Findings

Themes

- Enjoyment
- Format appreciation
- Enhanced clinical reasoning

“I like the teaching style of these sessions. The case really gets us thinking and discussing as a group. I like the quick break we take early on to discuss the differential for the specific complaint. It's helpful to help us keep our options open, and to see if there is something we missed as a group”



Qualitative Findings Cont.

“The education part is my favorite. The algorithms and just general tips and wisdom is great. I’d like even more of that.”

“I feel like I'm learning how to think in a more organized manner from you, learning how to think broadly.”



Constructive Criticism

“I am finding it to be difficult but I can tell that it's helping me change my mindset from "answer multiple choice questions" to "think about it". I suppose it would be nice if somehow we could get feedback from the lab machine about when we are ordering tests that aren't indicated. Also, if you guys could tell us what you think are the "appropriate" tests after the case, that would be nice too. “

Social Media Presence



UNMC Hospital Medicine @UNMC_HospMed · May 13

Help congratulate @unmccom students Micah Holloway, Jessica Grimmond, and Matthew Ballweg on their diagnostic excellence during the UNMC Mystery Case of the Week! Drs. Michael Smith and @TheThinkingDoc host this friendly competition every Wednesday. Want in? Tweet @TheThinkingDoc

2 2 12

UNMC Hospital Medicine @UNMC_HospMed

Replying to @UNMC_HospMed

Let's ask the experts! @UNMC_ID what's your approach and Ddx?
61 yo M with 2 months of fevers, night sweats, and wt loss. Febrile and tachycardic. No SOB, cough, abd pain, rash. Acting strangely, A&O x 1. Wife reports personality changes. Cerebellar testing also abnormal.

2:08 PM · May 13, 2021 · Twitter Web App

UNMC ID @UNMC_ID · May 14

Replying to @UNMC_HospMed

W those sx's, there may be several causes & I have a host of questions I want answered 🤓👉
But, w no other info, concern right away would be subacute endocarditis w septic emboli, so at least 2 sets of blood cultures, head imaging, TTE to start.

2 3

Chris Snyder MD, MBA @TheThinkingDoc · May 14

What a reply! Character limits are...limiting. I'll answer any questions and only as one. What tips you to subacute endocarditis and away from other causes of B symptoms (besides the fact that ID is being singled out 😂)?

1 1



IPE Implications

- Could consider this model with an IPE team and focus on treatment rather than diagnosis
 - What role would each provider play?



What the future holds...

- The “sky” is the limit
- Added a pre-survey to be given to all medical students at the beginning of IM clerkship
- Collaborations across universities/medical campuses
- IPE innovations
- Utilizing the iExcel center to deliver a more immersive experience (iWall)



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