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

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I have no financial relationships.

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Background

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

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Background

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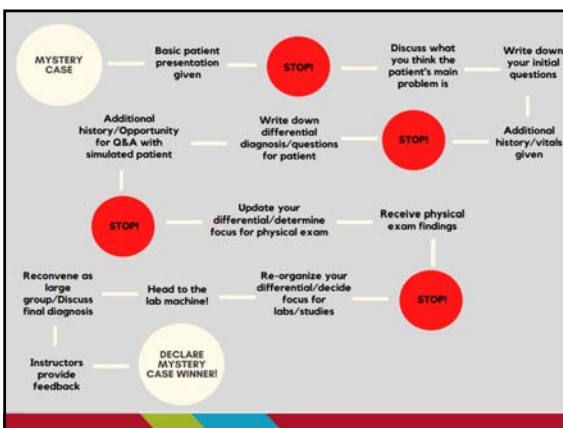 - "Mystery Case of the Week"

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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

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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

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

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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)

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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

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Example question

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

	Hated It	Dislike It	Indifferent	Liked It	Loved It
The Case	○	○	○	○	○
The Learning Points - approach to Abdominal Pain and chronic diarrhea	○	○	○	○	○
The lab machine	○	○	○	○	○
Teaching Effectiveness	○	○	○	○	○
Technology (Teams, Zoom, etc)	○	○	○	○	○

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Analysis

? Inductive thematic analysis utilized for open-ended questions

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

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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)

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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

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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"

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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."

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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. "*

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Social Media Presence

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IPE Implications

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

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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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