Game On! Email-Facilitated Case Competition as a Format for High-Value Care Education

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Disclosures and Acknowledgements

I have no financial conflicts of interest to disclose.

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Background

• **Overdiagnosis and overtreatment** contribute to high costs and potential harm to patients.
• One strategy to reduce costs is to **train physicians to deliver high-value care (HVC)**.
• ACGME also mandates residents incorporate cost awareness into patient care.
• **No standardized curricula exist to best teach residents how to deliver HVC.**
Objective

To develop, implement, and evaluate a longitudinal, email-facilitated HVC curriculum for pediatric residents utilizing a case competition focused on cost-effective diagnostic evaluation.
Methods: Curriculum Design

• Adhered to Kern's six steps of curricular development
• Informed by the conceptual frameworks of social cognitive theory and communities of practice
• Created an email-facilitated team-based case competition focused on cost-effective evaluation and diagnosis during the 2020-2021 academic year
Methods: Curriculum Elements

Each class had 3 days to collaborate with classmates and request diagnostic testing.

Faculty facilitator provided the results of requested history and diagnostic tests.

Correct diagnosis, cost, optimal evaluation, and HVC concepts provided at end of week.

Overall winning class earned an ice cream social at the end of the year.
Methods: Curriculum Evaluation

- Surveyed participating residents after each case regarding attitudes, practice changes, knowledge gained, and email format
- Conducted 2 focus groups with a total of 5 residents at the end of the academic year
- Using basic interpretative qualitative methodology, focus group transcripts were analyzed by three faculty and one resident iteratively until consensus of themes was obtained.
Survey Results

• A mean of 28 residents participated in each case, which included 17% of PGY-1s, 9% of PGY-2s, and 16% of PGY-3+s
• Survey response rate was 36%
How useful was this week's "Case Competition" for your clinical practice?

- Very useful: 58.5%
- Moderately useful: 22.0%
- Mildly useful: 17.1%
- Not at all useful: 2.4%

How effective was using email as an educational method to facilitate this case competition?

- Very effective: 43.9%
- Moderately effective: 36.6%
- Mildly effective: 17.1%
- Not at all effective: 2.4%
Qualitative Analysis: Themes

Enhancement of HVC Attitudes, Behaviors, and Awareness

Case competition element increased engagement

Active learning through cases and collaboration

Email as a mode for delivery of HVC resident education
Enhancement of HVC Attitudes, Behaviors, and Awareness

“This was a nice exercise in demonstrating that the day-to-day work that we do even as residents, can be exercises in high-value care, and the decisions we make... does this test actually change what we're going to do for this patient?”

“But it's that application, then you're practicing that skill, and more likely to use it.”
Case competition element increased engagement

“I feel it was helpful with buy-in. I think in general, I’m one of the least competitive humans, but I will say it fostered collaboration among our class... I think it was effective in getting people engaged.”

“I love competition... It's fun to make it a game. There's some camaraderie there.”
Active learning through cases and collaboration

“I think it's been some of the most efficacious email learning I've experienced… I think I learned more from that than morning reports and things like that, because if I participated at all in high-value care, it was my own choice.”

“I think it's been motivating for me to just become a better doctor and a better clinician... And be inspired by each other and each other's commitment to doing right for the patient”
Email as a mode for delivery of HVC resident education

“...when we're doing [cases] virtually, and just over a more prolonged period, **everyone has the opportunity to provide input** that might not occur in an in-person format with such a large group.”

“I think it gave us **more time to percolate and to think.**”
Conclusions

• A longitudinal email-facilitated case competition may be an effective strategy to improve resident cost awareness.
• Gamification increased resident engagement, and the email format allowed for flexibility for some residents.
• Further work is needed to incorporate other HVC principles such as patient/family experience into the curriculum.
Limitations

• Study only performed at one site over one clinical year
• Few focus group participants
• Variable class and resident participation
Next Steps

- Consider hybrid model of in person and online competitions given mixed feedback and benefits of both formats
- Integrate family and patient experience into HVC cases
Questions?

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