

Title

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

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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). The Accreditation Council for Graduate Medical Education also mandates residents incorporate cost awareness into patient care. Yet, 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

Informed by the conceptual frameworks of social cognitive theory and communities of practice, we developed a team-based case competition where 5 self-constructed clinical cases (with input from content experts) were emailed to all residents (N=114) every other month from August 2020 to May 2021. Each residency class had 3 days to collaborate with classmates and request diagnostic testing results via e-mail to the faculty facilitator before submitting their diagnosis. We piloted this format to offer flexibility for participation. The correct diagnosis, cost of each teams' evaluation, optimal HVC evaluation, and HVC concepts were then provided. We surveyed all residents and conducted 2 focus groups of residents (N=5). Using basic interpretative qualitative methodology, focus group transcripts were analyzed by three faculty and one resident iteratively until consensus of themes was obtained.

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 results (response rate 36%) revealed 81% of residents reported this case competition was very or moderately useful for their clinical practice, and 78% felt email was very or moderately effective as an educational method. Table 1 shows themes and quotes from focus group data. Qualitative analysis found the case competition increased resident appreciation and awareness of HVC and promoted discussions about HVC in clinical settings; gamification facilitated resident engagement; collaboratively working through cases enhanced learning and motivated some residents to become a better physician; and email enabled many residents to participate in learning.

Conclusion

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.

Table 1. Themes obtained from qualitative analysis of focus group transcripts, along with illustrative quotes of each theme

Theme	Illustrative Quotes
Enhancement of HVC attitudes, behaviors, and awareness	<p>“It [the cases] was a nice reminder sporadically throughout the year, of, ‘Yes, I should think about that,’ because I think particularly at [our hospital], we get a little swept away in every consultant [recommendation], every lab recommendation for all the things, so we just do it, instead of really considering, will this change management, will this change your diagnosis, or [is it] an academic exercise?... But it's that application, then you're practicing that skill, and more likely to use it.”</p> <p>“I think for me, it reinforced that this really factors into the day to day.... 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? Would it change my post-test probability in terms of thinking about whether or not this is the diagnosis at play?”</p>
Game On! Case Competition element increased engagement	<p>“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, and there was an element of yeah, I want an ice cream party, and just the pride of, we want to beat the third years. I think it was effective in getting people engaged. I think had it not been a competition, there might have been less engagement.”</p> <p>“I love competition... It's fun to make it a game. There's some camaraderie there.”</p>

<p>Active learning through cases and collaboration</p>	<p>“I think it's been some of the most efficacious email learning I've experienced, where, because virtual learning has obviously been a big highlight for the last year, so... from the med ed perspective, thinking about how you get people to participate, and actively engage in something without a gathering like this, and it worked. 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.”</p> <p>“I thought it was a nice way to pause and have that hands-on experience in participating in the value equation in healthcare, because I think the actual day to day clinical work things are so, so busy that sometimes it's hard to see that element, especially when you're the drowning intern...”</p> <p>“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 in a system in which we work... Then I feel like having conversation in that setting, invites conversation on the wards as we're rounding, as we're in clinic...”</p>
<p>Email as a mode for delivery of HVC education</p>	<p>“I think also this is another benefit to virtual... our class being in a group of 30, there are probably some voices that would be maybe heard less. Whereas when we're doing it 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.”</p> <p>“I think it gave us more time to percolate and to think. Whereas we might have to make really quick decisions, not actually be looking up things. It'd be like, "We have 15 minutes to solve this case." I feel like that would be a benefit to still having it virtual. Sometimes I feel like it takes me a little bit to absorb things, and takes me looking into it on my own, like a focused way, that if we were in person, maybe feeling like I'm not up to speed, or I don't want to say something because I didn't really have time to look into it.”</p>

