GAME ON: PUTTING EDUCATIONAL GAMING INTO PRACTICE

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INTRODUCTION

- Research shows that games are useful in achieving clinician education, increasing learner engagement/knowledge retention, and
 potentially improving patient outcomes^{1,2}
- Medical schools are increasingly using game-based strategies to improve their educational programs³
- Millennial health care providers prefer flexible fast-paced learning platforms with solid engaging content to traditional lecture-style
 education⁴⁻⁸
- Gaming as a CE tool is believed to improve learner engagement and stimulate critical thinking, but information on how games benefit clinical learners is limited—a gap that may limit the use of gaming in CE⁹⁻¹¹

METHODS

- Scale, Bail, or Fail is an e-learning game created to challenge learners with a series of tiered knowledge- and competence-based questions
- To date, this game has been used to educate on (1) cyclin-dependent kinase inhibitor use in solid tumors, for cancer research clinicians (Activity 1); (2) multiple myeloma patient management, for oncology clinicians (Activity 2) (Figure 1)
- In Scale, Bail, or Fail, learners accumulate points by correctly answering questions—providing an experience reminiscent of the game show Who Wants to Be a Millionaire?
- When stumped, players can select onscreen aids that provide hints in a variety of ways while delivering and reinforcing educational content:
- Poll Position calls up survey results that show how previous players answered the question
- Litcheck displays excerpt(s) of recently published articles that enable players to work out the correct answer for themselves
- Quick Consult presents audio segments of expert faculty on the topic of the question at hand
- Use of onscreen aids is unlimited, so players unlock new content with repeated attempts, reinforcing key educational points
 Knowledge gain is reported as percent change (first attempt/last attempt)

Figure 3. Participant satisfaction



Figure 4. Participant knowledge changes





 Following participation, players indicate their intention to use clinical strategies highlighted in the activity (captured as commitment to change or current/planned use)

Figure 1. Scale, Bail, or Fail



Figure 5. Participant commitment to make practice change

After game participation, clinicians committed to making practice changes.



RESULTS

Table 1. Participant demographics

	Participalits			
Item	Activity 1		Activity 2	
	All	Physicians	AII	Oncology Clinicians
All participants (n)	1,089	271	1,084	168
Completers for CE (n)	405	92	610	126
Specialty (%)				
Oncology	10	4	2	11
Hematology-oncology	7	6	14	70
Bone marrow/stem cell transplant	0	0	1	2
All other oncology	5	3	3	16
All others	78	87	80	0
Years in practice (%)				
≤5	25	13	15	14
6–10	16	9	13	18
11–15	13	11	10	17
16–20	12	11	8	6
21–25	9	11	9	11
>25	27	44	33	29
I am not in clinical practice.			11	4

Figure 2. Participant engagement



- Scale, Bail, or Fail demonstrates that game-based CE is engaging and can improve clinician knowledge and competence
- Applicable to most CE content, the gaming format offers a unique option for covering content that may otherwise be challenging to
 present in an engaging manner
- Our data support the hypothesis that traditional CE competency assessments can be used with a game-based education platform
- Scale, Bail, or Fail is effective across different types of learners, appealing to both physician and advanced practice provider learners
- Participants enjoyed the format; some suggested that the format could be enhanced by presenting baseline information before the game begins—enhancement we are considering in future versions
- As the learning needs and expectations of clinicians change, CE providers and developers would benefit by embracing gaming as a
 part of their educational platforms

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DISCUSSION

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