Gaming for High Value Care

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Introduction

- Health care costs are increasing with a significant proportion of this cost deemed wasteful.[1]
- Providers must be educated about and engage in High Value Care (HVC) practices to make health care sustainable.
- We aim to use serious gaming to create an effective and engaging HVC curriculum for residents.

The Curriculum

The practice of High Value Care is a challenging skill for physicians to learn and master. One resident survey found that the following factors contributed to the over-ordering of studies and treatments: minimal training in value assessment, propagating role modeled behavior, diagnostic uncertainty, and practicing defensive medicine.[2] Less than 3% of residents surveyed felt they had received adequate education about cost of care.[3]

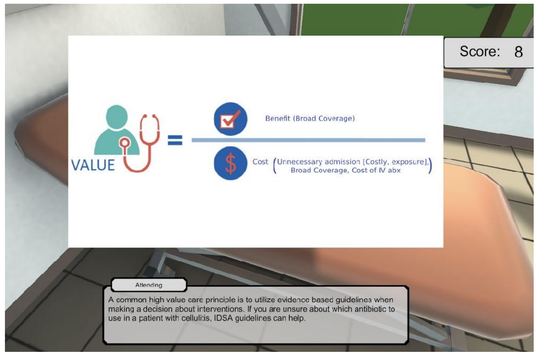
HVC has traditionally been taught using lecture format. However, studies have shown active versus passive learning increases knowledge retention.[4] Increasing evidence shows that use of gaming in education can increase self-efficacy, declarative knowledge, procedural knowledge and retention.[5]

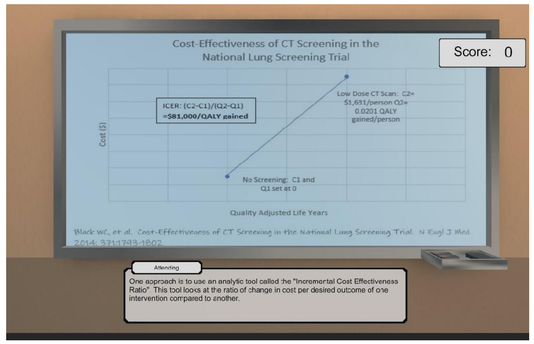
To increase knowledge and retention, we have created a serious game to teach HVC principles to internal medicine residents.

The Curriculum

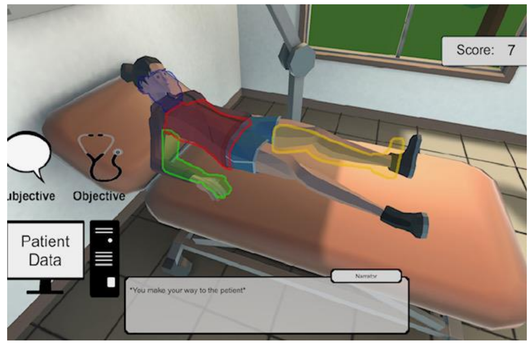
We worked with Refraction Games, LLC to create a serious game introducing the player to HVC principles and cases. The game follows the player's avatar throughout a day in the hospital and clinic.

The player's avatar enters the hospital and attends "morning report" during which the Value equation and Cost-Effectiveness Analysis are introduced. The patient then proceeds to work through three interactive cases that require the use of HVC principles and introduce external resources to aid in cost conscious decision making such as Health Care Blue Book, American College of Radiology Appropriateness Criteria, Choosing Wisely, and IDSA Guidelines.





The player receives feedback and scoring based on responses to questions. At the end of the game, the player is shown a leaderboard comparing their score compared to other players.



Implementation

The game will be played by all second year Internal Medicine residents beginning in July 2021.

Following the completion of the game, each resident will receive real time feedback from the attending physician.

Feedback and Evaluation

We will obtain feedback on all four levels of the Kirkpatrick Model[6]:

Level 1: Reaction
- Pre-Game Survey
- Post-Game Survey

Level 2: Learning
- Pre-Game Survey Data
- Post-Game Survey Data
- In-Training Exam Resident HVC sub-score Change Pre/Post Game

Level 3: Behavioral Change
- 3 Month Follow-up Survey Data

Level 4: Results
- Evaluation of resident's clinic ordering patterns Pre/Post game

Next Steps

1. Obtain 6-12 months of data post implementation
2. Expand to other training programs and learners

References & Acknowledgements

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