Theory and Medical Evidence
In Game Design

Agenda

• Intro to Glymetrix
• Why use theory
  – Who’s theory
• Why use evidence
  – What constitutes evidence, existing examples
• Specific examples in game play
Healthcare’s Dilemma – Patient Engagement

• Glymetrix provides innovative engagement strategies to motivate better diabetes management through the use of rewards and incentives.
• Glymetrix uses a game based interface to engage patients with the sophisticated data model at the core of the system.
• By gathering the patients unique behavioral patterns the data model provides medical professionals with high quality data to drive informed decision making and improve outcomes.

Basing Games In Good Theory

• Sound academic theory is a way of looking at your game design
• Theory guides your design decisions, helping you understand why different elements of your game succeed or fail
• Using research backed theory greatly increases the chances that your game will accomplish it’s educational and behavioral goals
Your Game Better Be Fun

If it is, then Jim Gee can tell you how it teaches

Supermarket Game Flow

Instructions
Start the game with a welcome and instructions screen

Personalize
Have user enter or modify profile, identify number of days for which to buy food, time limit

Play
Enter through the front door, walk to all the aisles to select food and navigate to the check out area.

Review Results
Show final score and present ways to score better next time, a learning opportunity

This set of game scenes creates order for situated learning. Good game design will create initial success and continued play.
Medical Evidence

- Evidence based medicine improves the practice of medicine
- Basing the design in sound medical evidence improves patient outcomes

DiabetesCare

Web-Based Care Management in Patients With Poorly Controlled Diabetes

Graham T. McMahon, MB, BCH1, Helen E. Gomez, MS, APRN2, Sara Hickson Hulka, BA2, Tang Ming-Jye Hsu, MS3, Betty A. Levine, MS3 and Paul R. Codin, MD1,2

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Glymetrix

Games Are Proven to Motivate Behavior Change in Patients

We link games (which are algorithms) to good medical practice (which is also an algorithm) to provide patients with the motivation and care they need to succeed in self management.

Tracking behavior within games provides ability to customize interactions that match patients preferences.

Games have proven to drive behavior change in clinically verifiable settings.

Robomemo improves short term memory in patients with ADHD, and patients recovering from stroke.

Remission users show improved compliance with cancer drug regimen.

Prizes

Desire to win

Motivation

Social status

Team dynamics

Dopamine release

11/28/08
## Medical Evidence Drives the Score

**Body Types**

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Dietary Guidelines from the ADA  Diabetes  Meal Planning Made Easy

## Go Live

![Image of a game interface with living well, Olympics, all at sea, and television categories. The interface includes options to earn points and a score summary.](Image)
Questions?