A little bit about me....

- Harvard and Stanford trained Health Psychologist
- Founding President and CEO of HopeLab
- Current Owner of P. M. Kato Consulting, helping organizations develop effective serious games and gamification approaches for health
Healthcare Challenges

- Acute Care Model → Chronic Care Model
  - Chronic diseases
  - Aging population
  - Prevention
  - Medical Errors
Effective treatments have no impact on health outcomes if people fail to use them

There are no immediate rewards for engaging in positive health behaviors/safe medical practices

It’s not “cool” to have a chronic disease or to follow all the rules
Serious Games for Health

- Games can help address these challenges!
Case Study: Re-Mission
Outcomes

• It worked! Randomized trial published in *Pediatrics*
• Over 200,000 copies distributed in 81 countries
• There is still interest in this “old” game (2005)
  • 2012 *Wall Street Journal* interview
Why still popular?

- It addressed an unmet need in the global market: psychosocial support for teens with cancer
- We did our homework with end-users, stakeholders, gatekeepers
- Easily accessible distribution channel: mail order or download
- Reasonably priced: Free to patients with cancer, $20 donation for others
- Endurance and ubiquity of PC platform
Problem: Adherence

- Adolescents and young adults were not benefitting from effective cancer treatments (Archie Blyer)
Preliminary research

- Focus groups and interviews with patients, family members, nurses, doctors

- Formal surveys and reviews
Active ingredients

- Theory to support behavior change
  - Social Learning Theory
- Identified specific behaviors and knowledge targets where we could have a significant impact
  - Adherence, self-care, stigmatized conditions
- Ongoing input from target group of patients
Re-Mission
7 Cancers
- ALL
- AML
- Osteosarcoma
- Brain tumor
- Hodgkin’s
- Non-Hodgkin’s
- Ewing’s Sarcoma

19 Patients
Diverse:
- Gender
- Ethnicity
- Age
- Location
- Disease stage

20 Levels
Adaptive difficulty
Diverse missions:
- Chemotherapy
- Radiation
- Metastasis ctrl.
- Infection ctrl.
- Stress mgmt.
- Pain mgmt.
- Bonus: immunotherapy

1 Intrepid Nanobot
Randomized Trial to Determine Effectiveness

- n=374 young people with cancer, ages 12 - 29
- 34 medical centers
- Design: Control game vs. Control game + Re-Mission
- Primary outcome = Adherence to treatment

(Note: We also had a Data Safety and Monitoring Board (DSMB) to evaluate safety)
Results

Cancer Knowledge

Self-Efficacy

Follow-up Month

Intervention-taRed knowledge (% correct)

Follow-up Month

Cancer-specific self-efficacy (1-7 scale)
Adherence

Total MEMS Cap Events

Blood 6MMP Log10 (pmole/8x10^8 RBC)

Follow-up Month

Control vs. Re-Mission vs. Intervention and Control over time.
It worked!

A Video Game Improves Behavioral Outcomes in Adolescents and Young Adults With Cancer: A Randomized Trial
Pamela M. Kato, Steve W. Cole, Andrew S. Bradlyn and Brad H. Pollock
Pediatrics 2008;122;e305
DOI: 10.1542/peds.2007-3134
Re-Mission Today

- Available at www.re-mission.net
- Follow-up research* showed interactivity improved adherence motivation
- Re-Mission 2, a series of casual games, is out!

*Cole, S.W., Yoo, D.J., Knutson, B. (2012). Interactivity and Reward-Related Neural Activation During a Serious Videogame. PLoS ONE.
Why haven’t you heard about this game?

- Lack of appreciation of the importance of research and a business perspective
A Game You Will Hear About

PLAN+IT COMMANDER
What Does the Future Hold?

- Larger companies will include serious games for health in their businesses (e.g., pharma, medical publishers, medical insurance companies)
- Standards will emerge for creating quality games
- Serious games organizations will live or die based on their ability to collaborate across disciplines especially with research and business experts
Conclusions

- Research should be planned from the start
  - With a strong theoretical basis and ongoing input from target groups
- Input from stakeholders is also critical
- Marketing should be planned from the start too
- The future depends on openness and collaboration and YOU!
Thank you!

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