Hacking medicine aims to create a dynamic ecosystem that fosters an environment that facilitates interested stakeholders to rapidly hack complex challenges in healthcare. Hacking Medicine has been hacking healthcare since 2011.

To learn more about us please visit our website: hackingmedicine.mit.edu
Agenda

• Hacking Medicine origins
• Vision
• Hack mantras
• Hackathon process & output
• Bringing hacking to your organization
Motivation 1: “There has never been a better time to be an entrepreneur in healthcare.” – Todd Park
Motivation 2: Time is right to hack healthcare

- Paradigm shifts in payment reform creating the need for care management & wellness tools
- Incentives changing to allow for business model hacks
- Information technology meets healthcare coupled with meaningful use incentives
- Patient generated data will be increasingly important
Hacking Medicine Vision

Energize and connect the best minds across MIT and the health ecosystem to teach, learn, and launch disruptive healthcare solutions to solve healthcare’s biggest challenges at home and abroad.
Hackathons for rapid innovation to energize & infect
Hacking Medicine progress to-date

- 16 Hackathons
- 4 continents
- 2000+ hackers
- >275 teams
¼ Providers  ¼ Designers  ¼ Engineers  ¼ Entrepreneurs
Mantras of Hacking Medicine

1. Unmet needs/validate the need first
2. Diverse team and stakeholders
3. Determine who will pay
4. Iterate and learn
Day 1: Socializing & Presentations

Painpoints from the source
Day 2: Presentations, Pitches, Hacking

Pitch as a vehicle to test + hone + pivot

Construct Collisions

Promoting failing fast & pivoting
Day 3: Hacking & Demo Presentations

Focus on building

Visualize & prototype on paper

Provide mentor support to help validate the biz model

Solution design & testing through demo presentations
# HackMed Biz Model

Simple Map of Who Uses, Prescribes, Pays, Distributes

<table>
<thead>
<tr>
<th></th>
<th>User</th>
<th>Decider/Prescriber</th>
<th>Distributor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activation</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>Retention</strong></td>
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<tr>
<td><strong>Revenue</strong></td>
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<tr>
<td><strong>Who Pays?</strong></td>
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</tbody>
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*Hacking.Medicine @ MIT*
# Healthcare Biz Model Canvas

## Key Partners
- Patient
- Specialist/PCP/Nurse
- Hospital/Department
- Insurer
- Payor/Employer

## Key Activities
- Patient/DTC
- Specialist/Nurse
- Hospital
- Payor

## Key Resources
- Data Accelerants

## Value Propositions
- Patient/DTC
- Specialist/Nurse
- Hospital
- Payor

## Customer Relationships
- Insurer
- Payor/Employer

## Channels
- Regulatory Path
- Reimbursement Codes

## Cost Structure

## Revenue Streams

## Disease Segments

## Natural History

## Key Risks/Liabilities

## Regulatory Pro/Con

## Performance & Efficacy Metrics
- Clin Data Cost/Timepoints

## Value Inflection Milestones

## Substitutes & Competition

## Execution Differentiation

## Go To Market Differentiation
Examples

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RAPID PROTOTYPING
PAPER + COFFEE + DIVERSE TEAM

EXAMPLE:
MEDICATION ADHERENCE + COMPLIANCE
PATIENT SCHEDULING
SCHEDULING ALGORITHMS

Predict patient no-shows
Better manage daily appointment volume by knowing which patients are at-risk for late cancellation

Reduce scheduling errors
Our sophisticated rules engine is tailored to each practice to minimize scheduling mistakes

Improve access to care
Efficient scheduling optimizes appointment density to improve access to care and reduce wait times
RAPID PROTOTYPING EVEN MEDICAL DEVICES
Ringleader: from inpatient to outpatient

• Senses and uploads ekg (& other metrics) to an app for remote monitoring
• [Expensive] exercise stress test → outpatient procedure
• Assessing risk for repeat heart attack
From hack to clinical trials in 1-2 years!
Many teams are nurtured in health tech accelerators post hack
Tips for bringing hackathons to your organization

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HOW TO BRING HACKING TO YOUR OWN ORGANIZATIONS?

DIVERSE AUDIENCE
HUGE PROBLEMS
PITCH PITCH PITCH
TEAM SELF ASSEMBLY
DESIGN THINKING
EXPERTS AS MENTORS

MAP PLAYERS + INCENTIVES + MODELS
TEST + OBSERVE + INVALIDATE + PIVOT
FIND EXISTING EFFICACY EVIDENCE
DE-SKILL DX/RX

SEE ONE > DO ONE > TEACH ONE
Questions?

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