National Association of Counties

Aetna Innovation Labs

February 20, 2016
Aetna Innovation Labs mission: Creating the Future

Identify high-impact ideas **2-3 years ahead** of the market

Test pilot concepts rapidly & rigorously to gather evidence

Demonstrate measurable value to stakeholders

Deliver proven solutions for Aetna partners to scale

Clinical Innovation Stage Gate R&D Process

1. Generate & Capture Ideas
2. Evaluate Concepts
3. Scope & Define Concept
4. Develop Business Case
5. Design & Execute Pilot
6. Verify Business Case
7. Transition to Scale

Where appropriate, initiatives focus on the top-spend condition areas:

Cardiovascular | Cancer | Musculoskeletal | Maternity | Gastrointestinal | Mental Health
Concepts are evaluated against 6 criteria as they move through the stage gate process

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Evaluation</th>
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<tbody>
<tr>
<td>Customer Need</td>
<td>• &lt;Description of target customer and unmet need&gt;</td>
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<tr>
<td></td>
<td>• &lt;Concept’s Value proposition&gt;</td>
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<tr>
<td>Strategic Alignment</td>
<td>• &lt;Short description of how the concept aligns with strategic goals or business unit’s strategic plan&gt;</td>
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<tr>
<td>Market Potential</td>
<td>• &lt;Estimate of market size and expected market growth rate&gt;</td>
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<td></td>
<td>• &lt;Comment on the number of competitors in the market and where Aetna can strategically differentiate itself&gt;</td>
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<td>• &lt;How the concept supports Aetna’s brand and values&gt;</td>
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<tr>
<td>Risk Mitigation</td>
<td>• &lt;Description of known risks and how they could be mitigated&gt;</td>
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<td>Execution Feasibility</td>
<td>• &lt;Description of what has kept Aetna from pursuing the concept in the past&gt;</td>
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<td></td>
<td>• &lt;Initial estimate of the investment needed to execute the concept&gt;</td>
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<td>• &lt;Potential partners that have been identified&gt;</td>
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<tr>
<td>Internal Commitment</td>
<td>• &lt;High level description of the type of resources that would be needed to execute the concept&gt;</td>
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<td>• &lt;State the likely sponsor or business unit to own the concept&gt;</td>
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We collaborate with hundreds of partners both inside and outside Aetna to solve problems and improve healthcare.
Collaboration allows us to explore a number of areas that will drive value to those we serve.

- Patient Engagement
- Devices, Trackers & Sensors
- Remote Monitoring
- mHealth
- Next Generation Platforms
- Tele-Health
- Metabolic Syndrome
- Safety
- Genomics
- Predictive Analytics, Insights & “Big Data”
- Population Health
- Behavioral Health
- Evidence-Based Medicine
- mHealth
Aetna Innovation Labs and Experience with MetS

Based on our robust claims data Aetna was able to generate a highly accurate predictive model for individuals (88% predictive).

Central obesity is the largest driver of risk and, if improved, the greatest driver of risk reduction.

- Personalized MetS intervention that resulted in a year savings of $1,464
- For participating members there was statistical significant improvements in waistline reduction, triglycerides, and HDL
- Participants lost an average of 10 lbs.
Completed Pilot: Metabolic Syndrome (MetS): Reducing “Waist Circumference” Risk Factor

**Pilot:**

The Aetna Metabolic Syndrome Pilot program aims to reduce an individual’s MetS risk factors via Newtopia’s high-touch, personalized, health program which combines online coaching with genetic testing to tailor a plan that creates healthier, more engaged, employees.

**Results:**

- **Reduction in Medical Costs:** Reduced medical costs by $122/participant/month for a positive ROI within 12 months
- **Strong, Sustained Engagement:** 50% Program engagement at 1 year – compared to 25-35% ‘typical’ engagement rates with weight loss programs
- **Clinically Relevant Weight Loss:** Statistically significant weight loss where 76% of participants lost an average of 10 pounds
- **Results are published** in the Journal of Occupational and Environmental Medicine (JOEM)

**Next Steps:**

- Continue Year 3 sustained weight loss program
- Soft roll-out to customers in 2015
- Larger roll-out to customers in 2016
Newtopia pilot participants have sustained weight loss into year 2

During the time period, 7 people successfully moved from the 3-6.9% weight loss group to the 7% or more group, while total weight loss was sustained for both groups.
Domestic Digital Cognitive Behavioral Therapy (CBT): Improving Mental Health with Digital Platform

Overview

- Tested using vendor MyStrength platform to reduce symptoms of stress, anxiety and depression
- Benefit is to improve mental health and work-life performance, reduce costs related to impact of depression and anxiety
- ~5,000 members
- Recruitment is opt in and was conducted via email outreach
- Pilot extended to family members over 18 years of age

Design

- 9 month pilot
- Recruit participants and randomized into the control group and 2 intervention arms, CBT alone or CBT + talk therapy
- Active intervention personalized account for 6 months
- Control group received 7 weeks of educational emails with option to access active intervention at week 8.
- Depression Anxiety Stress Scale (DASS) and Work Productivity and Activity Impairment Questionnaire (WPAI) validated scales used to measure impact

Metrics

- Member engagement and satisfaction
- Symptom reduction for anxiety and depression
- Improved productivity outcomes
Digital CBT domestic pilot results show it is both engaging and clinically effective

- Statistically significant improvement in depression scores over control group: 3.8x
- Directional improvement in anxiety scores over control group: 2.9x
- Repeat myStrength users: 71%
- Users completing at least one exercise: 46%
- Average number of exercises competed: 7.5
- Average number of user logins: 6.09
Completed Pilot: Preventing falls in the Medicare population using Tai Chi

Based upon evidenced-based research of Dr. Fuzhong Li
• 4 armed pilot: 3 active intervention arms and one control group
  • Created evidence-based Tai Chi DVD
  • Recruited and trained over 60 instructors in partnership with the Maine Agency for Aging
  • Built on-line Tai Chi program
  • Enrolled close to 1,200 members from Maine

Timeline
• Pilot conducted for 6 months; 60 minute sessions 2x/week from November 2013 – May 2014

Self-reported surveys conducted in both control and active intervention arms
• 7 surveys were conducted over 6 months
  — Baseline survey at kick-off, focused on falls and near falls history
  — 5 surveys in program focused on member’s changes in balance
  — Final survey at program conclusion focused on overall changes to falling and near falls and member satisfaction
• Non-Aetna members surveyed for classroom intervention arm
The results of the study found a clear benefit and improvement for people in the Tai Chi group

- *20%* Tai Chi group had fewer falls or near falls than control group
- *20%* Tai Chi group improvement related to being worried about falling
- *90%* High level of satisfaction, especially in classroom arm

**Conclusions:**
- Tai Chi in the elderly demonstrates objective benefits with respect to falls, near falls and balance perception
- High level of satisfaction amongst seniors. This has led to an extension of the program with our Agency for Aging partner in Maine
- Potential for significant savings

**Next Steps:**
- Program Extension in the State of Maine
- Expansion of Tai Chi program to other areas of Medicare
- Analysis of utilization/cost analysis is being conducted with expected completion by end of 2015
Virtual PT / Musculoskeletal Telehealth: Customized virtual physical therapy

**Pilot:**

Virtual, automatically-**customized** physical therapy designed by academic orthopedists & physiatrists with over 300 **outcomes-driven** musculoskeletal modules

**Benefits:**

- **Reduction in Medical Costs:** Offering faster access to lower-cost physical therapy esp. for **lower back pain** and other high-cost musculoskeletal conditions, with potential for ~$2k/case savings
- **Increased Engagement:** Personalization augments participant effort to maximize results, and improve productivity and presenteeism.

**Metrics:**

- **Engagement:** Participation, persistency
- **Clinical Measures:** Pain control; function
- **Utilization:** MSK-related; procedure use; global

Pilot Status: Verify Results
Virtual PT Pilot Results

Pilot characteristics:
- Offered to Aetna members at 3 plan sponsors – invited by post, email, onsite marketing, concierge referrals
- 297 registrations; 56 screened out → recommended physician evaluation, 241 registered users; 6 month pilot

Self Reported Clinical Outcomes:

Participation/ Engagement:
- Avg Session Time: 19 minutes
- Avg number of sessions: 6
- % completing more than 2 sessions: 47%
- % enrolled in 2 or more programs: 28%

Symptoms:
- Avg Starting pain level – 5.4
- Top Program Selections:
  - Lower Back: 93
  - Knee: 56
  - Shoulder: 34
  - Hip: 27
- % reporting pain decrease: 74%
- % reporting 50% or greater pain decrease: 27%
- % with complete resolution of pain: 5%

Satisfaction Survey:

52 survey responses

- 100% would recommend SimpleTherapy to family or friends
- 82% rate SimpleTherapy ‘easy to use’ (7 or greater on a scale of 1-10)
- 83% are very satisfied with SimpleTherapy (7 or greater on a scale of 1-10)
- Of the 21 respondents who had previous experience with in-person PT, 90% felt SimpleTherapy was at least as effective in helping improve their symptoms
- 84% respondents would prefer to use SimpleTherapy over in-person PT for future PT needs
Virtual Physical Therapy With Real-Time Motion Feedback

Solution:
• Virtual delivery of **digital physical therapy content** on any web connected device
• Clinical content developed by clinicians at **NYU Rusk Rehabilitation Center**
• **Real Time Motion Feedback** utilizing front facing cameras on mobile devices and/or webcams on computers guides users to help optimize technique/optimized movements

Benefits:
• **Real Time Motion Feedback** mimics in-person physical therapy sessions, potentially replacing in-person PT visits
• **Reduction in Medical Costs:**
  • Digital solution will be available on a subscription basis at a fraction of the cost of in-person PT
  • Easier and more convenient access to early physical therapy esp. for **lower back pain**, can produce savings from reduced need for imaging/procedures with potential for ~$2k/case savings
• **Increased Engagement:** Personalization augments participant effort to maximize results, and improve productivity and presenteeism.
Aetna Innovation Labs is charged with creating, cultivating, and sustaining a culture of innovation.

Building a Culture of Innovation Begins with Empowerment & Providing the Encouragement and Opportunity to Innovation

- Aetna TestDrive
- Patent & Intellectual Property Program
- Hackathons
- Innovation Challenges
- Innovator of the Year
Aetna TestDrive

Wearable device employee lending library

- Launched mid-November 2015
- Stocked with 18 market-leading products
- Operational in Hartford, CT and Phoenix, AZ Wellness Works centers
- Over 600 product rentals in 3 months, with 500 surveys completed to date
- Over 350 unique customers, returning over 250 times

Brands include:

- Fitbit
- Misfit
- Jawbone
- Lumo
- Withings
- Garmin
- Muse
- iHealth
- Alivecor
- Geopalz
- Pebble
- HealBe
- Darma
Aetna TestDrive

Aetna Innovation Labs and wearables

• Distributor of all best-in-class wearables to customers for volume discounts, ranging from 20-40% off sale prices

• TestDrive product to be packaged and reproduced at customer locations

• TestDrive to be used as curation mechanism for early market feedback for VCs, accelerators, and incubators of wearables
Aetna Innovation Labs created Aetna’s Patent Wall in Hartford, CT

**Patent Wall and Ceremony**
- The wall commemorates all 31 patents Aetna has received in its history
- An interactive digital kiosk allows people to learn more about patents, our portfolio, and our patent goals
- On July 20th, we invited all active employees who are patent recipients to a Patent Recognition Ceremony to meet EC members and network with innovative colleague

**Patent Incentive Program***
- All inventors named on an original, non-provisional, utility patent application will receive $1,000 per filing, capped at $4,000 per application
- If a patent issues on the same application, the same innovators will receive an additional $500

*Funded by Patent Center of Excellence
Engage all organizations within the enterprise with an opportunity to build a working product prototype, and ultimately reward novel ideas.

Goal
- Develop a working prototype of a product or solution that can be further developed, deployed at scale, while protecting its IP.

Themes
- What product would you create to evaluate Provider Quality?

Frequency
- Once a year, over a couple of months

Reward
- Public recognition, financial reward to development team, opportunity to participate in the Innovator of the Year.
Innovation Challenge

Enterprise-wide Innovation Challenge that empowers all employees to think creatively and participate in the innovative

Goal
- The goal of all Challenges is to ultimately create, develop, pilot, and commercialize a product or program to our customers

Themes
- To receive a desired output, we must ask questions that provoke answers that are product or program-related specific to a clinical need

Frequency
- Twice a year, in the spring and fall when vacation time is limited

Reward
- Public recognition, fitness tracker, tablet product, opportunity to participate in Innovator of the Year

Past Innovation Challenges
- If you were to recreate Aetna’s Care Management program from scratch today, what would it look like?
- What would the ideal Childhood Obesity program look like?
- Create a consumer-facing product that can help improve women’s health
- How would you create a consumer-focused solution by taking a strategy, practice, or product from another business or industry and apply it to healthcare
Innovator of the Year

Annual culmination of all innovative ideas created through the Challenges and organically developed through the enterprise

Goal
• Award the most innovative idea of the previous year, apply funding to that idea, and build internally to create the product

Approach
• The contestant is coached one-on-one by an Innovation Labs executive for one month to build the idea and business case
• The idea is present “shark tank style” to Executive Committee members, as well as Chief Innovation Officers
• The CEO confers with the judges, and selects a winner

Frequency
• Annual event

Reward
• Highest Aetna honors, public recognition, cash reward, funding for idea, overseeing product development

Past Innovators of the Year
• Aetna CarePal
• Health Wealth
• Aetna Local Link
Aetna CarePal: Peer-to-Peer Matching Support

Pilot

- By combining claims data and registration information, a newly diagnosed woman is matched with an experienced woman with a similar diagnosis and a similar demographic/social background for mentoring and support.
- Original pilot launch to match newly diagnosed breast cancer patient, with an additional pilot addressing autism.

Benefits

- Matched CarePals share insights to optimize healthcare utilization by tapping into passion and knowledge among members in costly lifestyle health verticals.

Metrics

- Experience may improve physical and mental health outcomes and reduce treatment complications (anemia, nausea/vomiting, thromboembolism, neutropenia, etc.)
Health Wealth
Principles of Financial Planning for Health

Pilot:
Planning tool focused on long term health goals that provides informed decision making of future healthcare costs while showing you all the money you are saving by being healthy.

Benefits:
- Changes how members think about their health and health spending.
- Helps direct members toward Aetna content and contracted services.
- Shows that Aetna is here to partner with you for a lifetime, building brand loyalty.
- Improve consumer understanding of short and long term financial implications of health; quantifying the value of staying or getting healthy increases motivation.

Metrics:
- Satisfaction and engagement with the tool
- Lower medical spend per engaged user
- Clinical outcomes
Thank you

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