Designing for Population Health Impact
• Boston-based subsidiary
• Founded in 2009
• A diverse team of designers, engineers, social media experts and researchers
Engagement problem?
The typical health portal:

**YES**
- Second visit: 30%
- Third visit: 15%
- Fourth visit: 7.5%

Assuming 50% enrollment on 10,000 people, you are left with 17 people.

the changing face of engagement

Engagement
The exchange of attention for perceived value over a period of time.
Engagement problem?

YES

the typical health portal:

Second visit  30%
Third visit   15%
Fourth visit  7.5%

Assuming 50% enrollment on 10,000 people you are left with 17 people.
Engagement
The exchange of attention for perceived value over a period of time.
What would it take to get 3-4 minutes of your time each day to complete one small action designed to improve your well-being?
Case Study: building a well-being engagement app
The WBI measures well-being...

...but how do we talk about well-being?
We asked 34 people...
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME-TIME IMPOVERISHED</td>
<td>- Moms&lt;br&gt;- Caregivers&lt;br&gt;- &quot;Type A&quot; personalities</td>
</tr>
<tr>
<td>VALIDATION SEEKER</td>
<td>- Knowledge seekers&lt;br&gt;- &quot;Type A&quot; personalities</td>
</tr>
<tr>
<td>ENLIGHTENED &amp; DISCOVERING</td>
<td>- People who tend to have a positive outlook on life&lt;br&gt;- Possibly recovering from traumatic situation or severe point of low being</td>
</tr>
<tr>
<td>EXCUSE MAKER</td>
<td>- Overworked, self-stress inducers&lt;br&gt;- Lazy dreamers of goals&lt;br&gt;- Have difficulty committing</td>
</tr>
<tr>
<td>AWARE &amp; ACHIEVING</td>
<td>- Influential people who internalize their well-being&lt;br&gt;- They just &quot;do it&quot;&lt;br&gt;- They know well-being maintenance takes time</td>
</tr>
<tr>
<td>ENABLED</td>
<td>- Have a bad habit that inhibits them from achieving goals&lt;br&gt;- Dependent on others for money, security and to validate their weaknesses</td>
</tr>
<tr>
<td>IDLE</td>
<td>- People with lessened responsibilities as compared to another time in life&lt;br&gt;- Empty nesters or retirees</td>
</tr>
</tbody>
</table>
Me-Time Impoverished

**who:**
moms, care-givers

**well-being is:**
seeing kids succeed; feeling like 'a team' with spouse; looking after me instead of us only when there is extra time, occasional pampering

**my social network:**
positively influence others, especially dependents.
Facebook is an outlet - a way to see what old (or lost) friends are up to, see how exciting or what uneasy roles are.
who can help me?
Designing for Engagement

Social Network Science

Behavioral Science

Game Thinking
Behavioral Science

3 Steps to New Habits

Step 1: Make it tiny

Stanford University Persuasive Tech Lab

The Four Principles

- Realistic
- Convenient
- Immediate
- Genuine

Small Actions

Realistic & Convenient
Our Four Key Design Principles

**Realistic**
Recognize and respect the health challenges people face in their everyday lives and give them achievable tasks.

**Convenient**
Be aware of the intense time constraints people are under and provide solutions that easily fit into those constraints.

**Immediate**
Provide value from the very first interaction and create a sense of tangible progress.

**Genuine**
Never, ever trivialize the challenges people face pursuing well-being and always ask for things in the right context.
Realistic & Convenient

Motivated to make big changes

More convenient

Harnessing “Motivation waves” is new work by BJ Fogg, Persuasive Technology Lab, Stanford
3 Steps to New Habits :-) 

Step 1  Make it tiny

To create a new habit, you must first simplify the behavior. Make it tiny, even ridiculous.

A good tiny behavior is easy to do – and fast.

Examples:
- Floss one tooth
- Walk for three minutes
- Do two pushups
# Small Actions

<table>
<thead>
<tr>
<th><strong>Realistic to start</strong></th>
<th><strong>What we want</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dot behavior</strong></td>
<td><strong>Path behavior</strong></td>
</tr>
<tr>
<td>Green Dot</td>
<td>GreenPath</td>
</tr>
<tr>
<td>Blue Dot</td>
<td>BluePath</td>
</tr>
<tr>
<td>Purple Dot</td>
<td>PurplePath</td>
</tr>
<tr>
<td>Gray Dot</td>
<td>GrayPath</td>
</tr>
<tr>
<td>Black Dot</td>
<td>BlackPath</td>
</tr>
</tbody>
</table>

- **Dot behavior** is done ONE-TIME
  - Green Dot: Install solar panels on house
  - Blue Dot: Tell a sister about eco-friendly soap
  - Purple Dot: Plant more trees and native plants
  - Gray Dot: Buy fewer cases of bottled water today
  - Black Dot: Turn off space heater for tonight

- **Span behavior** has a DURATION, such as 40 days
  - Green Span: Try carpooling to work for three weeks
  - Blue Span: Bike to work for two months.
  - Purple Span: Recycle more of household waste for one month
  - Gray Span: Take shorter showers this week
  - Black Span: Don’t water lawn during summer

- **Path behavior** is done FROM NOW ON, a lasting change
  - Green Path: Start growing own vegetables
  - Blue Path: Turn off lights when leaving room
  - Purple Path: Buy more local produce
  - Gray Path: Eat less meat from now on
  - Black Path: Never litter again

Source: BJ Fogg, Stanford University
Social Network Science

“Open Social” design lets each person create their own support network.
Note. Red dots indicate individuals presumed to be smoking and blue dots indicate abstinent members; the size of the dot is proportional to the time since joining the network. Blue lines connect buddies and yellow lines represent communications in Qmail, the Web site’s internal, private messaging system.

**FIGURE 1**—Weakly connected core of the QuitNet network plotted with a spring-embedded algorithm: March 1, 2007–April 30, 2007.
"Open Social" design lets each person create their own support network.
Two employees linked by a mutual friend.
Game Thinking

While playing, people want to...

Explore  ...learn, discover
Achieve  ...progress, advance
Socialize ...share, bond, compare
Compete ...win, dominate others
Cooperate ...be a part of something

Richard Bartle on Game Psychology

A game is a journey.

Transactions

Experiences

From "Gamestorming" by Dave Gray
While playing, people want to...

**Explore**  ...learn, discover

**Achieve**  ...progress, advance

**Socialize**  ...share, bond, compare

**Compete**  ...win, dominate others

**Cooperate**  ...be a part of something

Richard Bartle on Gamer Psychology
A game is a journey.

Transactions

Experiences

From "Gamestorming" by Dave Gray
Well-being is an endless journey in which the achievement and maintenance of the positive state are the ultimate objectives.
Daily Challenge

>250,000 enrolled

Improved well-being. Delivered daily.

We send you a challenge every day.
You do it and mark it as Done.
Share with friends and family.
Simple!

Easy signup

Sign up using Facebook.

We'll send you challenges

Something small you can do to help your health and well-being.

Share

Spread the challenge and share with friends.

Yes, Sign Me Up

Simple, social, engaging...
Improved well-being.
Delivered daily.

We send you a challenge every day.
You do it and mark it as Done.
Share with friends and family.
Simple!

Easy signup
One click using Facebook.

We'll send you challenges
Something small you can do to help your health and well-being.

Share
Complete the challenge and share with friends!

The Daily Challenge has been very helpful in suggesting small positive changes to my everyday life. I enjoy how simple, yet effective, each challenge has been.

Yes, Sign Me Up

Connect with Facebook to join FOR FREE.

>250,000 enrolled

Simple, social, engaging...
Receive an email at 7AM

Ask a friend or relative to name 2 things you're really good at.

Done!

Pass
I'd prefer not to do today's challenge.

How to do it
Get a fresh view of yourself by asking a trusted friend or family member to name two of your strengths or talents. Listen but don't react. Take note of the two things named, and write them down. Think of an activity that could build on each of them. For example: If a friend says you have a knack for drawing, think about how you could develop that talent further by taking an art class in the evening or on the weekends.

?: Find out what this has to do with your well-being.

?: See how other people have completed this challenge.

Remember to click the DONE button before this time tomorrow (7:00 AM) to get full credit (and points!)

What happened yesterday...

Congratulations! You completed yesterday's challenge.

Share a breakfast idea.

Chad D., Trapper M., Bill S., Erin M., Sean L., Nathan C., Jake B., Steve R., Dakota B., Dan C., and Stephen S. completed this challenge.

My accomplishments yesterday...

Your post generated 2 comments

You earned the "Smile Catcher" stamp.

You earned the "Plunk" stamp.

You earned 170 points
Life Evaluation

Ask a friend or relative to name 2 things you're really good at.

Done!

Pass
I'd prefer not to do today's challenge.

View the details of today's challenge

Your personal connections who have completed today's challenge...

Stephen S.

Asked a friend, and got a different response then I thought I would, so that was fun.

Erin M.

Well, I asked my husband to respond. Here is his answer: You are very good at focusing on something while blocking out... read more...

Sean L.

I asked my wife what I was good at.

Nathan C. and Jake B. also completed this challenge.

Reminder email at 4pm.

Click the DONE button when ready.
Share how you did it & support your frends.

**Take the salt shaker off your kitchen table.**

*Why it matters*

**How I did it**

Keep the salt on the counter next to the stove. I rarely salt things and NEVER have it on the table!

[SHARE]

---

**Here's how we did it!**

1. Don't have one on the table, I rarely use it & if so it's sea salt which is better for you :)
   - Tamra B. (Level 6, Sprouting)
   - 2 minutes ago

2. I actually don't like salt so it is never in plain sight!
   - Jerit C. (Level 2, Hunting)
   - 2 minutes ago

**My Connections**

- Dakota B.
- Bill B.
- Trapper M.
- Nathan C.
- Carmen C.
- Chris C.
- Dan C.
- Erin M.
- [Encourage]
Get your well-being score, track it over time, compare to your social network’s.
Invite anyone to join you in your journey.
...and mobile!!
Challenge Tracks

- A Track has 28 days of challenges following a specific well-being topic.
- 40 Tracks so far covering every domain of well-being.
Fit at Work

Just because you’re at work doesn’t mean you can’t get active! This track features fun, easy exercise challenges that you can do right at your desk or while on your break. Each challenge takes less than three minutes, and all are done while sitting or standing. Learn more...

Natural Living

Want a more natural way of life? Try this track and learn how to limit your everyday exposure to potentially dangerous chemicals in our air, our food, and the cleaning and beauty products we use. Learn more...

Flexibility and Posture

You don’t have to be athletic or limber to do these challenges — just want to have a body that’s flexible, strong, and injury-free! These challenges will gently stretch different muscle groups, improve your posture, and increase your sense of balance. Learn more...

Pleasant Pauses

Take some time that’s just for you! The challenges in this track will make you smile, inspire creativity, and encourage a few moments of good old-fashioned fun. Learn more...

Happy Tummy

Be kind to your belly! Try this track and learn simple ways to prevent and tame everyday tummy troubles like indigestion, heartburn, and bloating. Learn more...

Produce Boost

It’s time to break out of your apple-a-day rut and start getting the most out of produce! Explore these challenges and learn fun, new ways to buy, prepare, and incorporate more fruits and vegetables into your day. Learn more...

Living Mindfully

Ready, set, breathe! This track offers easy ways to live in the present, enjoy a moment of calm, listen to your inner voice, and use yoga and meditation to enhance the connection between mind and body. Learn more...

Quick Cardio

It’s time to get your heart thumping and your blood pumping! The challenges in this track offer fun ways to get in a quick, healthy dose of aerobic exercise — no equipment or special skills required. Learn more...

Mindful Meals

Do you ever stop and think about why you eat the food you do? These challenges give you a closer look at what influences your decisions and teach you more about your eating habits. Learn more...

Rich Relationships

Family, friends, neighbors, co-workers — we all have so many relationships to navigate. Keep those bonds strong and
How engaging?

Daily Challenge

7M
7 Million Challenges Completed

3.9 M
How I Did It's Shared

7.4 M
Replies to How I Did It's

30.5 M
Smiles Shared

67,000
Pacts Formed

449,000
Encouragements Sent
Return Engagement -- Comparison Stats

- **30 Day**
  - Daily Challenge: 70%
  - Weather: 65%
  - Sports Scores: 55%
  - Health & Fitness: 45%

- **60 Day**
  - Daily Challenge: 80%
  - Weather: 70%
  - Sports Scores: 60%
  - Health & Fitness: 50%

- **90 Day**
  - Daily Challenge: 75%
  - Weather: 65%
  - Sports Scores: 55%
  - Health & Fitness: 45%

Source: Flurry Mobile Stats 2012
Testimonials

17,940 people have left 144,951 comments
90% say doing challenges helps their well-being

"I have posted daily since the day I joined 700 days ago and it is part of my life."

"This web site is a wonderful idea ... I am making this my very own life coach! Thank you!"

"This website is so very helpful. This touches on every aspect of life. Mind and body. Good stuff!"
Daily Challenge sponsored by THR

- Sponsored site benefits:
  - Improves population well-being.
  - Promotes creation of dense social networks critical to sustained behavior change.
  - Ties brand to the Daily Challenge experience and promotes other programs.
  - Real-time reports provide rich insights.
Daily Challenge sponsored by THR

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  - Improves population. well-being.
  - Promotes creation of dense social networks critical to sustained behavior change.
  - Ties brand to the Daily Challenge experience and promotes other programs.
  - Real-time reports provide rich insights.
See what others are doing and how it's helping.

Advance Your Personal Well-Being

Click to Enroll Now

Sign up and each day we'll send a challenge to your email. Simple as that.
BRINGING WELL-BEING INTO YOUR DAILY LIFE, ONE SMALL CHALLENGE AT A TIME

TEXAS HEALTH RESOURCES, in collaboration with MeYou Health, is offering all North Texans free access to Daily Challenge. Advance your personal well-being by doing simple daily challenges and sharing the experience with family and friends!

READY, SET, GO

Sign up now. It's free!

The Daily Challenge promotes everyday well-being by encouraging small actions and fostering the socialties that drive meaningful change.
Welcome to the Texas Health Resources site!

Texas Health Resources is much more than just hospitals. We are a health care system offering services that cover the full continuum - from advanced medical care to programs that improve well-being and jump-start healthier behaviors.

EXPLORE RESOURCES

Here's where you can see how others within Texas Health Resources are doing their challenges. Click on a domain to learn more.

Average well-being score of Texas Health Resources

70

Compare to: Select a comparison ▼

Basic Access 87
Life Evaluation 72
Emotional Health 77
Physical Health 63
Work Environment 74
Healthy Behaviors 47
Texas Health Resources

Daily Challenge

3,232 Members to date
That’s enough people to form three battalions of well-being warriors.

WELL-BEING

Smiles
That’s almost enough smiles to give a howdy to everyone in Amarillo, Texas.

206,908

Comments & Replies
The value of all the notes people shared if they’d been sent by mail is $4,189,542

91,077
89,147 Challenges completed

It would take one person about 244 years to do as many actions as team Texas Health.

Tracks

All Texas Health Resources members have keys to unlock this premium content and get targeted well-being support.

Most popular tracks to date:

- Simple Yoga
- All-day Energy
- Conquering Clutter
- Active Life
- Flexibility and Posture

Take one small step today to improve your well-being with...
Engaged Participants Per Day

From 2013-01-26 to 2013-02-25 (7.47s)

Return Engagement (LTD)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>2nd day</th>
<th>3–7 days</th>
<th>8–30 days</th>
<th>31–60 days</th>
<th>61–90 days</th>
<th>91+ days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>95.2%</td>
<td>93.22%</td>
<td>90.09%</td>
<td>85.16%</td>
<td>79.34%</td>
<td>75.94%</td>
</tr>
<tr>
<td>Users</td>
<td>3,310 of 3,477</td>
<td>3,122 of 3,349</td>
<td>2,463 of 2,734</td>
<td>1,326 of 1,557</td>
<td>845 of 1,065</td>
<td>789 of 1,039</td>
</tr>
</tbody>
</table>

WBT Averages

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well-Being</td>
<td>70.78</td>
</tr>
<tr>
<td>Emotional Health</td>
<td>78.48</td>
</tr>
<tr>
<td>Physical Health</td>
<td>63.9</td>
</tr>
<tr>
<td>Work Environment</td>
<td>74.79</td>
</tr>
<tr>
<td>Health Behaviors</td>
<td>47.3</td>
</tr>
<tr>
<td>Basic Access</td>
<td>87.27</td>
</tr>
<tr>
<td>Life Evaluation</td>
<td>72.92</td>
</tr>
</tbody>
</table>
Blue = 3109 THR users
Red = 2009 friends outside THR area.
The Power of MeYou
Blue - Mike's friends
Green - Mike's friends' friends
Size - challenge completion %
A fusion of product design & scientific research:

**Study I - Social Influence as Driver of Engagement**

Objective: To examine the relation between social ties and engagement within Daily Challenge.

Conclusions: Our initial findings are higher engagement in participants with social ties in the program and are consistent with the view that social influence can drive engagement in a web-based intervention.

**Study II - Intelligent Invites**

Objective: To promote the formation of social ties and stimulate viral growth in the web-based well-being intervention Daily Challenge.

Results: A randomized controlled study revealed that our intelligent selection algorithm performed 23% better than random recommendations. The intelligent algorithm increased the probability that a member agreed to send an invite, and appears to significantly improve the odds that an invite be accepted.

**Study III - Social Nudges**

Objective: To determine if a social nudge (namely, a friend's encouragement to re-engage in the program) would be effective in reactivating dormant participants.

Results: A randomized, controlled study found that social nudges are effective at getting inactive participants to open intervention emails, visit the program website, and complete challenges. The social nudge was significantly more effective than a non-social, system-generated nudge.

**Study IV - Well-Being Intervention: Randomized Controlled Trial**

- 1502 people randomized into two groups: Daily Challenge vs. Control
- Well-being assessed using WBA at day = 0, 30 and 90 days

Submitted for peer-reviewed publication
Study I - Social Influence as Driver of Engagement

Objective: to examine the relation between social ties and engagement within the Daily Challenge.

Conclusions: Our initial findings are higher engagement in participants with social ties in the program and are consistent with the view that social influence can drive engagement in a web-based intervention.
Effect of Social Ties on Engagement

- Site Visits
- Completion Rates
- Email Opens

Completion and Email Open Rates (%) vs. Personal Connections vs. Number of Site Visits

0 5 10 15 20 25 30
0 10 20 30 40 50 60 70 80 90 100
0 50 100 150 200 250
Study II - Intelligent Invites

Objective: to promote the formation of social ties and stimulate viral growth in the web-based well-being intervention Daily Challenge.

Result: A randomized controlled study revealed that our intelligent selection algorithm performed 237% better than random recommendations. The intelligent algorithm increased the probability that a member agreed to send an invite, and appears to significantly improve the odds that an invite be accepted.
Promoting social diffusion

Members and Invitees
- Total amount of people in network = 6,060
- No. of individual components = 359
- Largest component = 1,892 (Displayed below)
- 2nd Largest component = 327

More like this

Less like this
Less like this
More like this
Intelligent Invites

**Daily Challenge**

**Invite a friend**
People have better success and more fun if they do it with friends.

*A few friends who might enjoy the Daily Challenge*

- Jackson Turner
- Danielle Flores
- Mason Edwards

**My Points**

- Challenges: 149
- Posts: 113

**Here’s how we did it!**

SHOW: **Everyone 2001** My connections 4

We keep the salt on the counter next to the stove. I rarely salt things, and NEVER have it on the table!!

**My Well-Being Tracker**

- **Score:** 85
- **Last updated:** 5 days ago.
Study III - Social Nudges

Objective: To determine if a social nudge (namely, a friend’s encouragement to re-engage in the program) would be effective in re-activating dormant participants.

Result: A randomized, controlled study found that social nudges are effective at getting inactive participants to open intervention emails, visit the program website, and complete challenges. The social nudge was significantly more effective than a non-social, system-generated nudge.

The trend points to encouragement as effectively boosting long term engagement levels and driving challenge completion.

presented at Society for Behavioral Medicine 2012
Study IV - Well-Being Intervention: Randomized Controlled Trial

- 1502 people randomized into two groups: Daily Challenge vs. Control
- Well-being assessed using WBA at day = 0, 30 and 90 days
The Social Graph of Well-Being

N=5441

Impacting Population Well-Being: the Network Intervention

We know how people are connected to each other - in real-time - with respect to their well-being.

Next step? Improve well-being of individuals, clusters, connected clusters, whole populations.
The Social Graph of Well-Being

N = 6441
We know how people are connected to each other - in real-time - with respect to their well-being.

Next step? Improve well-being of individuals, clusters, connected clusters, whole populations.
What's next?

- Daily Challenge
- Walkadoo
- Smokes Cessation
- Weight Loss
- QuitNet
- TBD

Health

- Get your sco
- Daily Chat
- Walkadoo
- Fitbit
- InnergyGO
- Phone coach
- WB plan
- Tiny Wings
- Angry Birds
- Outfit IDE
- Comics
- Books
- Travel
- Business
- Utilities
Goal: increase physical activity through an engaging, social software experience powered by data from an activity sensor.
What's next?

[Diagram showing options: Well-Being Improvement, Physical Activity, Smoking Cessation, Weight Loss, and TBD]