Driving Behavioral Change and Improving Health and Productivity in the Workplace
Agenda

1. The Challenge
2. Data Outcomes
3. Know Your Number® (KYN)
4. Changes That Last a Lifetime® (CTLL)
5. Toyal Case
My Fitbit

2063 calories burned
0 calories eaten

Want to challenge yourself to be more active? Start a free week trial of the Fitbit trainer now!

Intraday calories

13545 steps taken
5.66 miles traveled
959 active score *

You have recorded 0 activities
My Fitbit – Sleep Monitoring

- Your main sleep pattern: asleep, active
- Your sleep efficiency: 89%
- You went to bed at 9:31 PM
- Time to fall asleep: 11 min
- Times awakened: 14
- You were in bed for 7 hours 38 min
- Actual sleep time: 6 hours 37 min

View all your sleeps on this day
Rising Costs

INCREASES IN MEDICAL COSTS BY REGION: 2009–2012


Asia Pacific  Europe  Latin America  Middle East/Africa  North America  Global

2009  2010  2011  2012 (Projected)
Non-communicable Diseases (NCDs)

Russian Federation: 2010

N = 143 Million

Proportional mortality (% of total deaths, all ages)

- CVD: 62%
- NCDs: 38%
  - Diabetes: 0%
  - Respiratory diseases: 2%
  - Cancer: 13%
  - Other NCDs: 6%
  - Injuries: 12%
  - Communicable, maternal, perinatal and nutritional conditions: 5%

NCDs are estimated to account for 82% of all deaths.

Source: WHO NCD Country Profiles, 2011
WHO - Many of the costly and disabling conditions facing health systems today can be prevented. Additionally, with proper support many of their complications can be averted or delayed. 4 primary causes cited…

It is a Simple Formula

Healthy choices + Active lifestyle = Reduced health care costs

Engagement….Behavior Change

Improved Productivity
Global Sites for Abbott Health Initiatives
Abbott Health Initiatives

Know Your Number™

Changes That Last a Lifetime™
KYN CHD Model vs. Framingham Heart Model

Synthesis Analysis™
Predictive Power for Life

<table>
<thead>
<tr>
<th>Variable</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior CHD</td>
<td>X</td>
</tr>
<tr>
<td>Prior Stroke</td>
<td>X</td>
</tr>
<tr>
<td>Family History</td>
<td>X</td>
</tr>
<tr>
<td>Aspirin use</td>
<td>X</td>
</tr>
<tr>
<td>HRT use</td>
<td>X</td>
</tr>
<tr>
<td>BMI</td>
<td>X</td>
</tr>
<tr>
<td>Exercise level</td>
<td>X</td>
</tr>
</tbody>
</table>
Know Your Number Reporting

Chronic Disease Risk Summary Report

Name: Sam McCabe
DOB: 02/25/1964, 48
Gender: Male
Ethnicity: Caucasian
Group: Abbott_MGM Group
Start Date: 04/20/2012
Fasting Status: Fasting
Complete Date: 04/20/2012

<table>
<thead>
<tr>
<th>CLINICAL MEASUREMENT</th>
<th>VALUE</th>
<th>REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Mass Index (BMI)</td>
<td>32.3</td>
<td>&lt;25 kg/m²</td>
</tr>
<tr>
<td>Waist</td>
<td>44</td>
<td>&lt;40 Inches</td>
</tr>
<tr>
<td>Blood Pressure Systolic</td>
<td>148</td>
<td>&lt;120 mmHg</td>
</tr>
<tr>
<td>Blood Pressure Diastolic</td>
<td>86</td>
<td>&lt;80 mmHg</td>
</tr>
<tr>
<td>Blood Glucose</td>
<td>118</td>
<td>&lt;100 mg/dL</td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>71</td>
<td>60-100 bpm</td>
</tr>
<tr>
<td>Total Cholesterol</td>
<td>248</td>
<td>&lt;200 mg/dL</td>
</tr>
<tr>
<td>HDL Cholesterol</td>
<td>38</td>
<td>&lt;40 mg/dL</td>
</tr>
<tr>
<td>LDL Cholesterol</td>
<td>178</td>
<td>&lt;130 mg/dL</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>162</td>
<td>&lt;150 mg/dL</td>
</tr>
</tbody>
</table>

Metabolic Syndrome: Yes, >=3 of the following: Waist>=40, Triglycerides>=150, HDL Cholesterol<40, Blood Pressure>=130/85, Blood Glucose>=100

On Medication For: Blood Pressure, Cholesterol or lipid

Lifestyle Factors: Low physical exercise; Current smoker 10 cig/day for 28 years

Risk Percentile: Current vs. Target

Risk Percentile: Current vs. Target

The impact of changing one risk factor could be higher than shown. Modifying one risk factor is likely to cause changes in others.
Sample Biometric Screening Results

**CLINICAL MEASUREMENT** | **VALUE** | **REFERENCE**
--- | --- | ---
Body Mass Index (BMI) | 32.3 | <25 kg/m²
Waist | 44 | <=40 Inches
Blood Pressure Systolic | 148 | <120 mmHg
Blood Pressure Diastolic | 86 | <80 mmHg
Blood Glucose | 118 | <100 mg/dL
Pulse Rate | 71 | 60-100 bpm
Total Cholesterol | 248 | <200 mg/dL
HDL Cholesterol | 38 | >=40 mg/dL
LDL Cholesterol | 178 | <130 mg/dL
Triglycerides | 162 | <150 mg/dL

**Metabolic Syndrome** | Yes, >=3 of the following: Waist>40; Triglycerides>=150; HDL Cholesterol<40; Blood Pressure>=130/85; Blood Glucose>=100
**On Medication For** | Blood Pressure; Cholesterol or lipid
**Lifestyle Factors** | Low physical exercise; Current smoker 10 cig/day for 28 years

Out of range risk factors are highlighted in Red.
KYN Prediction Sample

<table>
<thead>
<tr>
<th>Risk</th>
<th>CHD</th>
<th>Stroke</th>
<th>Diabetes</th>
<th>CHF</th>
<th>COPD</th>
<th>Lung Cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current 5-year risk of onset</td>
<td>13%</td>
<td>6.4%</td>
<td>26%</td>
<td>1.2%</td>
<td>7.7%</td>
<td>0.19%</td>
</tr>
<tr>
<td>Percent of current risk that is modifiable</td>
<td>91%</td>
<td>89%</td>
<td>93%</td>
<td>41%</td>
<td>42%</td>
<td>66%</td>
</tr>
<tr>
<td>Percentile (compared to other 48 year old American men)</td>
<td>93%</td>
<td>96%</td>
<td>95%</td>
<td>76%</td>
<td>84%</td>
<td>84%</td>
</tr>
</tbody>
</table>

The impact of changing one risk factor could be higher than shown. Modifying one risk factor is likely to cause changes in others.
### KYN Aggregate Reporting

#### Clinical Measures with Weight (lbs)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline</th>
<th>Follow-Up</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI (kg/m²)</td>
<td>30.2</td>
<td>23.0</td>
<td>-7.2</td>
</tr>
<tr>
<td>Waist (in)</td>
<td>50.0</td>
<td>45.0</td>
<td>-5.0</td>
</tr>
<tr>
<td>Systolic blood pressure (mmHg)</td>
<td>120</td>
<td>110</td>
<td>-10</td>
</tr>
<tr>
<td>Total cholesterol (mg/dL)</td>
<td>190</td>
<td>150</td>
<td>-40</td>
</tr>
<tr>
<td>Triglycerides (mg/dL)</td>
<td>180</td>
<td>100</td>
<td>-80</td>
</tr>
</tbody>
</table>

#### Notes:
- Disease risk is classified by risk relative to average.
- Cases refer to patients with disease.
- Baseline refers to the current values.
- Follow-up refers to the values after the intervention.
- Difference is the value at follow-up minus the baseline value.

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### Changes of Estimated Five-Year Cost * of Future Chronic Disease Onset Between Baseline and Follow-Up

<table>
<thead>
<tr>
<th>Disease Category</th>
<th>Baseline Cost</th>
<th>Follow-Up Cost</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 2 Diabetes</td>
<td>$244,887</td>
<td>$151,292</td>
<td>-93,595</td>
</tr>
<tr>
<td>Coronary Heart Disease</td>
<td>$300,159</td>
<td>$209,840</td>
<td>-90,319</td>
</tr>
<tr>
<td>Stroke</td>
<td>$206,952</td>
<td>$105,120</td>
<td>-101,832</td>
</tr>
<tr>
<td>Heart Failure</td>
<td>$107,631</td>
<td>$51,562</td>
<td>-56,069</td>
</tr>
<tr>
<td>COPD</td>
<td>$7,966</td>
<td>$9,945</td>
<td>+2,979</td>
</tr>
<tr>
<td>Lung Cancer</td>
<td>$1,985</td>
<td>$1,786</td>
<td>-209</td>
</tr>
<tr>
<td>All Diseases</td>
<td>$1,847,673</td>
<td>$1,116,418</td>
<td>-731,255</td>
</tr>
</tbody>
</table>

#### Extrapolation to Total Population

<table>
<thead>
<tr>
<th>Disease Category</th>
<th>Baseline Cost</th>
<th>Follow-Up Cost</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 2 Diabetes</td>
<td>$7,333,024</td>
<td>$5,202,503</td>
<td>-2,130,521</td>
</tr>
<tr>
<td>Coronary Heart Disease</td>
<td>$636,564</td>
<td>$471,725</td>
<td>-164,844</td>
</tr>
<tr>
<td>Stroke</td>
<td>$482,062</td>
<td>$333,579</td>
<td>-148,483</td>
</tr>
<tr>
<td>Heart Failure</td>
<td>$867,319</td>
<td>$146,272</td>
<td>-721,047</td>
</tr>
<tr>
<td>COPD</td>
<td>$11,617</td>
<td>$15,475</td>
<td>+3,858</td>
</tr>
<tr>
<td>Lung Cancer</td>
<td>$2,279</td>
<td>$2,778</td>
<td>+500</td>
</tr>
<tr>
<td>All Diseases</td>
<td>$2,952,673</td>
<td>$1,745,271</td>
<td>-1,207,402</td>
</tr>
</tbody>
</table>

---

### Study Population

- **Type 2 Diabetes**
- **Coronary Heart Disease**
- **Stroke**
- **Heart Failure**
- **COPD**
- **Lung Cancer**
- **All Diseases**

---

* The formula used to calculate probable cost is: probability of disease onset (KYN) x 2.5 years x annual cost of disease.
** Study population is the population who participated in Know Your Number.
*** Difference is the value of follow-up minus the value of baseline.
**** Total population in the population that the study population represents.

---

The annual cost for Type 2 diabetes was $9,129,000. COPD was $6,385. Stroke was $51,010. COPD was $11,364. COPD was $5,363. Lung cancer was $27,350. These calculations are based on national averages documented by the American Heart Association, the American Diabetes Association, and the American Lung Association and National Cancer Institute.
5 Years of Consistent Successful Outcomes

KYN Reported Average Weight and Waist Reduction Per Participant

<table>
<thead>
<tr>
<th>Waist</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4.8</td>
<td>-3.4</td>
</tr>
</tbody>
</table>

KYN Reported Reduction in Percent of Population Identified at Baseline

<table>
<thead>
<tr>
<th>Metabolic Syndrome</th>
<th>Total Cholesterol (≥200 mg/dL)</th>
<th>LDL (≥130 mg/dL)</th>
<th>HDL (&lt;40 mg/dL males; &lt;50 mg/dL females)</th>
<th>Triglycerides (≥150 mg/dL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-25%</td>
<td>-18%</td>
<td>-16%</td>
<td>-16%</td>
<td>-21%</td>
</tr>
</tbody>
</table>

Aggregate data from approximately 2300 participants with pre and post KYN reports
## Pre-Post Comparison of Onset and Cost Avoidance

### KYN Predicted New Cases of Disease Within the Next 5 Years

<table>
<thead>
<tr>
<th>Disease</th>
<th>Baseline</th>
<th>Post Intervention</th>
<th>% of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 2 Diabetes</td>
<td>81</td>
<td>55</td>
<td>-32%</td>
</tr>
<tr>
<td>Coronary Heart Disease</td>
<td>47</td>
<td>39</td>
<td>-17%</td>
</tr>
<tr>
<td>Stroke</td>
<td>29</td>
<td>21</td>
<td>-27%</td>
</tr>
</tbody>
</table>

### Associated Costs* With Predicted New Cases of Disease

<table>
<thead>
<tr>
<th>Disease</th>
<th>Baseline</th>
<th>Post Intervention</th>
<th>Per Participant**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 2 Diabetes</td>
<td>$2,001,277</td>
<td>$1,358,214</td>
<td>$283</td>
</tr>
<tr>
<td>Coronary Heart Disease</td>
<td>$1,156,871</td>
<td>$954,529</td>
<td>$89</td>
</tr>
<tr>
<td>Stroke</td>
<td>$814,508</td>
<td>$597,117</td>
<td>$96</td>
</tr>
<tr>
<td>All Diseases</td>
<td>$3,972,656</td>
<td>$2,909,860</td>
<td>$468</td>
</tr>
</tbody>
</table>

* Formula used to calculate probable cost is: probability of disease onset (KYN) x 2.5 years x annual cost of disease

** Cost avoidance per participant

Annual cost of disease used for type 2 diabetes is $9,943; coronary heart disease is $9,775; stroke is $11,293; and congestive heart failure is $6,566 per patient year.
Employee Productivity Increases

Increased employee efficiency and productivity caused by fewer limitations

Measured by employee responses to the Work Limitations Questionnaire
2012 Russian Results

N = 245

- 51% reduction of High Blood Pressure
- 44% reduction of Metabolic Syndrome
- 13% reduction in onset of Type 2 Diabetes
- 13% reduction in onset of Heart Disease
- 6% reduction in onset of Heart Failure
- 8% reduction in onset of Stroke
A Program with Proven Results

- Changes That Last a Lifetime (CTLL) is a unique health improvement program based on fitness and nutrition

- Program Goals:
  - Prevent onset of metabolic conditions
  - Help to reverse metabolic conditions to prevent individuals from getting worse
  - Increase morale and productivity

*It is about challenging people, helping them take control and achieve or exceed goals*
Changes That Last a Lifetime Components

- Assessment
- Coaching
- Outcomes
- Rewards

Available in English only
Key Elements to Promote Behavioral Change

- Make it fun!
- Promote ‘goal setting’ as an individual and team
- Internal champions and routine communication to keep everyone motivated
Changes That Last a Lifetime®
Step 1 - Motivate People to Get Engaged

- Advertise the program
- Internal Champion
- On-site motivational sessions
- Information sessions
- Nutrition/Fitness Experts
## Agenda Keeps Participants Engaged

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 6</th>
</tr>
</thead>
</table>
| Orientation  
- Programme requirements  
- Motivational speaker | Pre-programme blood draws/exam | Kick-off  
- Education | Nutritionist | Education about metabolic conditions |

<table>
<thead>
<tr>
<th>Week 8</th>
<th>Week 10</th>
<th>Week 11</th>
<th>Week 13</th>
<th>Week 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivational speaker</td>
<td>Group function (e.g., Walk-for-LIFE)</td>
<td>Motivational speaker</td>
<td>Post-programme blood draws/exam</td>
<td>Education about maintenance and setting new goals</td>
</tr>
</tbody>
</table>
Step 2 – Participants Enroll On-Line

Participants enroll in the program, access on-line tools and track progress

http://PR.CTLL.com
Step 3: Baseline Health Measurements

Health screenings were used to produce Know Your Number® reports that showed measurable improvement in health – not just the great improvement in appearance!
Physical Transformation: Nutrition

Basics

- 5 to 6 balanced meals per day
- Balanced nutrition
  - No measuring, no counting
  - One portion of carbohydrates
  - One portion of protein
  - Vegetables are free
  - Fats that don’t coagulate at room temperature
  - Drink 10 glasses of water per day
- One “Free Day”
Step 4: Fitness and Nutrition Made Fun with a Challenge!

Kicking off with a twelve week challenge builds excitement and interest.

**Mental**
- Personal success stories

**Physical**
- Improved nutrition and fitness

TEAM Support
Customised Emails Based on Individual Needs

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success Stories</td>
<td>Exercise</td>
<td>Healthy Eating</td>
<td>Barriers</td>
<td>Ask the Expert</td>
<td>Portion Distortion!</td>
<td>Motivation</td>
</tr>
</tbody>
</table>

[Images of customized emails for each day]
Three levels of exercise that you can choose

**Description**

Combine *cardio* with *strength training* programs for *home* or *gym* exercise.

**Foundation**

4 days of exercise each week. 2 days of cardio and 2 days of strength training.

Mostly walking and simple exercises.

**Intermediate**

5 days of exercise each week. 3 days of cardio and 2 days of strength training.

This program brings more rigor and intensity to the program, yielding more dramatic results.

**Body-for-LIFE**

6 days of exercise each week. 3 days of cardio and 3 days of strength training.

Most aggressive program. Designed for employees who want dramatic results in the shortest amount of time.
My CTLL Tools - Interactive Website

- Primary access for all CTLL tools and education
- Login with your personal username and password
- Video demo of exercises
- Links to menus and recipes
- Chat with fitness advisors
Fitbit Tracker

Kelly Adair
See how this mom was able to shed 25 pounds of fat...
read more!

Abb Ansley
This Dad gained 21 pounds of muscle and reduced body fat...
read more!

Margi Faze
Lost over 25 pounds of fat and reduced her body fat by 13%...
read more!

Porter Freeman
This former night club manager lost 50 pounds on this program...
read more!

Michelle Lee
She lost 36 pounds of fat and...
read more!

Fitbit Progress: Todd McGuire

Wednesday August 28, 2013

17,109 steps taken today
100% of goal of 10,000 step goal

65 floors climbed today
100% of goal of 10 floor goal

7.85 miles travelled today
100% of goal of 5 miles goal

6.73 hours slept yesterday
84% of goal of 8 hours.

Reward Chart

Step taken in last 7 days

PILLOT

DAILY STEPS
(AVERAGE) | REWARD
--- | ---
<2499 | 0
2500 to 4999 | $15
5000 to 7499 | $25
7500 to 9999 | $50
10,000+ | $75

Abbott
A Promise for Life
HEALTHspot Weigh Station: $ For BMI Reduction

Participant enters username and password in to the fields shown and steps on the scale

Once the system records their weight, it take a picture and sends results to individual’s profile
Team Challenge

- Progress tracking
  - Team ranking
  - Team captain
  - Team % reduction in weight loss

- Graphical charting of team performance

- Stats and charts updated in real time as new weigh ins occur
Step 5: Proactive customized messaging and progress for support and engagement

- Dynamic, cumulative progress charting
- Pop up explanations of concepts
Final Step: Measure Again and Celebrate Success
Toyal America Demographics

• Union work environment
• Predominantly male workforce
• 24/7 operation
• 12 hour rotating shifts
• Shift rotate every two weeks
The Effect of Medical “Trend”
Medical Expenses  Phase 1: Consumer Driven Health Plan

<table>
<thead>
<tr>
<th>Year</th>
<th>Medical Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>1,515,000</td>
</tr>
<tr>
<td>2007</td>
<td>2,383,882</td>
</tr>
<tr>
<td>2008</td>
<td>2,061,141</td>
</tr>
<tr>
<td>2009</td>
<td>1,912,653</td>
</tr>
<tr>
<td>2010</td>
<td>1,270,000</td>
</tr>
</tbody>
</table>

Total Actual

- 2006: 1,515,000
- 2007: 2,383,882
- 2008: 2,061,141
- 2009: 1,912,653
- 2010: 1,270,000

Trend Analysis:
- 2006: 12%
- 2007: 8%
- 2008: 6%

Actual vs. Total
- Red: Actual
- Blue: 12%
- Green: 8%
- Yellow: 6%

Total Actual vs. Trend
- Total Actual: 2010 - 1,270,000
- Trend: 2010 - 2,383,882

Health Promotion and Management © 2013 Abbott Laboratories
The Effect of Medical “Trend”
Medical Expenses  Phase 2: 2009 Challenge #1

<table>
<thead>
<tr>
<th>Year</th>
<th>Medical Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
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<td>2009</td>
<td>1,912,653</td>
</tr>
<tr>
<td>2010</td>
<td>1,412,000</td>
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</table>
The Effect of Medical “Trend”
Medical Expenses Phase 3: 2010 Challenge #2

<table>
<thead>
<tr>
<th>Year</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Actual</td>
<td>1,515,000</td>
<td>1,670,000</td>
<td>2,061,141</td>
<td>2,383,882</td>
<td>2,515,000</td>
</tr>
<tr>
<td>12% Trend</td>
<td>1,515,000</td>
<td>1,670,000</td>
<td>2,061,141</td>
<td>2,383,882</td>
<td>2,515,000</td>
</tr>
<tr>
<td>8% Trend</td>
<td>1,515,000</td>
<td>1,670,000</td>
<td>2,061,141</td>
<td>2,383,882</td>
<td>2,515,000</td>
</tr>
<tr>
<td>6% Trend</td>
<td>1,515,000</td>
<td>1,670,000</td>
<td>2,061,141</td>
<td>2,383,882</td>
<td>2,515,000</td>
</tr>
</tbody>
</table>

Note: The graph shows the trend of medical expenses from 2006 to 2010, with different trends indicated by different lines. The Total Actual values for each year are shown, along with the values projected based on 12%, 8%, and 6% trends.
“They are not just changes that last a lifetime. They are changes that make your lifetime last longer”

Gus Billquist – 2009 Toyal America Male Grand Champion