

# **A Technology-Focused Approach to Condition Management**



**Scott Heimes, Chief Marketing Officer, WebMD Health Services**

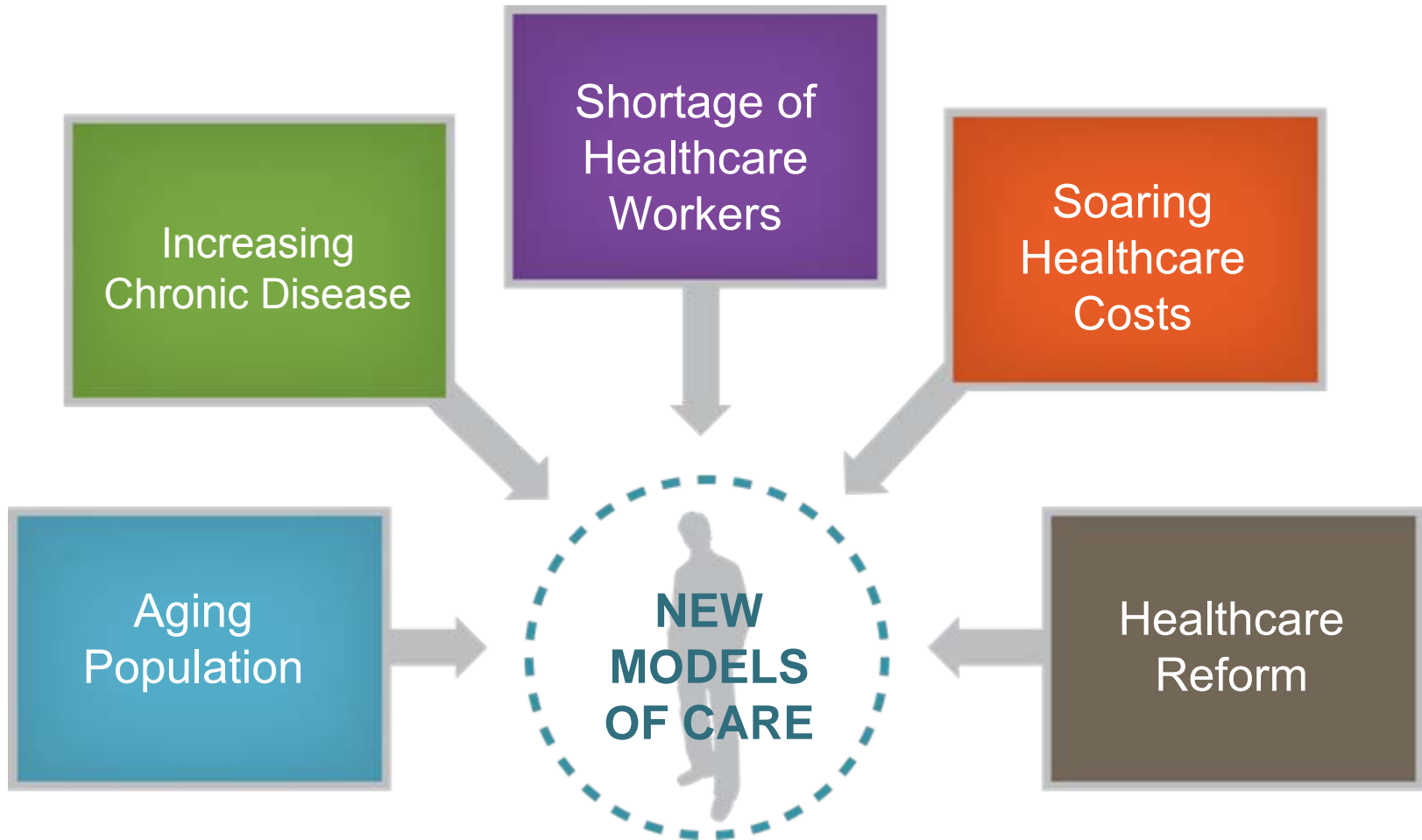
Population Health and Care Coordination Colloquium

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# The Chronic Condition Challenge

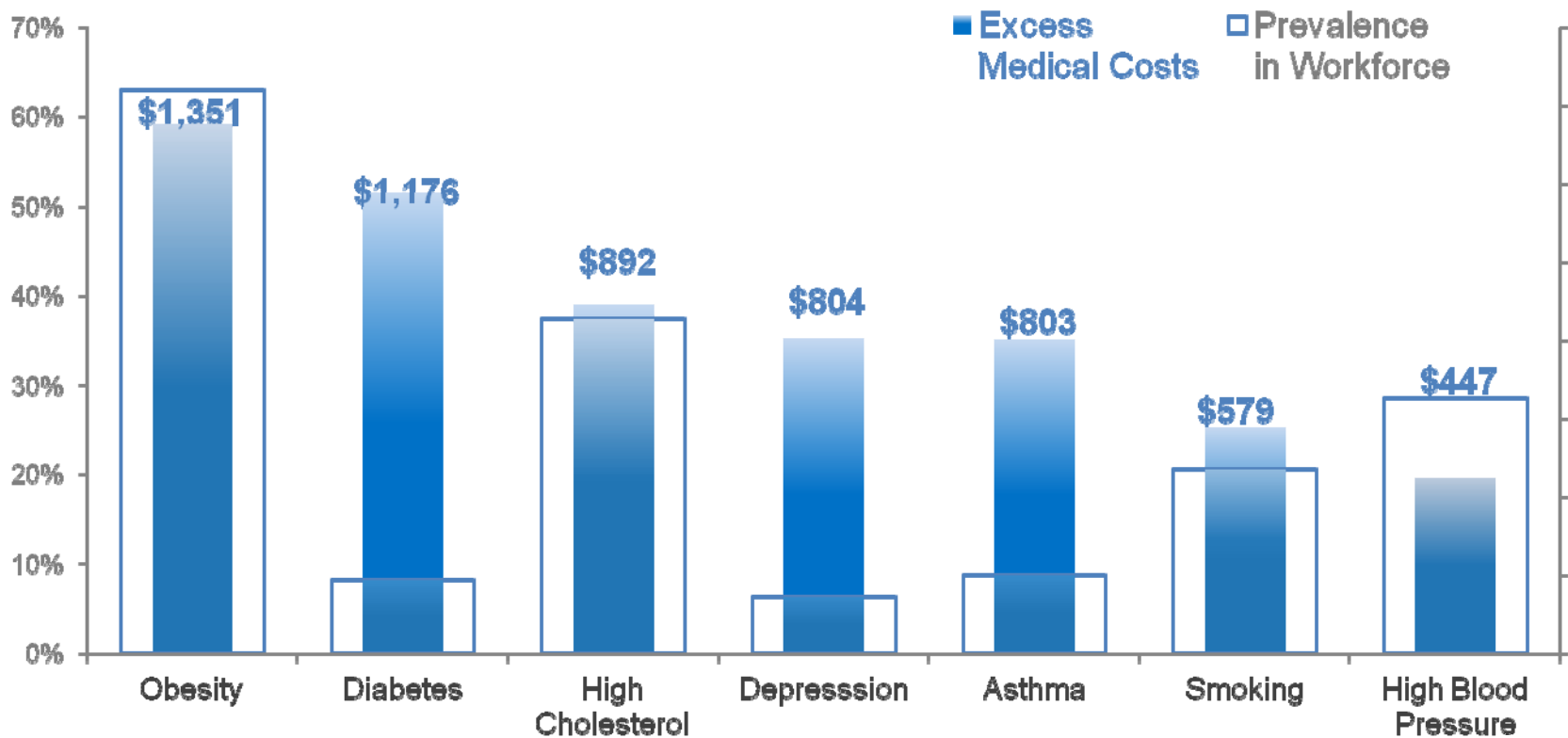
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# The Healthcare Storm: Driving New Models of Care For Chronic Condition Management



# Employers, Health Plans Are Concerned About Population Health Impacts and Costs

Approximate Excess Annual Medical Costs for High-Risk vs. Low-Risk Adults (2011, in Dollars)



Source: SHRM – Promoting Employee Well Being, 2011

# Employers, Health Plans Are Concerned About Population Health Impacts and Costs

## Health Care Spending



**Almost 3** times higher for people with one chronic condition than for those without<sup>1</sup>

## Average Per Capita Spending



**\$1,081** for people with 1 condition<sup>1</sup>

**\$14,768** for people with 5 conditions<sup>1</sup>

## Contribution to Total Healthcare



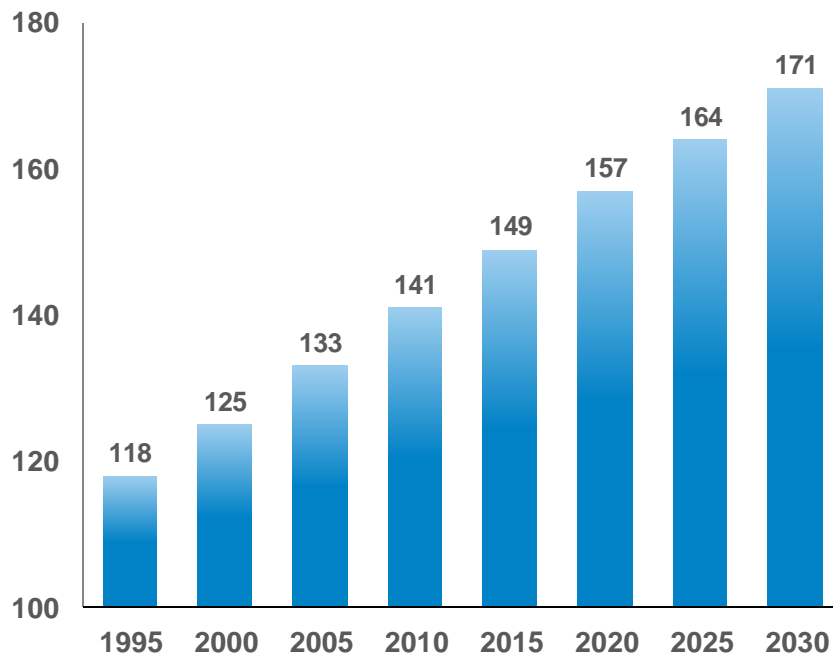
**84% of all healthcare spending<sup>1</sup>**  
in the U.S. is dedicated to chronic conditions



1. Medical Expenditure Panel Survey, 2006

# Chronic Conditions Are Prevalent, Growing

Number of People in the U.S. With Chronic Conditions (in millions)<sup>1</sup>



- In 2005, 133 million Americans – almost 1 out of every 2 adults – had at least one chronic illness<sup>2</sup>
- 7 out of 10 deaths among Americans each year are from chronic diseases<sup>3</sup>
- Chronic conditions are becoming more prevalent worldwide:
  - > In the past 20 years, obesity rates in Mexico have risen from <10% to 68%<sup>4</sup>
  - > By 2025, 57.2% of India's population is projected to have diabetes<sup>5</sup>

1. Wu, Shin-Yi and Green, Anthony. Projection of Chronic Illness Prevalence and Cost Inflation. RAND Corporation, October 2000.

2. Wu SY, Green A. Projection of chronic illness prevalence and cost inflation. Santa Monica, CA: RAND Health; 2000. (This citation doesn't make sense... it's 2000 but the stat is from 2005.)

3. Kung HC, Hoyert DL, Xu JQ, Murphy SL. Deaths: final data for 2005. National Vital Statistics Reports 2008;56(10).

4. World Heart Federation. (2009). Workplace wellness in Mexico.

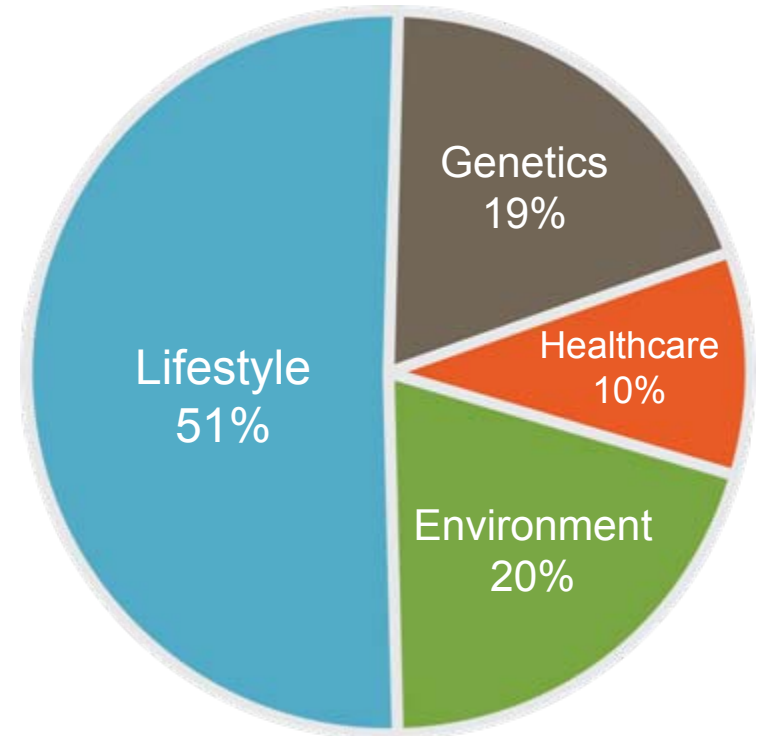
5. PriceWaterhouseCoopers. (2007). Working towards wellness - an Indian perspective.

# Modifiable Risk Factors Greatly Impact Health Status

Four modifiable health risk behaviors are responsible for much of the illness, suffering, and early death related to chronic diseases.<sup>1</sup>

- > Lack of physical activity
- > Poor nutrition
- > Tobacco use
- > Excessive alcohol consumption

Dimensions of Health Status Determinants<sup>2</sup>



Lifestyle makes up over 51% of an individual's health status.

1. U.S. Centers for Disease Control and Prevention, 2012

2. Promoting Employee Well-Being - Wellness Strategies to Improve Health, Performance and the Bottom Line, David Chenoweth Ph.D., FAWHP, 2010

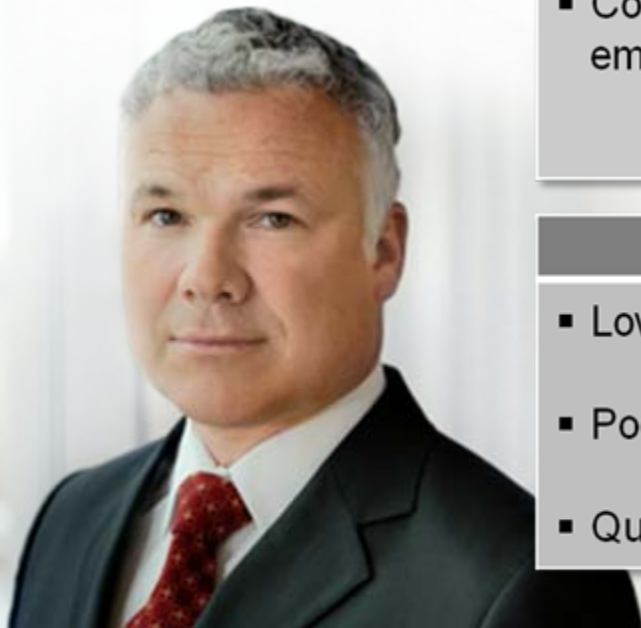
# Traditional Models of Chronic Care Management Are Broken – Market is Ready for Disruptive Approach

## Traditional Chronic Care Model

- Print & Telephone Centric - unidirectional, over-reliance on print materials, lacks consumer technology integration (web, mobile, social)
- Episodic - doesn't support patient need to manage condition on a daily basis
- Condition Specific -- Often fails to address and emphasize the underlying lifestyle issues

## Results In

- Low engagement rates
- Poor consumer experience
- Questionable ROI





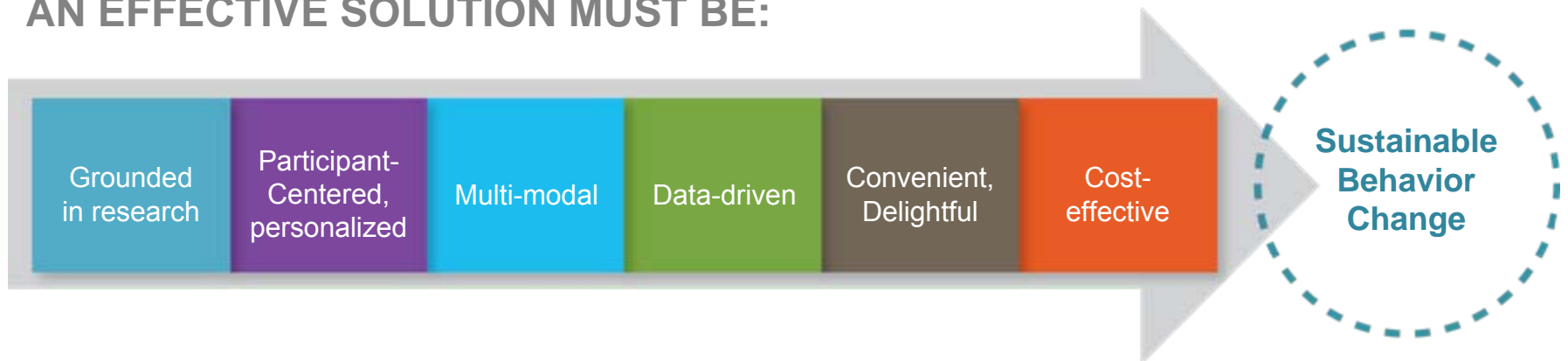
# Technology: At the Core of a Disruptive Approach to Condition Management

# Creating Sustainable Behavior Change Solutions

Designed so users stick with behavior change for long-term AND priced so organizations can continue to support their members and employees with solution over time

- Risks and Conditions with escalating rates
- Risks and Conditions that can be controlled, eliminated or prevented through behavior change
- Changes must be maintained for a lifetime

AN EFFECTIVE SOLUTION MUST BE:



# New Technologies Drive Higher Levels of Engagement & More Effective Behavior Change



# Digital Coaching: Emulates Successful 1:1 Telephonic Health Coaching

- **Personalized to individual**
  - > Recognizes risks and suggests areas of focus
- **Whole-person approach to change**
  - > Real-world relevant – users have one plan to address any and all risk factors and conditions
- **Motivational Interviewing-based approach**
  - > User is asked about goals and activities of preference, not pushed
- **Presents expert knowledge when requested**
  - > Does not assume the user requires information to change
- **Activities written by Lifestyle Coaches**
  - > Proven effective with coaching participants
- **Coach personas allow user to develop relationship**
  - > Coach-participant affinity propels behavior change

The screenshot displays a digital coaching interface. At the top, it says "Step 1: Tell us which areas you want to work on" and "We suggest that you work on the areas that we have pre-selected for you for option of intensity that you are comfortable with." Below this, there are several recommendation cards:

- Eat Better:** "Improve my diet to reduce my weight within a healthy range." Intensity level: EASY (selected), MODERATE, CHALLENGING. This means: 1/2 to 1 pound a week.
- Increase Exercise:** "Raise my physical activity." Intensity level: EASY (selected), MODERATE, CHALLENGING. This means: 50%.
- Stick to your shopping list:** SUGGESTED BY Stacy Registered Dietitian, Certified Diabetes Educator.
- Get a good night's sleep:** I LIKE THIS. SUGGESTED BY Sara Stress Specialist, LMHC.
- Close your kitchen:** SUGGESTED BY Amanda Registered Dietitian.
- Count your carbs and write down the grams:** SUGGESTED BY Amanda Registered Dietitian.

On the left side of the interface, there is a photo of a man in a yellow shirt and a quote: "I'm happy today because my son said he's proud of me. I'm proud of me too." - Joe, Losing a pound a week on his plan.

# Biometric Devices: Provide Empirical Data, Personalized Feedback and Increased Accountability

- Relevant biometric devices include:
  - > Scales
  - > Accelerometers
  - > Blood Pressure Monitors
  - > Glucometers
  - > Spirometers
  - > Kiosks
  - > Mobile device attachments
- Devices allow for system-driven messaging based on tracker use and progress
- Health coaches and nurses can view into trackers for more meaningful coaching discussions when integrated with employer or health-plan sponsored health management programs



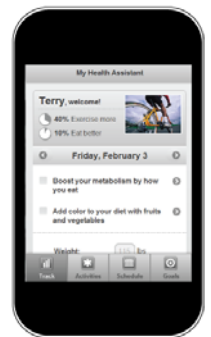
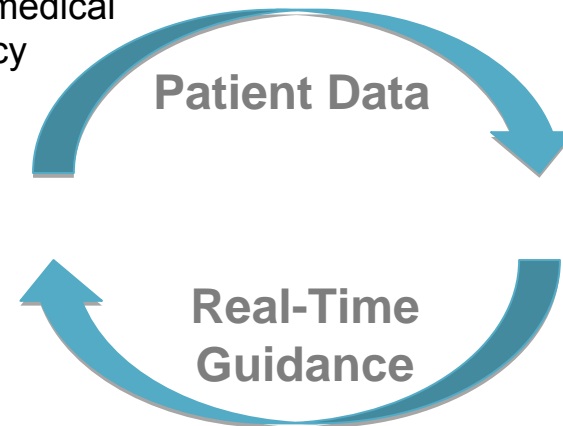
It has been estimated that nearly \$200 billion could be saved during the next 25 years if remote monitoring tools were utilized for CHF, diabetes, COPD, and chronic wounds.<sup>1,2</sup>

1. Center for Technology and Aging Technologies for Remote Patient Monitoring in Older Adults. Position Paper, Discussion Draft, December 2009.

2. Litan RE. Vital Signs via Broadband: Remote Health Monitoring Transmits Savings, Enhances Lives. Available at: <http://betterhealthcaretogether.org/news2008>.

# Mobile: Facilitates Anywhere, Anytime Guidance, Support & Tracking

- Highly personalized health resources to the consumer “on-the-go”
- Designed to be quick, easy-to-use, engaging, relevant, and even a little “fun”
- Applications can include:
  - > Personalized digital coaching
  - > Wellness challenges and contests
  - > Mobile personal health record (PHR)
  - > Mobile action plan based on health history and program design
  - > Mobile “triggers” – text messaging, push notifications and calendar reminders
- Leveraging of mobile phones’ native capabilities:
  - > Geo-location capability to locate the nearest medical provider, find the closest lowest-cost pharmacy
  - > Built-in accelerometer for automated activity monitoring



# Social Media: Leveraging the Power of Friends & Family to Drive Behavior Change

- Sharing goals, challenges, accomplishments via Facebook and Twitter
- Liking/following sponsor
- Sharing healthcare/wellness info
- Wellness contests with Facebook friends

The screenshot shows a health tracking application interface. At the top, there are navigation tabs: "My Plan", "Find Activities", "Track My Progress", and "Learn More". The main content area includes a "Welcome Tom," section with a "Your plan for Nov 27 - Dec 3" and a "Weekly Progress 46%" bar chart. Below this is a "Close your kitchen" activity card with a frequency selector (1, 2, 3) and a description: "To support your weight loss goals for your kitchen well before bed". A "facebook" login overlay is positioned in the foreground, featuring the Facebook logo and a login form with fields for "Email" and "Password", along with "Sign Up" and "Forgot your password?" links.



# Video Conferencing: Remote Consultation Increases Engagement and Communication

- Videoconferencing in 1:1 coaching and condition management interventions drive higher engagement rates and increased satisfaction
  - > Facilitates rapport between coach and participant
  - > Navigation to specific portal resources on-screen
- 1:1 access to physicians can deliver cost savings
  - > Offers convenient mode to diagnose and treat
  - > Facilitates diagnosis and treatment in specialties
  - > Provides access to physician
  - > Integrates with personal health record





# Optimal Program Design Is Grounded in the Science of Behavior Change



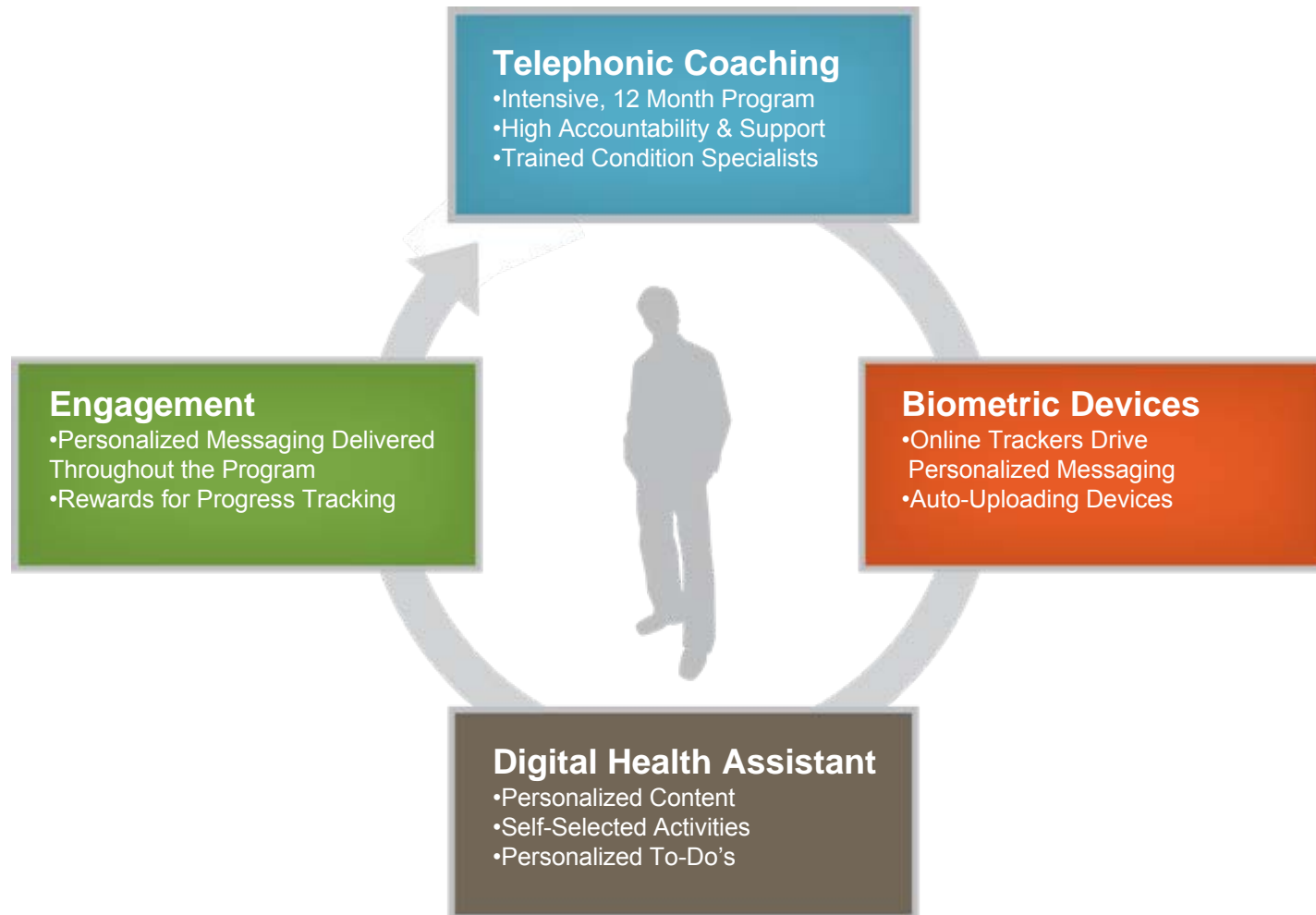
<b>Channels</b>	<b>Phone</b>	<b>Mobile</b>	<b>Portal</b>	<b>Chat</b>
	<b>Email</b>		<b>In person</b>	<b>Text</b>

<b>Principals</b>	<b>People...</b>			
	like people	need support in making decisions	like to have fun	feel good when they say thank you
	don't like to be told what to do	learn from other people	like to win	won't do what they are not ready to do

<b>Theories</b>	<b>Motivational Interviewing</b>	<b>Social Learning Theory</b>	<b>Health Belief Model</b>	<b>Behavioral Economics</b>	<b>Positive Psychology</b>
	<b>Transtheoretical Model</b>	<b>Behavioral Therapy</b>	<b>Game Mechanics</b>	<b>Patient Activation Measure</b>	

# Driving Effective Health Interventions Through Multi-Modal Health Intervention

Comprehensive, Evidence-Based Programs Are Delivered Through Multiple Modalities To Meet Individual Preferences



# User-Experience Design Research Yields Online Experiences that Delight

Research with users who have risks, conditions, as well as health coaches



Experience-centered research & design approach provides depth of understanding about user's needs, preferences, challenges

Detailed discovery sessions with health coaches offer template for online delivery of behavior change coaching



# Solution Offerings: What's Effective?

A review of current weight management research showed common solution elements drive success, and that the most successful programs featured:

- A human element
  - > Coaching by phone or in person;
  - > Opportunities for peer support
- Multiple components and communication modes
  - > Online, offline, etc.
- Varied, and frequent touch points between participant and program – text, website, coach
  - > Those with high levels of interaction with the program achieved the greatest improvement

**The most successful participants had the most engagement with the program over time**



Digenio AG, Mancuso JP, Gerber, RA, Dvorak RV. Comparison of methods for delivering a lifestyle modification program for obese patients. *Ann Intern Med* 2009;150:255-262

# Coach Interaction: Why Are Coaches Important?

- Build rapport and personalize information
  - > Relationship helps drive behavior change
  - > Appropriate conversation for level of readiness and activation
- Assist with comprehension
  - > Relationship with health professional important in helping individual make sense of complicated and sometimes conflicting information<sup>1</sup>
- Help change thinking patterns
  - > Assessing health belief key component of intervention<sup>2</sup>
  - > Brain imaging study suggests successful weight loss maintainers learn to respond differently to food cues□



Citation information is available in the slide notes.

# Online Interaction: What Matters in Online Interventions?

- Credible information
- Clear, simple communication
- Personalized information<sup>1</sup>
- Frequent prompting to drive frequent contact<sup>2</sup>
  - > Messages
  - > Reminders
  - > Personal feedback
- Designed to enhance motivation<sup>3</sup>

1.Rothert K, Strecher V, Doyle L, Caplan W, Joyce, et al. Web-based weight management programs in an integrated health care setting: A randomized, controlled trial. *Obesity* 2006 ;14(2);266-272.

2.Fry JP, Neff RA. Periodic prompts and reminders in health promotion and health behavior interventions: Systematic review. *J Med Internet Res* 2009;11(2);e16. URL: [www.jmir.org/2009/2/e16](http://www.jmir.org/2009/2/e16).

3.Webber, KH, Gabriele JM, Tate DF, Dignan MB. The effect of a motivational intervention on weight loss is moderated by level of baseline controlled motivation. *International Journal of Behavioral Nutrition and Physical Activity*. 2010.





# The Marketplace Is Ripe for a Disruptive Approach To Managing Chronic Conditions

We believe the marketplace will resonate with a new set of technology-driven Condition Management solutions to help people manage their conditions

## Traditional Condition Mgmt Model

- Claims-based, historical identification
- Nurses engage on the telephone
- Per member pricing model
- Low engagement rates
- Print-focused engagement – primarily direct mail to the home
- Poor consumer experience
- Questionable ROI

VS

## Emerging Best Practices Model

- Claims + HRA + self-referral
- Digital coaches + telephonic coaches
- Per participant pricing model
- High engagement rates
- Direct-response engagement – email, mobile, digital video, webinars
- Strong consumer experience
- Validated ROI

# What It Means For The Consumer

## Meet Tom, a 53 year father of three

- His weight's too high (BMI 35), he can't find time to exercise.
- His diet is high in fast food and generally unhealthy.
- He is at risk for diabetes.



### Health Assessment

Tom completes risk assessment and reads reports about diabetes, blood sugar, weight and exercise.



### Telephonic Health Coach

Due to Tom's risk information, he is invited to speak with a telephonic health coach.



### Digital Health Assistant – Accelerometer/Digital Scale

Digital Health Assistant (both online and mobile) helps Tom set goals and update his weekly plan. Glucometer data populates trackers.



### Re-assess – Measure – Evaluate

Tom retakes Health Risk Assessment and evaluates risks.





# What Does This Mean for Employers & Health Plans?

- A **user-centric design experience** leveraging best practices from online, mobile and social consumer experiences
- **Dramatically higher levels of engagement** across all risk stratifications – High, Medium and Low
- **Per participant pricing** that significantly reduces the overall costs of condition management
- **Combination of telephonic, digital, mobile, social and in-person elements** drive improved behavior change.
- **Improved outcomes** because of higher engagement, better consumer experience, validated data



# Thank You

## For More Information:

Scott Heimes [sheimes@webmd.net](mailto:sheimes@webmd.net)

Visit us online at [www.webmdhealthservices.com](http://www.webmdhealthservices.com)