THE EMERGING SCIENCE OF HEALTH BEHAVIOR CHANGE

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Certified Integrative Health Coach

Learning Objectives

► Summarize the latest thinking about the brain and behavior change
► Identify elements of an effective behavior-change strategy
► Explain what is known about habit formation and habit change
► Recognize how information about successful behavior change can be applied to pharmacists’ interactions with patients

“...there is seldom anyone in the health care system consistently available with the skills and the time necessary to provide direction, motivation, and support [to patients] in reaching their goals.”

Integrative Health Coach Professional Training Program Manual, Duke Integrative Medicine
When “Coaching” Is Mentioned…
- Teaching, advising, counseling
- Motivational interviewing

Transtheoretical Model
- Precontemplation: “I won’t” or “I can’t”
- Contemplation: “I may”
- Preparation: “I will”
- Action: “I am”
- Maintenance: “I still am”

nursing.buffalo.edu/Research/TranstheoreticalModel.aspx
Myth vs Reality

Start changing habit
Be perfect at it
Everything goes well
Life is good

The Yo-Yo Change Cycle

“...hope-filled periods of temporary success that are soon followed by a return to old behaviors.”

The Undertow

► “...the mysterious force that sabotages our best efforts when we’re on the edge of victory”

Richard O’Connor, PhD
Rewire: Change Your Brain to Break Bad Habits, Overcome Addictions, Conquer Self-Destructive Behavior
CYNTHIA’S PRINCIPLES OF CHANGE

Change Is Personal
► Every brain is different
  ▪ What works for you may not work for me
  ▪ My solution is better than yours

Change Involves Behaviors
► “Lose weight” is an outcome
► To lose weight, we must focus on changing individual decisions and behaviors
Change Requires Choices
► Behavior changes compete for time and attention with many other daily priorities

Change Is Rarely Urgent

<table>
<thead>
<tr>
<th>Important</th>
<th>Important</th>
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</thead>
<tbody>
<tr>
<td>Not Urgent</td>
<td>Urgent</td>
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Stephen Covey, The Seven Habits of Highly Effective People

Why do we do what we do?
### Motivators

<table>
<thead>
<tr>
<th>Pursue</th>
<th>Avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>◮ Pleasure</td>
<td>◮ Pain</td>
</tr>
<tr>
<td>◮ Hope</td>
<td>◮ Fear</td>
</tr>
<tr>
<td>◮ Social acceptance</td>
<td>◮ Social rejection</td>
</tr>
</tbody>
</table>


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**OUR TWO BRAINS, PART 1**
Our Two Brains, Part 1

**Automatic Self**
- Reflexive
- Works without attention or effort
  - Instinct
  - Habits
  - Routines
- Reacts quickly

**Conscious Self**
- Reflective
- Thoughtful, deliberative
- Can only focus on one thing at a time
- Processes information slowly
## Our Two Brains, Part 1

<table>
<thead>
<tr>
<th>Automatic Self</th>
<th>Conscious Self</th>
</tr>
</thead>
<tbody>
<tr>
<td>► Directs much of what we do on a daily basis</td>
<td>► Reflects on, challenges, corrects the automatic self</td>
</tr>
<tr>
<td>► Helps the brain save energy</td>
<td>► Requires more energy</td>
</tr>
</tbody>
</table>

It takes more effort to think about and do something new than to react out of habit.

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## UNDERSTANDING HABITS

- **The Power of Habit**
- Charles Duhigg

"...the choices that all of us deliberately make at some point, and then stop thinking about but continue doing"  

The Habit Loop

- Routine
  - Physical
  - Mental
  - Emotional
- Cue
- Craving
- Reward
- Dopamine!

How Habits Form

- Attention-directed behavior
- Activity in prefrontal cortex
- Repetition
- Automated response
- Activity in basal ganglia
- Working memory
  - Working memory freed up
  - Working memory requirements
  - Glucose requirements

UNDERSTANDING PLASTICITY
The brain's ability to reorganize itself by forming new neural connections throughout life.


Neurons that *fire* together, *wire* together.
Our old habits become the brain’s default circuits when we are faced with temptation, fatigue, or stress.

UNDERSTANDING WILLPOWER

► The Willpower Instinct
► Kelly McGonigal, PhD

“...the strength or willingness to do what matters most to you”
Willpower is the most commonly cited barrier to making lifestyle changes.

Source: Stress in America 2015, American Psychological Association

“Will” power
Do what you need to

“I won’t” power
Say “no” when you need to

“I want” power
Remember what you really want

Left prefrontal cortex
Right prefrontal cortex
Ventromedial prefrontal cortex

Automatic Self
- Limbic system

Conscious Self
- Neocortex
The Emerging Science of Health Behavior Change

**OUR TWO BRAINS, PART 2**

- Willpower can be depleted
- Willpower can be strengthened
Our Two Brains, Part 2

| Emotional brain | Rational brain |

Rational Brain: The Rider

- Thinking (neocortex)
- Plans, directs, decides

but

- Wheel-spinner
- Prefers analyzing to doing
- Paralyzed by too many choices
Emotional Brain: The Elephant

- Instinctive (limbic system)
- Provides energy, drive

but

- Concerned primarily with pleasure (vs. pain) and safety (vs. danger)
- Values instant gratification over long-term gain
- Prefers the status quo

Change attempts usually originate with the Rider

Change *happens* because of the Elephant
Whenever the Rider and Elephant disagree, the Rider is going to lose.

Behavior change typically involves short-term sacrifices for future rewards.

The Elephant prefers the status quo and instant gratification.
Temporal Discounting

- The longer you have to wait for a reward, the less it is worth to you

Choice 1: Get two right now

Choice 2: Wait 2 minutes, get six

19%

Image: Shutterstock.com

Keys to Behavior Change

- Create replacement behaviors
- Find the right motivation
- Cultivate tiny new behaviors
- Make the most of willpower
- Expect failure
Changing Habits

Identify the routine

- What is the behavior you want to change?
- What is the cue?
- What is the reward?

Changing Habits

Identify the routine

Experiment with rewards

- What craving drives the habit?
- What other reward would satisfy the craving?
Changing Habits

► Identify the routine
► Experiment with rewards
► Isolate the cue
  ▪ Location
  ▪ Time
  ▪ Emotional state
  ▪ Other people
  ▪ Immediately preceding action

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Changing Habits

► Identify the routine
► Experiment with rewards
► Isolate the cue
► Have a plan
  ▪ When CUE, I will ROUTINE in order to get REWARD

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At 3:30 pm, every day, I go to the cafeteria, buy a cookie, and chat with colleagues while eating it

At 3:30 pm, every day, I will walk to a friend’s desk and talk for 10 minutes

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Keys to Behavior Change

► Create replacement behaviors
► Find the right motivation
► Cultivate tiny new behaviors
► Make the most of willpower
► Expect failure

No Sweat
► Michelle Segar, PhD

From Chore to Gift
► Make it your choice
► Make it personally meaningful
► Make it relevant to daily life
► Make it fun
Find the “Right Why”

► Single deeply compelling reason
  ▪ Multiple motivations confuse us
► Consider how the behavior will:
  ▪ Help you take better care of yourself
  ▪ Foster the kind of life you want to live
► Consider specific ways the behavior will benefit you immediately
  ▪ What rewards come from the activity itself?
  ▪ How is it crucial to your daily effectiveness?

Examples of “Right” Whys

► Improve your mood
► Get more energy
► Reduce your stress
► Be a better parent
► Enjoy your work more
► Take better care of yourself

What’s in it for me?

Intrinsic motivation

Keys to Behavior Change

► Create replacement behaviors
► Find the right motivation
► Cultivate tiny new behaviors
► Make the most of willpower
► Expect failure
**Fogg Behavior Model**

- For behavior to occur, three elements must converge at the same moment:
  - Motivation
  - Ability
  - Trigger
- If a behavior does *not* occur, at least one element is missing

Source: http://www.behaviormodel.org/index.html

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**Solution #1**

<table>
<thead>
<tr>
<th>Target Order</th>
<th>Motivation</th>
<th>Ability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>2</td>
<td>✔</td>
<td>Too difficult</td>
</tr>
<tr>
<td>3</td>
<td>Unmotivated</td>
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Find a trigger

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**Solution #2**

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Make it easier
Solution #3

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<tr>
<td>3</td>
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<td>✓</td>
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Make it easier

Tiny Habits

When you learn my Tiny Habits method, you can change your life forever.

BJ Fogg, PhD
Director, Persuasive Tech Lab
Stanford University

http://tinyhabits.com/

Tiny Habits Defined

- A new habit that:
  - You do at least once a day
  - Takes <30 seconds
  - Requires little effort
- “After I [existing habit/anchor], I will [new tiny behavior]”
  - Existing habit/anchor must be precise
  - New behavior must be tiny
Tiny Habits Examples
► After I brush my teeth, I will floss one tooth
► After I turn on the shower for the water to get warm, I will step on the scale
► After I push the start button on my coffee maker, I will put a piece of fruit in my purse/brief case
► After I turn on my computer, I will close my eyes and take 2 deep breaths

Celebrate!
► Fist pump
► Thumbs up
► Victory dance
► “Yay me!”
► “You rock!”
► “Awesome!”
► Song
► Cheer

Keys to Behavior Change
► Create replacement behaviors
► Find the right motivation
► Cultivate tiny new behaviors
► Make the most of willpower
► Expect failure
Willpower Can Be Depleted

► Make changes early in the day
► Don't rely on willpower for long-term change
  • Use willpower to help create new behavior
► Build your willpower muscle

Look for a small way to practice self-control...

...that strengthens willpower but doesn't overwhelm it completely

Turn an immediate reward into a future reward

• "I will" challenge: do 10 minutes
• "I won't" challenge: wait 10 minutes

Creating distance makes it easier to say "no"
Keys to Behavior Change

- Create replacement behaviors
- Find the right motivation
- Cultivate tiny new behaviors
- Make the most of willpower
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What Derails Behavior Change?

- Change in environment
- Emotional states
  - Temptation
  - Fatigue
  - Stress

Our work is never wasted!
How can I work around the obstacle?

What can I do to get back in the right direction?

Questions?

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