



Helping Patients on their Journey to Quitting Smoking

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- “Cigarette smoking is the chief, single, avoidable cause of death in our society and the most important public health issue of our time.”
 - ~C. Everett Koop, M.D.
former U.S. Surgeon General 1981-1989
 - “Smokers are 10 times more likely to develop lung cancer than nonsmokers, two times more likely to develop heart disease. Smoking a pack a day takes six years off a person’s life.”

Risks from Smoking 50th Anniversary Surgeon General Report

Cancers

Oropharynx

Larynx

Esophagus

Trachea, bronchus, and lung

Acute myeloid leukemia

Stomach

Liver

Pancreas

Kidney
and ureter

Cervix

Bladder

Colorectal

Chronic Diseases

Stroke

Blindness, cataracts, **age-related macular degeneration**

Congenital defects—maternal smoking: orofacial clefts

Periodontitis

Aortic aneurysm, early abdominal aortic
atherosclerosis in young adults

Coronary heart disease

Pneumonia

Atherosclerotic peripheral vascular disease

Chronic obstructive pulmonary disease, **tuberculosis**,
asthma, and other respiratory effects

Diabetes

Reproductive effects in women
(including reduced fertility)

Hip fractures

Ectopic pregnancy

Male sexual function—erectile dysfunction

Rheumatoid arthritis

Immune function

Overall diminished health

Smoking can
damage every part
of your body

Second and Third Hand Smoke

- Inhalation of smoke from tobacco products by people other than the intended user – second hand
 - Causes death and disability to exposed (cancer, CVD, asthma)
- Particles and debris that is on clothes, furniture, floors, cars of the smoker
 - Causes nicotine poisoning especially in young children
 - Lasts on surfaces long after the smoker has stopped



Why Do Smokers Continue to Smoke?

- Since 1964 Surgeon General Reports have made multiple health risk connections
- Not just a bad habit
- Do not smoke for the smoke but for the nicotine
- It is an addiction

What are Addictions?

- Habitual patterns of **intentional, appetitive behaviors**
- Become **excessive, problematic** and produce serious consequences
- **Stability** of these problematic behavior patterns over time
- **Interrelated** physiological, psychological and social components
- Addicted individuals have **difficulty modifying and stopping** these patterns of behavior (smoking, alcohol, marijuana, heroin or process addictions like gambling, sex, etc.)

Mechanisms of Addiction Severity

- There seem to be a small set of mechanisms that characterize the end state of addiction
 - **Neurobiological Adaptation** – brain and biological adaptations to frequent exposure to addictive behavior/substance (a brain disease)
 - **Reduced/Impaired Self-Regulation** – The sense of loss of control and compromised self-regulation despite consequences that are the hallmark of addictions (a behavioral control disease)
 - **Salience and Narrowing of Behavioral Repertoire** – The addictive behavior becoming so valued a reinforcer that the behavior becomes more ubiquitous and potent in the life of the individual

Nicotine Addiction

- Nicotine addiction meets all these criteria
- There are significant changes in the brain that support both tolerance (more use over time) and withdrawal (serious reactions after stopping)
- There is a disruption in self-regulation so that smokers have a hard time not smoking for periods of time and in certain places.
- Smoking becomes an important activity and displaces other valued activities in the smoker's life

The Big Picture United States – 2016

- In the U.S., about 37.8 million people currently smoke cigarettes (15.5% of adults). Of these...
 - **3 out of 4** smoke **DAILY** (76.1%, avg. 14.1 cigarettes per day).
 - **More than half** tried to quit in the past year (55.4%) .
- Between 1965 and 2016 the **proportion of former smokers more than doubled**:
 - 59% of ever smokers are now former smokers.
 - Smoking dropped from 42% in 1965 to 15.5% in 2016.

How Do People Change?

- People change voluntarily only when
 - They become *interested and concerned* about the need for change
 - They become *convinced* the change is in their best interest or will benefit them more than cost them
 - They organize a *plan of action* that they are *committed* to implementing
 - They *take the actions* necessary to make the change and sustain the change



Stages of Change Model

Quitting tobacco, like any major change, doesn't happen over night.

- The process of quitting smoking can be conceptualized as progressing through a series of stages of change that begin before an individual decides to quit.
- Each stage represents important tasks that the smokers need to accomplish in order to successfully change.

Stage of Change for Starting, Stopping, or Modifying Addictive and Health Behaviors

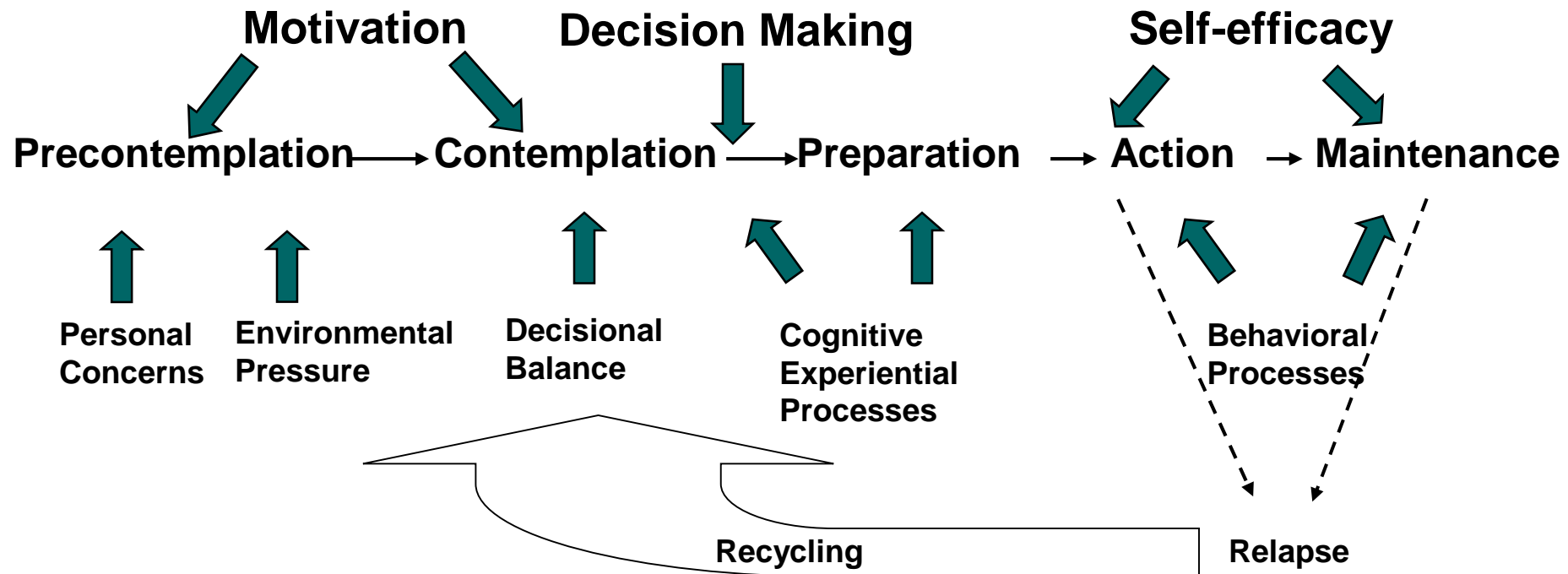
○ STAGE LABELS

- Precontemplation
 - Not interested
- Contemplation
 - Considering
- Preparation
 - Preparing/Committing
- Action
 - Initial change
- Maintenance
 - Sustained change

○ STAGE TASKS

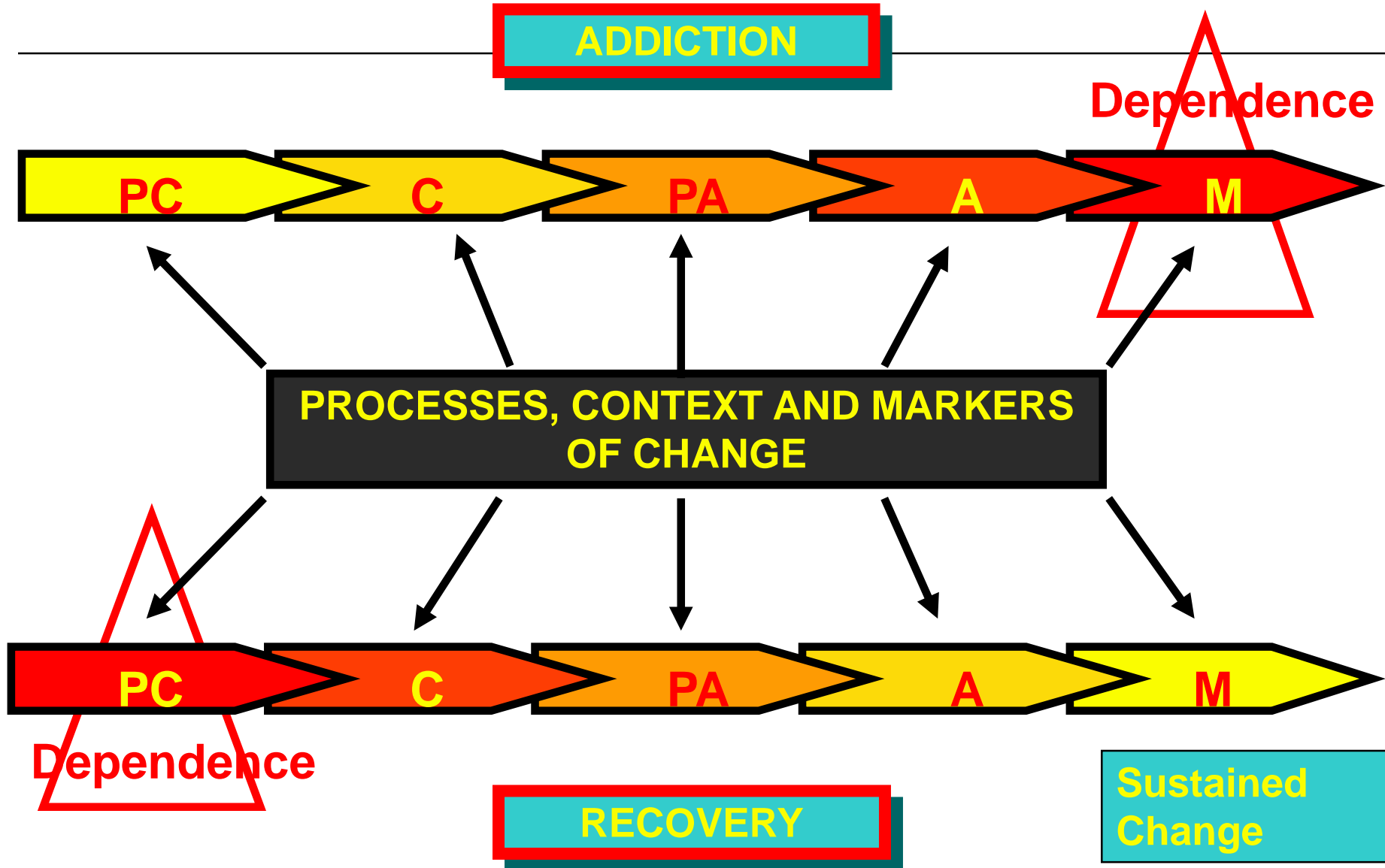
- Interested, concerned and willing to consider
- Risk-reward analysis and decision making
- Commitment and creating a plan that is effective/acceptable
- Implementing plan and revising as needed
- Consolidating change into lifestyle

Theoretical and Practical Considerations Related to Movement Through the Stages of Change



What would help or hinder completion of the tasks of each of the stages and sustain or deplete the self-control strength needed to engage in the processes of change needed to complete the tasks?

THE STAGES OF CHANGE FOR ADDICTION AND RECOVERY

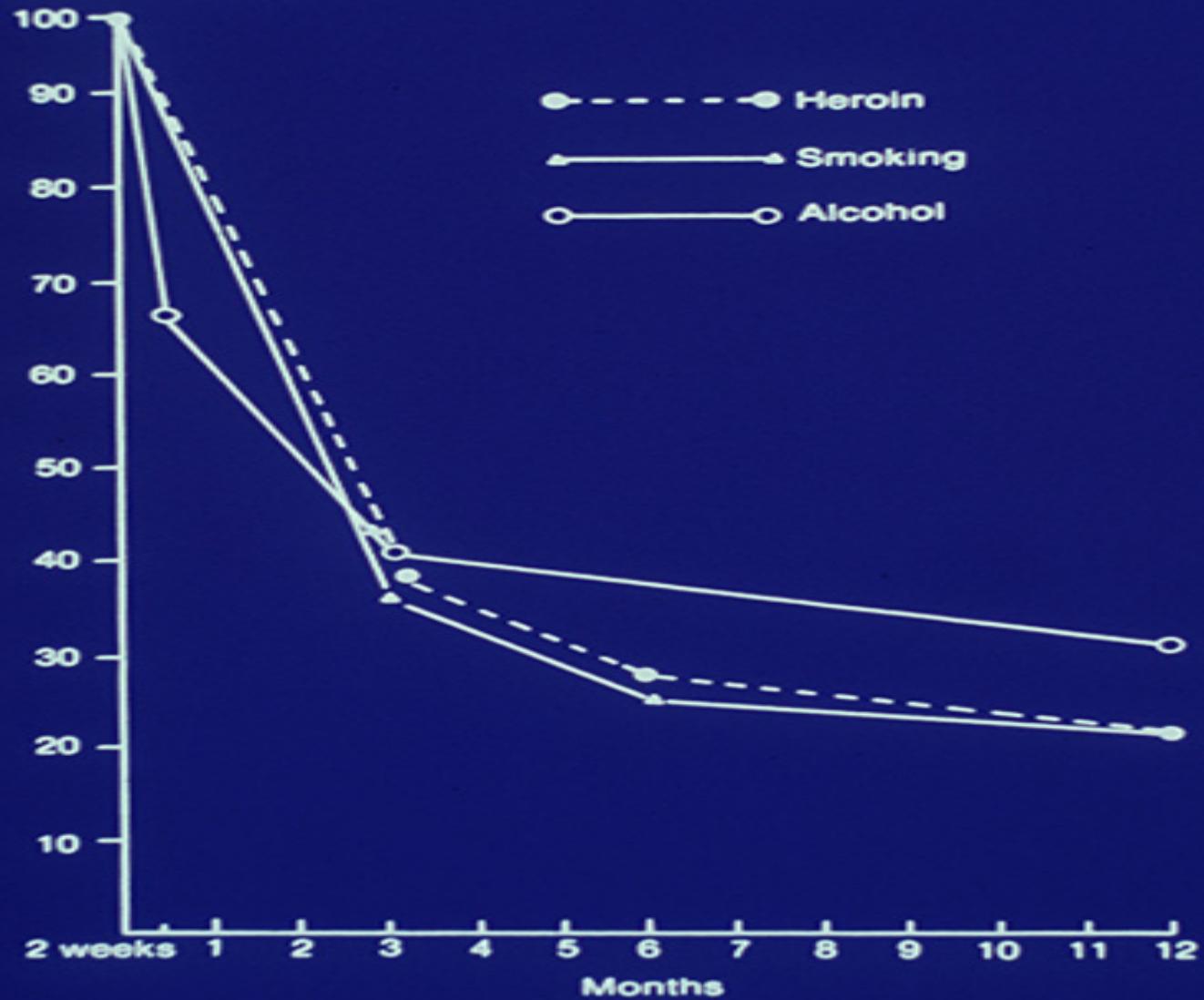




Successful Smoking Cessation

- Often occurs over **long periods of time**
- Often involves **multiple attempts** and multiple treatments
- Consists of **self change and/or treatment** (treatment is not magic)
- Involves changes in other areas of the individual's physical, social and psychological life

Relapse rate over time for heroin, smoking, and alcohol

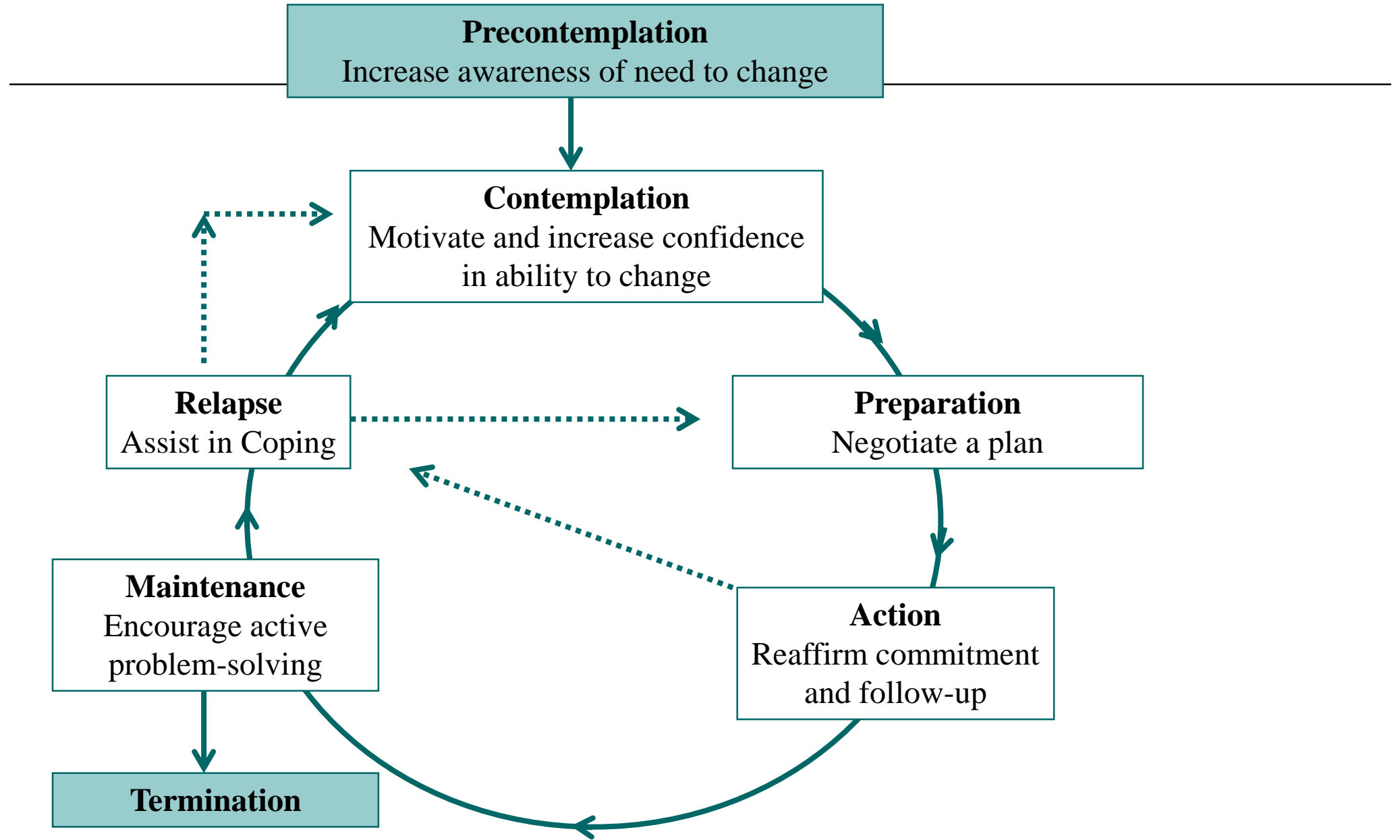




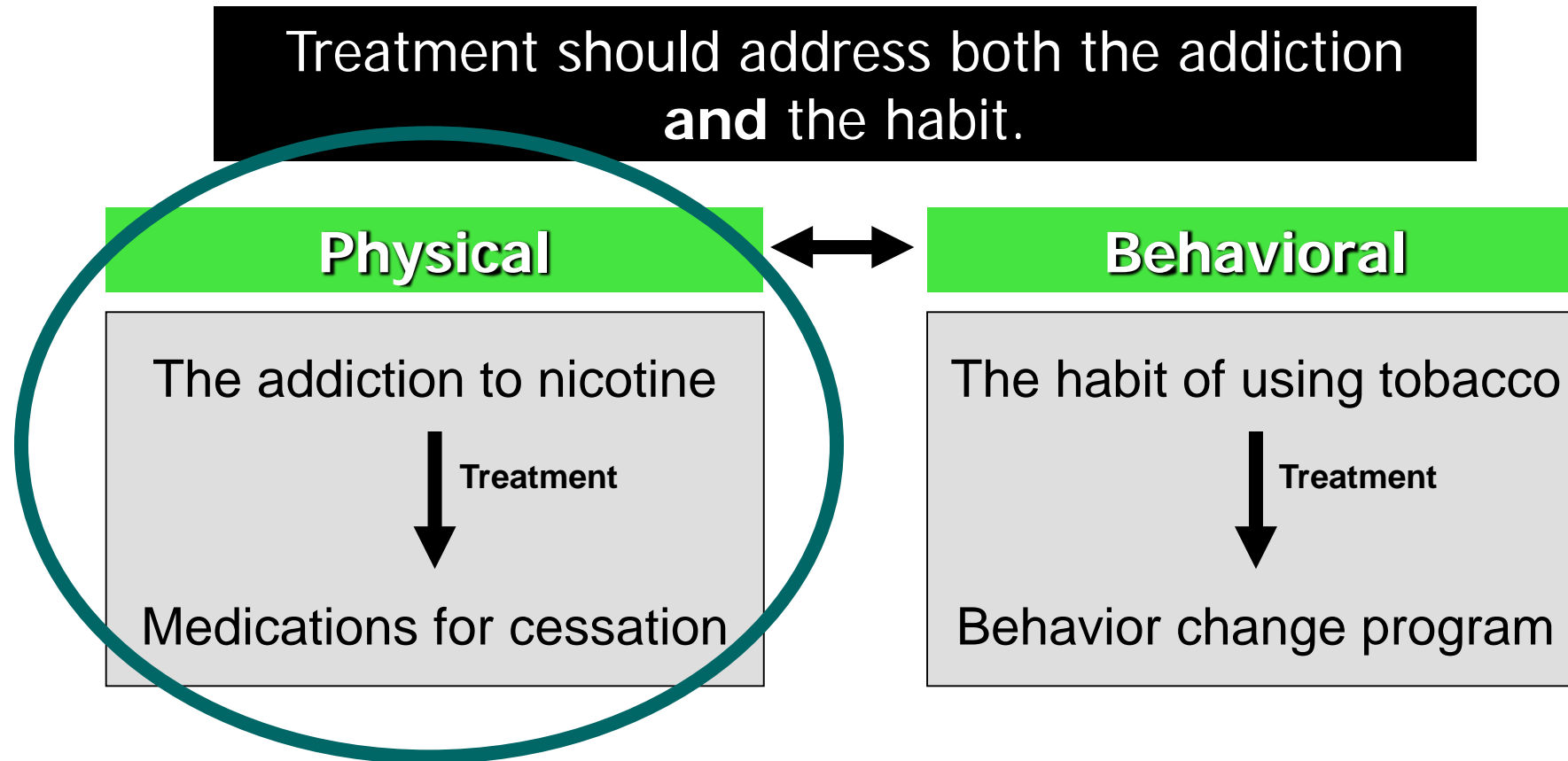
Relapse is Not a Substance Abuse Problem or Smoking Cessation

- Relapse is probable with any health behavior change (diabetes, exercise, diet, medications)
- Often at same rates as addictive behaviors
- A problem of instigating and sustaining behavior change
- A problem of adequately completing the critical tasks of the pre-action and action stages of change

Stages of Change Model



Key Components of Tobacco Cessation: Tobacco Dependence has Two Parts



Helping with the Physical Part of Nicotine Addiction

- Medications (Zyban, Chantix) and Nicotine Replacement Therapy (Gum, Patch, Lozenge, etc.) help to address brain-behavior changes associated with drug addiction
- Reduce the discomfort of withdrawal symptoms:
 - Irritability, difficulty sleeping, feeling down or sad
 - Intense cravings, headaches, weight gain
- Making people more comfortable while quitting helps reduce relapse and supports ability to change behavior.
- NRT and medications do **not** have the harmful effects of combusted tobacco/cigarettes.

Nicotine Replacement Therapy (NRT)

- Forms of NRT include:
 - Gum*
 - Patch* – Inhaler
 - Nasal Spray – Lozenge*
- (*Available OTC)
- Highly dependent smokers benefit from higher dosages (i.e., 4mg vs 2mg) of NRT.
 - Smoker's preference for a specific form of NRT depends on many factors, including:
 - Past experiences with NRT
 - Number/severity of side effects
 - Ease/convenience of use
 - Effect on craving/weight gain



Cessation Medications

- Bupropion (Zyban; Wellbutrin SR)
 - Antidepressant
- Varenicline (Chantix)
- Helpful for smokers seeking non-nicotine treatment and/or for those with comorbid depressive symptoms (i.e., Zyban)
- Prescription Needed

Varenicline (Chantix) Considerations

- Partial-agonist and antagonist for nicotine receptors
- Known to be an effective cessation intervention
 - Doubled chances of quitting compared to placebo¹
 - Slightly better outcomes compared to Zyban and NRT patch
- However, Chantix comes with side-effects
 - FDA dropped black-box warning in 12/2016
 - Common side effects: nausea and bad dreams
 - Some reports of increased depressed mood, agitation, suicidal thinking/behavior, and alcohol potency
 - Latest evidence: link does not exist overall, but people with past or current psychiatric illness may be at slightly higher risk
 - **May increase CVD problems for those already at risk**

Treatment Recommendations – Medications

Meta-analysis (2008): Effectiveness and abstinence rates for various medications and medication combinations compared to placebo at 6-months post-quit (n = 86 studies)

Medication	Number of arms	Estimated odds ratio (95% C. I.)	Estimated abstinence rate (95% C. I.)
Placebo	80	1.0	13.8
Monotherapies			
Varenicline (2 mg/day)	5	3.1 (2.5, 3.8)	33.2 (28.9, 37.8)
Nicotine Nasal Spray	4	2.3 (1.7, 3.0)	26.7 (21.5, 32.7)
High Dose Nicotine Patch (> 25 mg) (These included both standard or long-term duration)	4	2.3 (1.7, 3.0)	26.5 (21.3, 32.5)
Long-Term Nicotine Gum (> 14 weeks)	6	2.2 (1.5, 3.2)	26.1 (19.7, 33.6)
Varenicline (1 mg/day)	3	2.1 (1.5, 3.0)	25.4 (19.6, 32.2)
Nicotine Inhaler	6	2.1 (1.5, 2.9)	24.8 (19.1, 31.6)
Clonidine	3	2.1 (1.2, 3.7)	25.0 (15.7, 34.3)

Treatment Recommendations – Medications

Meta-analysis (2008): Effectiveness and abstinence rates for various medications and medication combinations compared to placebo at 6-months post-quit (n = 86 studies) (cont.)

Medication	Number of arms	Estimated odds ratio (95% C. I.)	Estimated abstinence rate (95% C. I.)
Placebo	80	1.0	13.8
Combination therapies			
Patch (long-term; > 14 weeks) + ad lib NRT (gum or spray)	3	3.6 (2.5, 5.2)	36.5 (28.6, 45.3)
Patch + Bupropion SR	3	2.5 (1.9, 3.4)	28.9 (23.5, 35.1)
Patch + Nortriptyline	2	2.3 (1.3, 4.2)	27.3 (17.2, 40.4)
Patch + Inhaler	2	2.2 (1.3, 3.6)	25.8 (17.4, 36.5)
Patch + Second generation antidepressants (paroxetine, venlafaxine)	3	2.0 (1.2, 3.4)	24.3 (16.1, 35.0)
Medications not shown to be effective			
Selective Serotonin Reuptake Inhibitors (SSRIs)	3	1.0 (0.7, 1.4)	13.7 (10.2, 18.0)
Naltrexone	2	0.5 (0.2, 1.2)	7.3 (3.1, 16.2)



TREATMENT RECOMMENDATIONS

All smokers trying to quit should be offered medication, except where contraindicated or for specific populations for which there is insufficient evidence of effectiveness (i.e., pregnant women, smokeless tobacco users, light smokers and adolescents).

What are the first-line medications recommended in this Guideline update?

All seven of the FDA-approved medications for treating tobacco use are recommended: bupropion SR, nicotine gum, nicotine inhaler, nicotine lozenge, nicotine nasal spray, the nicotine patch and varenicline. The clinician should consider the first-line medications shown to be more effective than the nicotine patch alone: 2 mg/day varenicline or the combination of long-term nicotine patch use + ad libitum NRT.

Unfortunately, there are no well accepted algorithms to guide optimal selection among the first-line medications.

CONTRAINDICATIONS

All seven FDA-approved medications have specific contraindications, warnings, precautions, other concerns, and side effects. Please refer to FDA package inserts for this complete information and FDA updates.

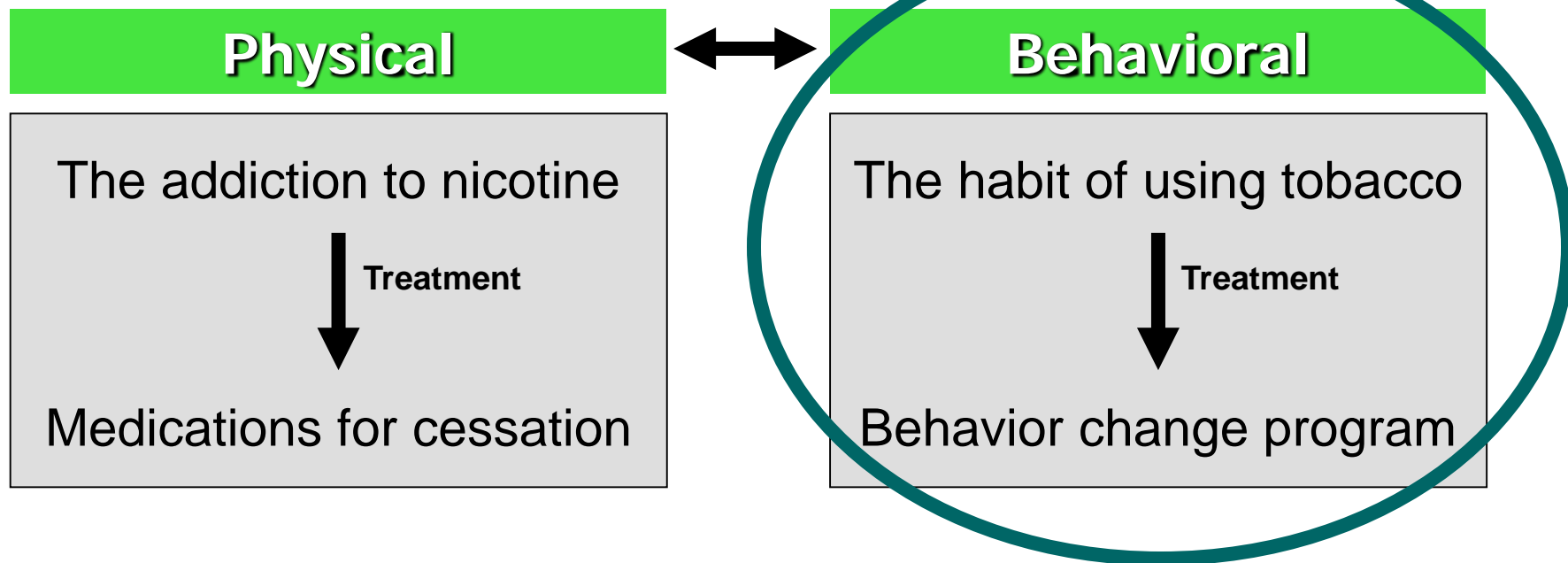
What other factors may influence medication selection?

Pragmatic factors may also influence selection such as insurance coverage or out of pocket patient costs, likelihood of adherence, dentures when considering the gum, or dermatitis when considering the patch.

Prior successful experience (sustained abstinence with the medication) suggests that the medication may be helpful to the patient in a subsequent quit attempt, especially if the patient found the medication to be tolerable and/or easy to use. However, it is difficult to draw firm conclusions from prior failure with a medication..

Key Components of Tobacco Cessation: Tobacco Dependence has Two Parts

Treatment should address both the addiction
and the habit.



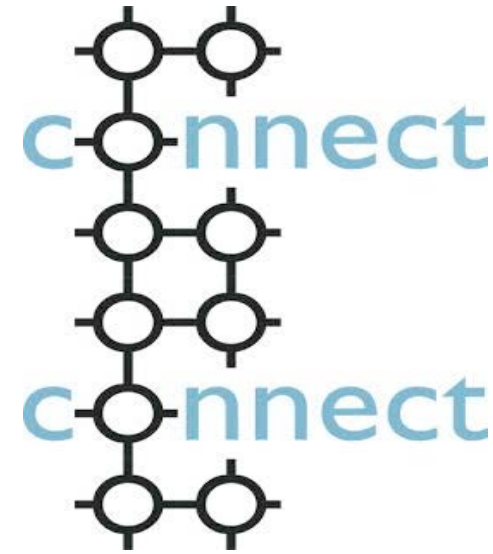


Helping with the Behavioral Part of Nicotine Addiction

- People have more success with quitting if they
 - Are MOTIVATED and ready to quit (Completed tasks of PC and C Stages)
 - Get help to PREPARE and PLAN for the quit attempt
 - Receive EDUCATION about the physical and behavioral change processes they are going through
 - Are COMMITTED to their own, personal reasons to quit
 - Receive SUPPORT throughout the process

Ask, Advise, Assess, & Connect (A³C)

- **Ask:**
 - Ask about tobacco use
- **Advise:**
 - Provide brief advice to quit
- **Assess:**
 - Assess patient's readiness to quit smoking
- **Connect:**
 - Connect patients directly to smoking cessation services



Readiness to Change & Intentions	2000 (Wave 1)	2002 (Wave 2)	2006 (Wave 3)
	% yes	% yes	% yes
Ever Seriously Considered Quitting ^{a, b}			
Precontemplation (PC)	75.2	72.4	68.6
Contemplation (C)	96.1	95.5	95.2
Preparation (P)	96.8	97.7	96.5
<i>All Stages</i>	<i>84.7</i>	<i>85.2</i>	<i>79.7</i>
	Mean (SD)	Mean (SD)	Mean (SD)
Number of Prior Quit Attempts ^{b, c, †}			
Precontemplation (PC)	4.0 (7.6)	4.3 (6.5)	4.6 (11.2)
Contemplation (C)	5.1 (7.3)	4.4 (5.3)	5.7 (11.3)
Preparation (P)	7.6 (11.4)	6.7 (9.8)	10.3 (17.9)
Action (A)	6.5 (9.7)	5.6 (9.5)	4.7 (8.7)
Maintenance (M)	4.8 (6.9)	5.3 (7.7)	6.8 (14.2)
<i>All Stages</i>	<i>5.1 (8.4)</i>	<i>5.2 (7.7)</i>	<i>5.8 (12.6)</i>
Rung ^{a, b}			
Readiness Ladder 1 (lowest) - 10 (highest)			
Precontemplation (PC)	2.9 (2.6)	3.1 (2.7)	3.1 (2.9)
Contemplation (C)	5.0 (3.1)	4.8 (3.0)	5.4 (3.1)
Preparation (P)	6.5 (3.0)	6.4 (3.1)	6.7 (3.3)
<i>All Stages</i>	<i>4.2 (3.2)</i>	<i>4.4 (3.2)</i>	<i>4.2 (3.3)</i>

Table 4. Expectations about and utilization of cessation products and services in 2006 (%)

<i>Around this time last year were you smoking cigarettes every day, some days, or not at all?^a</i>	Every day	Some days	Not at all
Precontemplation	75.2	20.1	4.7
Contemplation	70.7	20.9	8.5
Preparation	57.7	24.1	18.3
Action	59.9	18.0	22.1
Maintenance	9.9	10.2	79.9
All stages	59.0	18.6	22.4
<i>IF YOU DECIDED TO GIVE UP SMOKING ALTOGETHER, HOW LIKELY DO YOU THINK YOU WOULD BE TO SUCCEED?^a</i>		Very or somewhat likely	
Precontemplation			73.1
Contemplation			86.1
Preparation			88.6
All stages			78.8
<i>Do you ever expect to quit smoking?^a</i>		% yes	
Precontemplation			70.4
Contemplation			98.3
Preparation			99.0
All stages			82.7
<i>Used an aid last time you tried to quit?^a</i>		% yes	
Precontemplation			32.5
Contemplation			34.0
Preparation			36.3
All stages			33.5
<i>Ever used NRT to quit?^a</i>		% yes	
Precontemplation			36.9
Contemplation			44.9
Preparation			48.7
Action			36.5
Maintenance			33.7
All stages			39.1

^aAll between-stage comparisons significant at $p < 0.05$ level.
NRT, nicotine replacement therapy

Stages Support Early Interventions with Tobacco Users

- Much of Change is Self Change so
- Advice by health providers...
 - Makes a difference
 - Enhances motivation to quit,
 - Increases the likelihood of a quit attempt (now or later)
 - Results in greater satisfaction with health care
 - Is *highly* cost-effective
 - Source: Treating Tobacco Use and Dependence (TTUD), 2008



Spirit of Motivational Communication

- Partnership → Collaboration
- Acceptance → Absolute Worth
- Compassion → Pursuing Best Interests
- Evocation → Drawing Water From a Well

The Secret of Motivational Communication



Techniques of Motivational Interviewing: OARS

- **O**pen-ended Questions
- **A**ffirmation
- **R**eflective Listening
- **S**ummary Statements



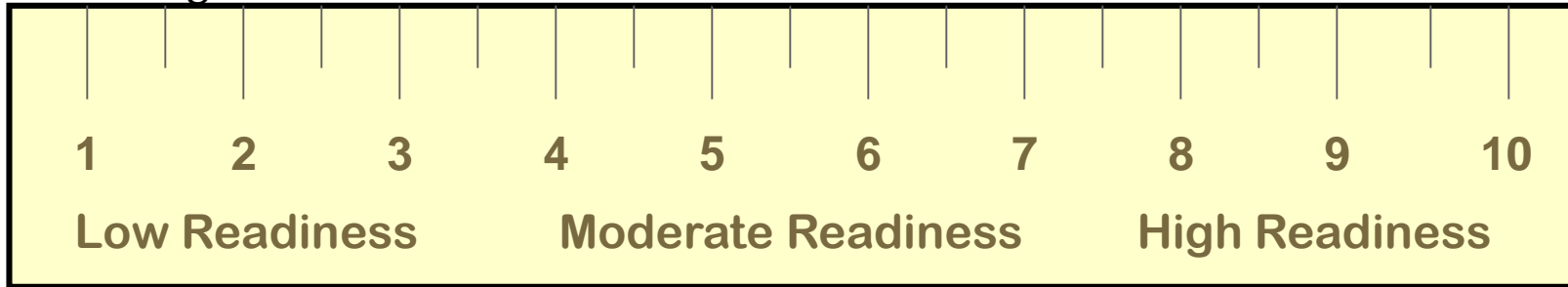
Elicit Change Talk: Change Talk vs. Sustain Talk

- **Change talk:** a person's own statements that favor change
- **VS.**
- **Sustain talk:** a person's own arguments for not changing, for maintaining the status quo
- When someone is ambivalent, you often hear both types of talk occurring naturally, even within the same sentence:
 - "I need to do something about my smoking but I've tried quitting and it never lasts. I mean, I know I need to quit because of my health, but it just helps me deal with things."

See Sample Script and
Questions to Elicit Change
Talk Handout

Assess Readiness to Quit

Ask: "On a scale of 1 to 10, with 10 being very ready, how ready are you to quit smoking?"



I don't want to quit.

Tobacco is not a problem for me.

Trying to quit would be a waste of my time.

I am thinking about quitting.

I know that quitting would be good for my health.

I am interested in hearing about ways to quit.

I am ready to quit using tobacco.

I would like help to quit using tobacco.

This ruler is available for download at:

http://mdquit.org/sites/default/files/pdf_files/Readiness%20Ruler.pdf

Readiness to Change Smoking Behavior

- “On a scale of 1 to 10, with 10 being very ready, how ready are you to quit smoking or cut down?”
 - **If >5, support confidence to change and address barriers to change:** “Great. What would help you move to a higher number?”
 - **If 2 to 5, elicit change talk by asking:** “Good. Why that number and not a lower number?”
 - **If 1 or not ready, offer a reflection and listen empathically:** “On the one hand quitting smoking is not something you feel ready to do right now, and on the other hand you are noticing some health problems it may be causing.”





YOU CAN MAKE A DIFFERENCE

- Specific medical information and motivational communication can make a difference!
- You cannot make a smoker quit but you can make an impact on their process of change
- This is a long term process and a journey not a quick fix
- Persistence and Patience are critical for smoker and provider.



Success Story from SmokingStopsHere.com

Olin, 69

1 pack per day for 25 years

“I have been smoke-free for one year and 5 months. I had smoked for 25 years and have tried to quit about three times. I think sometimes people use smoking as a crutch to deal with their problems. However, I feel that you owe it to yourself to quit and nobody can do it for you. I worked with my group at the local health department and used them for support to help me quit. The smoking cessation classes really helped motivate me, and continue to keep me motivated.”



Another Success Story - Nate

Nate started smoking in high school along with, it seemed, every other teenage boy. It was cool back then. But the habit stuck. As a young adult, he realized that he was hurting his health – his throat was constantly swollen and his doctor told him it was going to take an exploratory surgery to find out the cause.

‘I’ve tried to quit before, many times’ – says Nate. ‘I would manage for couple of hours but then the cravings would start, followed by anxiety and irritability.’ But after talking to his doctor Nate decided that enough was enough. He gave his last pack of cigarettes to his friend and that was it.

It was difficult, especially because he was a heavy smoker, accustomed to smoking while driving and after meals. Nate says that drinking plenty of fluids and talking to his supportive girlfriend made all the difference in the world. Everything became easier after three weeks. He noticed that his smoking triggers weren’t as overwhelming as they’ve used to be and he was able to cope more easily. It’s been two years since he stopped smoking. ‘My throat is better – it’s no longer swollen and I don’t cough in the morning. Feeling healthier gave me the power I needed to push through.’



Another Success Story - Adrian

Adrian was a smoker for 30 years. It all changed in 2003 when he was diagnosed with kidney cancer. 'My doctor told me that, as a smoker, I was 10 times more likely to end up with kidney cancer than if I were a non-smoker. I quit the following day and went home with nicotine patches and nicotine nasal spray. Two years later I was still using the nicotine nasal spray' – Adrian says.

After seeing how ridiculous it was, he decided to quit NTR as well. He went straight back to cigarettes. 'I'm not proud of it. I quit again in 2009 after smoking a half-smoked cigarette my colleague left in the ashtray – like a tramp! My behavior disgusted me and I decided to quit for good.'

He is still a former smoker but he wishes his wife would stop too. She was supportive of him during their first cessation attempt and even quit herself but today she occasionally smokes.

'Life is unbelievably good without cigarettes and I can't believe I've smoked for so long, even after everything I've gone through. I want to encourage everyone to try hard and never stop trying. It's possible!'