

# Evidence-Based Strategies to Improve Treatment Adherence: Clinical Research and Practice

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# AGENDA

- Defining adherence
- The burden of poor adherence
- Obstacles to adherence
- Strategies to improve adherence
  - *Motivational communication*
- Measuring adherence
- Additional resources

# WHAT IS ADHERENCE?

- The extent to which a person's **behaviour** corresponds with agreed-upon **recommendations** from a health-care provider or researcher
- Involves an interaction among patients' self-care responsibilities, their role in the treatment process, and collaboration with healthcare providers
- Is critical to the success of any intervention, both in research and clinical settings

# ADHERENCE VS. COMPLIANCE

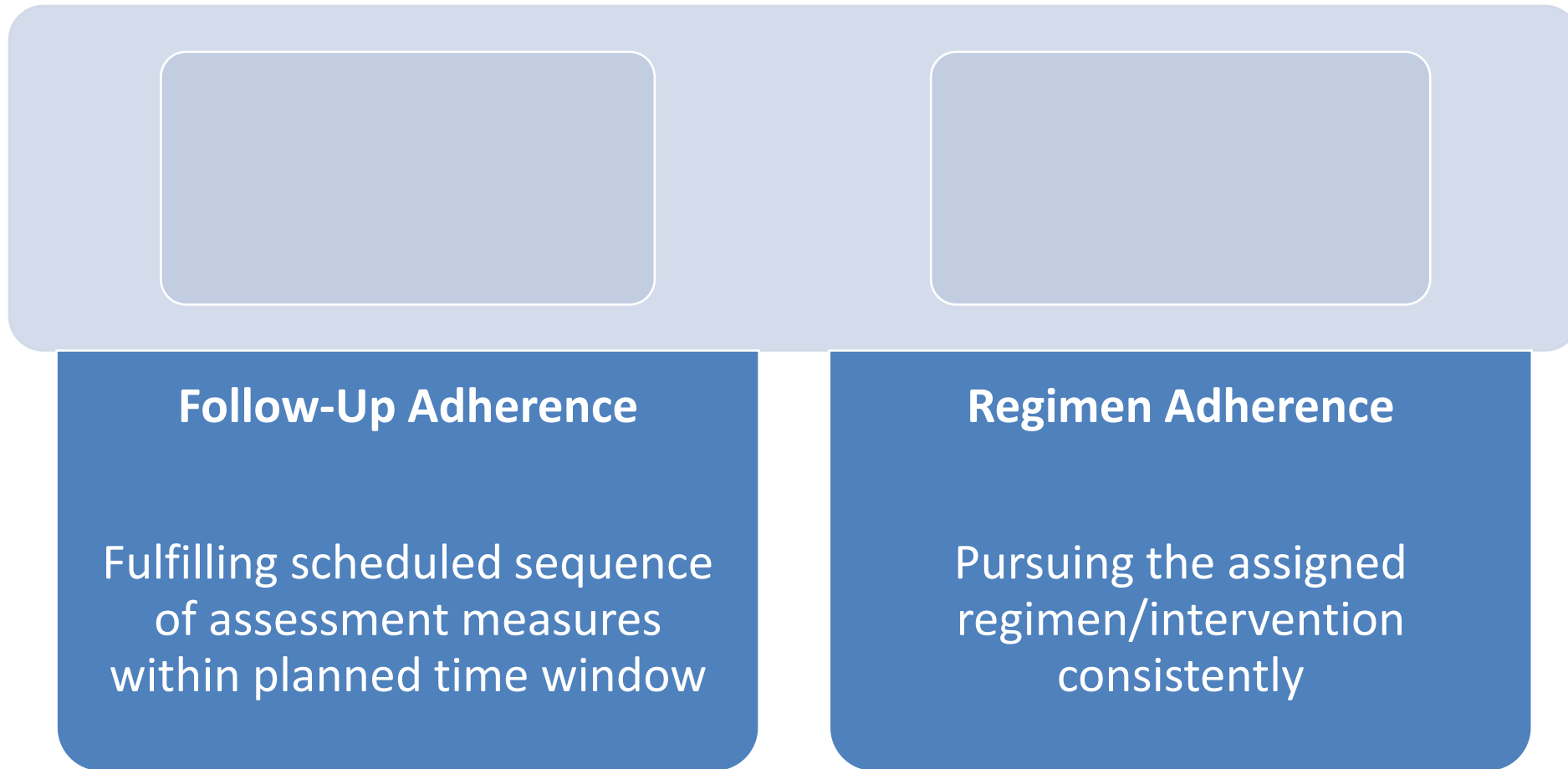
## Compliance

- Implies subservience on the part of the patient
- Focus on **PROVIDER'S** goals

## Adherence

- Acknowledges patient's participation in the treatment process
- Focus on **CLIENT'S** goals

# ADHERENCE IN INTERVENTION RESEARCH



# PREVALENCE OF NON-ADHERENCE IN THE “REAL WORLD”

- Meta-analysis of 569 studies indicates average **25%** non-adherence to medical treatment prescribed by non-psychiatrist physicians
- On average, **50%** of patients don't take their medications as prescribed; **33%** never even fill their first prescription
- Only **15%** of Canadian adults achieve recommended physical activity targets
- Despite recommendation from healthcare provider, only **19%** of patients with T2DM report regular exercise and **33%** report following prescribed eating plan

# PREVALENCE OF NON-ADHERENCE IN RESEARCH SETTINGS

- In pharmacological trials, medication adherence averages **75%**, and appointment-keeping ranges from **39-78%** (Dimatteo 2004; Robiner et al., 2005)
- A review of IRB records of 25,855 participants who consented to participate in U.S. industry-sponsored studies revealed that only **74%** complete the trials (Gamache, 2002)
- Only **14-43%** of trial participants adherent to exercise interventions for prostate cancer, where reported (Bourke et al., 2015)
- Up to **40%** of participants drop out of CBT for Insomnia studies before mid-treatment (Matthews et al., 2013)

# WHY DOES ADHERENCE MATTER?

- Nonadherence to medication regimens estimated to result in **125,000 deaths/year** in the U.S. (Peterson et al, 2003)
- At least **1/3 of hospital admissions** for heart failure results from non-adherence to dietary and medication regimens (Ghali et al., 1988)
- As many as **700,000** pregnancies in the U.S. may stem from problematic adherence to oral contraceptives (Rosenberg & Waugh, 1999)



# ADHERENCE AND CLINICAL RESEARCH

- Non-adherence by research participants can lead to
  - Underestimated harms
  - Misinterpretation of results
  - Type II error
  - Low statistical power
  - Increased cost
  
- No consensus on minimum level of adherence in clinical trials
  - 80% convention is arbitrary

## OBSTACLES TO ADHERENCE: *HEALTHCARE SYSTEM*

- Access to care
- Continuity of care
- Instructions not delivered in plain language
- Provider empathy and communication skills

## OBSTACLES TO ADHERENCE: *SOCIOECONOMIC*

- Health insurance
- Medication cost
- Language barriers
- Difficulty accessing clinic/pharmacy
- Lack of family or social support
- Unstable living conditions

## OBSTACLES TO ADHERENCE: *CONDITION/THERAPY*

- Complexity of intervention
- Frequent changes in regimen
- Difficult to mastery certain techniques
- Unpleasant side effects
- Duration of therapy
- Lack of immediate benefit of therapy
- Interventions with social stigma

## OBSTACLES TO ADHERENCE: *PATIENT*

- Stress of health-care visits
- Discomfort in asking providers questions
- Stressful life events and competing priorities
- Cognitive, visual, or hearing impairments
- Severity of symptoms
- Psychological distress
- Low confidence in ability to follow treatment regimen
- Expectations or attitude toward intervention

## OBSTACLES TO ADHERENCE: *PATIENT*

- E.g., Expectations and attitudes toward cardiac rehabilitation predicts program attendance (Cooper et al., 2007)
  - *“Younger people are more likely to benefit from cardiac rehabilitation than an older, less active person”*
  - *“Cardiac rehabilitation is probably more suitable for people who have been previously active”*
  - *“I may not feel physically fit enough to attend cardiac rehabilitation”*

## OBSTACLES TO ADHERENCE *IN RESEARCH*

- Fear of being a “guinea pig” or being in placebo
- Concerns about cost and insurance coverage
- Logistical concerns such as scheduling and transportation
- Belief that investigator more interested in the research than in the patient's well being
- Belief that treatment in the clinical trial is more invasive

# STRATEGIES FOR IMPROVING ADHERENCE

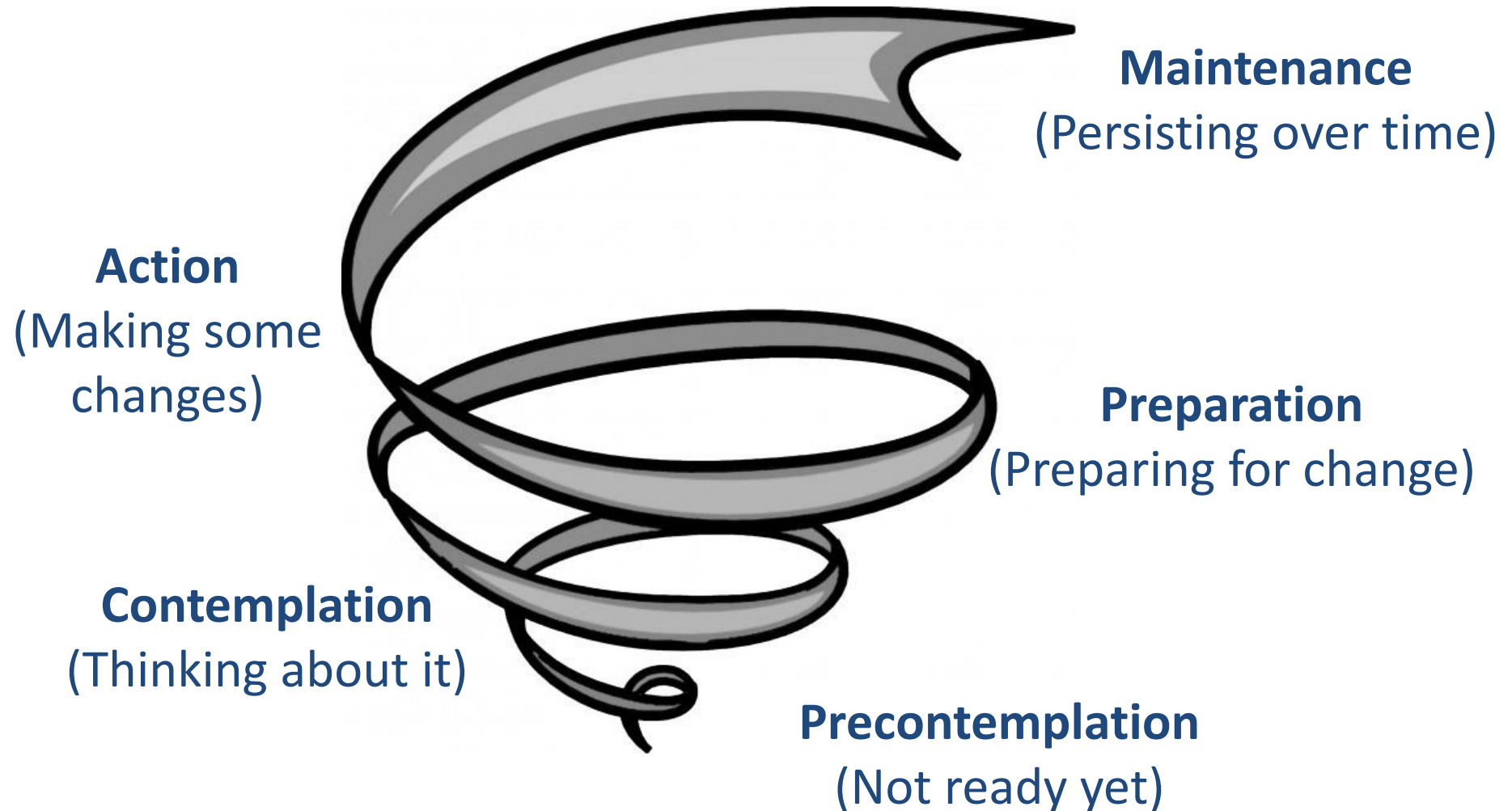
- To avoid the detrimental effects of non-adherence, many trials implement procedures to improve patient motivation
  - Document strategies used in methods section
  - Tailor strategies to study design, intervention, patient populations
  - Select strategies easily implemented in clinical practice
  - Measure baseline characteristics and adherence



# STRATEGIES FOR IMPROVING ADHERENCE

- **Motivational communication** represents an array of evidence-based techniques to improve treatment adherence
  - Motivational interviewing
  - Goal-setting
  - Self monitoring
  - Stimulus control
  - Problem solving
  - Contingency management
  - Cognitive restructuring
  - Relapse prevention
  - Keep it “SIMPLE”

# ASSESSING MOTIVATION FOR BEHAVIOUR CHANGE: TRANSTHEORETICAL MODEL



# ASSESSING MOTIVATION FOR BEHAVIOUR CHANGE: 4 KEY QUESTIONS

1. “Do you consider your current behaviour to be a ***problem***?”
2. “Are you ***distressed*** by your current behaviour?”
3. “Are you ***interested*** in changing this behaviour?”
4. “Are you ***ready*** to change now?”

# MOTIVATIONAL INTERVIEWING

- A directive, client-centered ***counseling style*** for eliciting behavior change by helping clients to explore and resolve ambivalence.
  - A method of communication, not an intervention per se
  - Acknowledges that it's normal to feel two ways about behaviour change

*“On the one hand... but...”*

# MOTIVATIONAL INTERVIEWING: OARS

## Open questions

- Patient: *"The times I do exercise, I feel so much better."*
- GP: *"In what ways do you feel better after exercising?"*

## Affirmation

- Patient: *"I plan to talk to the pharmacist about my meds."*
- GP: *"You show some real perseverance with managing all these changes in your life right now."*

## Reflective listening

- Patient: *"I wish I didn't smell like cigarettes all the time."*
- GP: *"You'd like to change that."*

## Summarize

- GP: *"Let me tell you what I hear so far..."*

# OPEN QUESTIONS

- One of the most important skills
- Using this skill effectively can save a lot of time
- Your patient is doing most of the talking

# OPEN QUESTIONS: PURPOSE

- Establish a safe environment, and a trusting and respectful relationship
- Learn about the patient's past experience, feelings, thoughts, beliefs, and behaviors
- Gather information – patient does most of the talking
- Help the patient make an informed decision
- Evoke change talk

# CLOSED QUESTIONS

**Sometimes closed questions are appropriate:**

- Are you eligible for the study?
- Have you had the blood draw?
- Have you ever been tested for HIV?
- Do you live with anyone?



# OPEN QUESTIONS TO ELICIT CHANGE TALK

- **Ask Evocative Questions**

- Why would you want to make this change? (**Desire**)
- How might you go about it, in order to succeed? (**Ability**)
- What are the three best reasons for you to do it? (**Reasons**)
- How important is it for you to make this change? (**Need**)
- So what do you think you'll do? (**Commitment**)

# OPEN QUESTIONS TO ELICIT CHANGE TALK

- **Ask for Elaboration**

- When a change talk theme emerges, ask for more detail. *“In what ways? Tell me more.”*

**Provider/Researcher:** *“You haven’t been coming to the weight management appointments. It’s really important to come because we know that people who attend more sessions tend to lost the most weight. Remember you’ll get a gift card if you come to the sessions.”*

**Patient:** *“I’m sorry, I’ve just been really busy. I know it’s important to come, and I really want to lose weight. I have been trying to exercise more at home, but I’m just too swamped at work to attend these appointments.”*

**Provider:** *“Tell me a little about yours reasons for wanting to lose weight.”*

# OPEN QUESTIONS TO ELICIT CHANGE TALK

- **Ask for Examples**

- When a change talk theme emerges, ask for specific examples. *When was the last time that happened? Give me an example. What else?*

**Provider/Researcher:** *“You haven’t been coming to the weight management appointments. It’s really important to come because we know that people who attend more sessions tend to lost the most weight. Remember you’ll get a gift card if you come to the sessions.”*

**Patient:** *“I’m sorry, I’ve just been really busy. I know it’s important to come, and I really want to lose weight. I have been trying to exercise more at home, but I’m just too swamped at work to attend these appointments.”*

**Provider:** *What types of exercise have you been doing at home?*

# OPEN QUESTIONS TO ELICIT CHANGE TALK

- **Look Back**

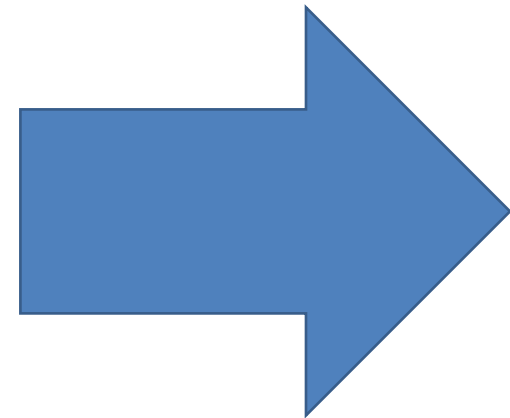
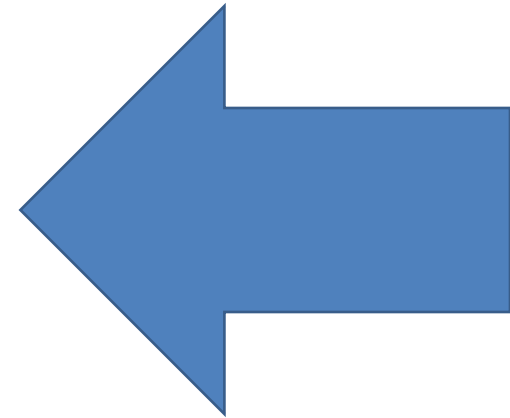
- Ask about a time before the current concern emerged.

*“How were things better, different?”*

- **Look Forward**

- Ask what may happen if things continue as they are (status quo).

*“If you were 100% successful in making the changes you want, what would be different? How would you like your life to be five years from now?”*



# OPEN QUESTIONS TO ELICIT CHANGE TALK

- **Query Extremes**

- *What are the worst things that might happen if you don't make this change?  
What are the best things that might happen if you do make this change?*

- **Use Change Rulers**

- *Ask, "On a scale from zero to ten, how important is it to you to [target change] - where zero is not at all important, and ten is extremely important?"*

# OPEN QUESTIONS TO ELICIT CHANGE TALK

- **Explore Goals and Values**

- Ask what the person's guiding values are. *"What do you want in life?"*

- **Come Alongside**

- Explicitly side with the negative (status quo) side of ambivalence. *"Perhaps \_\_\_\_\_ is so important to you that you won't give it up, no matter what the cost."*

# AFFIRMATIONS

- Statements of appreciation, understanding and positive feedback that are designed to
  - Acknowledge client's progress, personal strengths, and abilities
  - Build rapport; demonstrate empathy; affirm exploration into the patient's world
  - Affirm the patient's past decisions, abilities, and healthy behaviors
  - Build a patient's self efficacy

## AFFIRMATIONS VS. PRAISE

- Use “you” statements that focus on the client’s values and goals

*“I’m so proud of you. I told you that you’d be able to do the exercise sessions if you just believe in yourself!”*

**VS.**

*“Coming to all of the exercise sessions has taken some real dedication, and has helped you be the role model you want to be for your kids.”*



# REFLECTIVE LISTENING

- Perceiving and giving back the patient's emotions, using verbal and nonverbal cues
- Using this skill effectively promotes the most movement in a patient's awareness
- This part of your intervention can help a patient make more intentional decisions and consider behavior changes
- Aim for **3:1 ratio** of reflections to questions

# REFLECTIVE LISTENING: FEELINGS VS. DIRECTION

- **Reflecting empathy**

- How the patient *feels*
- Often helpful when responding to resistance / sustain talk

***Patient:** “Taking these pills is a waste of my time. I can tell you right now that the treatment isn’t going to help.”*

***Provider:** “You feel discouraged about getting control over your blood pressure.”*

- **Reflecting direction**

- What the patient *wants*
- Can be used in combination with reflections of empathy

***Patient:** “Taking these pills is a waste of my time. I can tell you right now that the treatment isn’t going to help.”*

***Provider:** “You want to find a medication regimen where you can see some real improvements.”*

# REFLECTIVE LISTENING: TYPES OF REFLECTIONS

- **Simple reflection** (repeat the patient's words)
- **Reflecting feelings** (reflect what the client might be feeling)  
*"You're feeling \_\_\_\_\_ because \_\_\_\_\_."*
- **Reflecting behaviour** (state observation about the patient's behavior)  
*"I noticed you just \_\_\_\_\_." "What are you thinking?"-or- "What are you feeling right now?"*

## REFLECTIVE LISTENING: TYPES OF REFLECTIONS

- **Amplified reflection** (rephrase the patient's words - exaggerated)
  - *Patient: I don't know why my wife is worried about this. I don't drink too much*
  - *Clinician: So your wife is worrying needlessly.*
  
- **Double-sided reflection** (patient's words + note ambivalence – and point out discrepancy)
  - *Patient: I know you want me to give up drinking completely, but I'm not going to do that!*
  - *Clinician: You can see that there are some real problems here, but you're not willing to think about quitting altogether.*

## REFLECTIVE LISTENING: TYPES OF REFLECTIONS

- **Shifting focus** (going back to something else or changing the direction)
  - *Patient: I can't stop smoking when all my family are doing it.*
  - *Clinician: You're way ahead of me. We're still exploring your concerns about whether you can get comfortable injecting yourself. We're not ready yet to decide how smoking fits into your goals.*

## REFLECTIVE LISTENING: TYPES OF REFLECTIONS

- **Reframing** (invite patient to examine his/her perception in a new way)
  - *Patient: My husband is always nagging me about my medication - always calling me lazy. It really bugs me.*
  - *Clinician: It sounds like he really cares about you and is concerned, although he expresses it in a way that makes you angry. Maybe we can help him learn how to tell you he loves you and is worried about you in a more positive and acceptable way.*
- **Rolling with resistance** (accept the patient's perception)
  - *Maybe changing would be too difficult for you, especially if you really want to stay the same. Anyway, I'm not sure you believe you could change even if you really wanted to.*

# SUMMARY STATEMENTS

- A specialized form of reflective listening
- Summarize frequently, not just at the end
- Highlight ambivalence
- Announce that you are going to summarize, list selected elements of what the patient has told you, and ask them to make meaning of these things.

# PROVIDING INFORMATION

- Avoid providing unsolicited advice
- Focus on what the patient wants to know
- Avoid jargon
- Offer small amounts of information at one time
- Present a menu of options
- Emphasizing multiple paths to desired goals
- Be honest if you do not know the answer
- Use the elicit-provide-elicite sequence



## PROVIDING INFORMATION

- **Elicit** – what he knows and if it's okay if you offer them information  
*“What do you know about how a control group works in a study?”*
- **Provide** – Information in a neutral non-judgmental way  
*“In a control group, it means the group of people receives either no treatment or the usual treatment is normally available. In this study, people in the control group are also asked to provide information through questionnaires”*
- **Elicit** – the patient's interpretation  
*“What do you make of that?”*

# COGNITIVE & BEHAVIORAL TECHNIQUES

- Goal-setting
- Self monitoring
- Stimulus control
- Problem solving
- Contingency management
- Cognitive restructuring
- Relapse prevention

# SELF-MONITORING

- Track progress toward behavioral goals
  - Helps identify if goals are being met, triggers for non-adherence, association between behaviour & desired outcome
  - Can lead to positive outcomes for control group!

# STIMULUS CONTROL

- Restructure the physical environment to promote desired behaviors and limit undesired behaviors
  - No energy dense foods in the house
  - Dental floss on bathroom counter
  - Reminders for appointments
  - Running shoes by front door
  - Pictures of medications on fridge
  - Involve significant others
  - Throw away ashtrays

# COGNITIVE RESTRUCTURING

- Address unhelpful beliefs, attitudes, and assumptions that might hinder health behaviour change
  - *“If I quit smoking, I am going to fall into a depression and won’t be able to cope.”*
  - *“There’s no way I’ll be able to pick up an exercise routine – I’ve tried in the past and always failed.”*
  - *“My heart condition is impossible to manage.”*
  - *“This trial is the best thing to happen to me. Now I know that I’ll get way better care than I do with my family doctor.”*

# RELAPSE PREVENTION

- **Review positive gains**
  - *“You’ve lost 20 lbs and your blood pressure is down to normal range. What helped you achieve that goal?”*
- **Normalize lapses**
  - *“It’s the rule rather than the exception to slip back into old habits when making a lifestyle change like this.”*
- **Anticipate and plan for triggers**
  - *“What are some situations that might make it difficult to keep up with the changes you made?”*
- **Offer support when slips occur**
  - *“I hear that you’re discouraged. A slip does not mean you’re back to square one. Let’s work through this together.”*

## KEEP IT “SIMPLE”

- **S** — Simplify the regimen
- **I** — Impart knowledge
- **M** — Modify patient beliefs and behavior
- **P** — Provide communication and trust
- **L** — Leave the bias
- **E** — Evaluate adherence

# MEASURING ADHERENCE

- Outcome-oriented indicators
  - E.g., cure rate, serum medication levels
  - Often more “objective” than self-report, but may not reflect adherence
- Process-oriented indicators
  - E.g., pill counts, appointment keeping
  - Can be categorical or continuous



# MEASURING ADHERENCE

- Exercise
  - e.g., actigraphy, exercise logs, cardiorespiratory fitness
- Diet
  - e.g., food records, 24-h recall, biomarkers
- Smoking
  - e.g., 7-day point prevalence abstinence, biochemical verification
- Provider adherence
  - e.g. Motivational Interviewing Treatment Integrity Code, CBT Adherence Scale, MBCR Adherence Scale
- Psychotherapy
  - e.g., Dropout, attendance, intervention-specific measures (sleep diaries in CBT-I, mindfulness practice in MBSR)

## KEY REFERENCES & RESOURCES

- Bosworth, H. B., Oddone, E. Z., & Weinberger, M. (Eds.). (2006). Patient treatment adherence: concepts, interventions, and measurement. Psychology Press.
- Miller, W. R., & Rollnick, S. (2012). *Motivational interviewing: Helping people change*. Guilford press.
- Rollnick, S., Miller, W.R. & Butler, C. (2008). *Motivational Interviewing in Health Care: Helping patients change behavior*. New York, NY, Gilford.

## ADDITIONAL TRAINING

- Canadian Network for Health Behavior Change and Promotion (Can-Change) [www.can-change.ca](http://www.can-change.ca)

## CONTACT INFORMATION

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