Motivational Interviewing Strategies in Public Health: Connecting Adolescent Brain Development to Risk Reduction

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Objectives

• Describe the basic principles, “spirit”, and methods of motivational interviewing in working with adolescents and young adults.

• Discuss the neurobiological effects of alcohol on the developing adolescent brain and on risk-taking behaviors.

• Describe specific strategies you will use in your everyday public health and clinical work to motivate adolescents with risky behaviors (drinking, smoking, drug use, overeating, etc.) who are in denial, pre-contemplative, or resistant about change.
Brazelton’s Touchpoints Approach™

**A PARADIGM SHIFT**

**FROM:**
- Deficit Model
- Linear Development
- Prescriptive
- Objective Involvement
- Strict Discipline Boundaries

**TO:**
- Positive Model
- Multidimensional Development
- Collaborative
- Empathic Involvement
- Flexible Discipline Boundaries

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Table 1. The guiding principles of the Touchpoints model

- Value and understand the relationship between you and the parent
- Use the behavior of the child as your language
- Value passion wherever you find it
- Focus on the parent-child relationship
- Look for opportunities to support mastery
- Recognize the beliefs and biases that you bring to the interaction
- Be willing to discuss matters that go beyond your traditional role
Brazelton’s Touchpoints Approach™
Applicable from Infancy to Adolescence

- **Touchpoints™**: Predictable, new acquisition of skill or ability
- **Neurobiological processes:**
  - synaptogenesis, myelinization, pruning, others
  - critical to understanding developmental change
  - brain must adapt structurally and functionally to complex environmental interactions
- “Adolescent touchpoints” in developmental continuum
Brief Intervention

- Time-limited counseling strategies
- Clinician-directed, patient-centered
- Based on Motivational Interviewing (MI)
- Focus on changing behaviors
  - Alcohol "Other" Clinical Interventions
  - Tobacco, STI, obesity, hypertension, adherence with medication, and other medical advice.

- Harm reduction paradigm

- SBIRT: Screening, Brief Intervention, and Referral to Treatment
### Rankings of 25 USPSTF-Recommended Clinical Preventive Services

<table>
<thead>
<tr>
<th>Rank</th>
<th>Service</th>
<th>Effective</th>
<th>Preventable</th>
<th>Burden</th>
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<tbody>
<tr>
<td>1</td>
<td>Daily aspirin use</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Childhood Immunizations</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Smoking Cessation</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Alcohol Screening &amp; Brief Intervention</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Colorectal Cancer Screening &gt;50 yo</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Hypertension screening &amp; Rx &gt;18 yo</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Influenza Immunization &gt;50 yo</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Lower: Screening for Cervical and Breast Cancer, Chlamydia, Nutrition, Vision, Cholesterol, Osteoporosis

5= Highest 1= Lowest

**Rating: B Recommendation.**

- U.S. Preventive Services Task Force 2006
- NIAAA
- American Academy of Pediatrics
- Institute of Medicine
- WHO
- American Society of Addiction Medicine
- American College of Surgeons
- Canadian Task Force on Preventive Care
Motivational Interviewing is simple... but not easy

- Complex set of skills, used flexibly and responsively
- Similar to learning to play a complex sport or musical instrument
- Conscious and disciplined use of specific communication principles and strategies
- Not a trick or technique easily mastered in one session or a workshop or two
- Proficiency requires practice with feedback and coaching over time

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Alcohol / Substance Use
Related Harms in Adolescents

- Injuries, illnesses, trauma, death
- Activity: Loss of Interest
  - school, play, home, work
- Change in Sleeping, Eating
- Personality, Moods, Fighting
- Fatigue
- Depression, Concentration
- Trouble with school, law
- Memory blackouts
You are called to see “Jamie”, a 17 year old high school junior. Referrals have come from the school, social worker, and teachers who say Jamie is often “out of it.”

At this visit (e.g., school, local clinic, or home) you are told that her mom found a bag of marijuana in her room and “wants her tested.” Jamie was confronted by her parents and admitted, “sometimes I smoke weed, just like you guys sometimes drink!” She is incensed that her parents searched her room, but agrees to talk with you just to “get my parents off my back.” Her grades have been falling in the past year, and she’s had normal routine sports physicals.
Underage Drinking
Wisconsin Public High School Students

Changes in alcohol use, past 30 days, 1993-2009

Alcohol Use Past 30 days

- 48% in 1993
- 51% in 1995
- 52% in 1997
- 54% in 1999
- 55% in 2001
- 47% in 2003
- 49% in 2005
- 49% in 2007
- 41% in 2009

Seniors

Wisconsin Department of Public Instruction
Wisconsin Youth Risk Behavior Surveys
Drinking and Driving
Wisconsin Public High School Students

Frequency of driving after drinking alcohol or being a passenger in a car driven by someone who had been drinking alcohol, 1993-2009

- **Rode in car**
  - 1993: 39%
  - 1995: 36%
  - 1997: 38%
  - 1999: 36%
  - 2001: 30%
  - 2003: 31%
  - 2005: 32%
  - 2007: 24%
  - 2009: 30%

- **Drove a car**
  - 1993: 15%
  - 1995: 16%
  - 1997: 17%
  - 1999: 17%
  - 2001: 14%
  - 2003: 14%
  - 2005: 14%
  - 2007: 9%
  - 2009: 17%

Wisconsin Department of Public Instruction
Wisconsin Youth Risk Behavior Surveys
Marijuana Use by Wisconsin 11th Graders

Wisconsin Youth Risk Behavior Survey 2007

- “For current use of weed, this month you smoked more than 90% of other Wisconsin 11th graders.
- What are your thoughts about that?”

- “In your lifetime, you’ve smoked more weed than 85% of other Wisconsin 11th graders.
- What do you think about that?”

Number of times used

- “once a week” (4x per month)
- “about 30 times in my life”
“Look children, this is all I’m going to say about drugs...Stay away from them...There’s a time and a place for everything...and it’s called college.”

Chef

Parker & Stone, South Park

Slide courtesy of Jason Kilmer, PhD
"Partying" Perceptions at UW-Madison

American College Health Association
National College Health Assessment (ACHA-NCHA)
UW-Madison Institutional Data Report, Spring 2006
N= 787, representative sample of all UW-Madison students

Number of drinks at last "partying/socializing"

<table>
<thead>
<tr>
<th>Number of Drinks</th>
<th>Actual Self-report</th>
<th>Perceived &quot;typical&quot; student</th>
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<td>0</td>
<td>12%</td>
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<tr>
<td>1-2</td>
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<td>3-4</td>
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<tr>
<td>15-16</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>17+</td>
<td>1%</td>
<td>1%</td>
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</tbody>
</table>
20% of men between 18 - 35 consume
70% of all the beer sold in the US
Alcohol Toxicity: MORE Effect on:
- Cognitive function
- Memory
- Drug-seeking

Alcohol Toxicity: LESS Effect on:
- Sedation function
- Motor Coordination

Well connected...

Earlier Bingeing---by age 25...

- Increased risk Alcohol Use Disorders
- Longer term impairments: cognitive, process emotions, facial expressions

Teen + EtOH = More Awake, More Mobile Less Cognition
Four Loko is among the energy drinks combining caffeine and alcohol that have been banned at Ramapo College.

By ABBY GOODNOUGH
Published: October 26, 2010
Adolescent Neurodevelopment: Brains, Behavior, Booze, & Brakes

Prefrontal Cortex - the “brakes” - still “under construction”

Alcohol’s neurotoxic effects: ongoing research on short and long term (?)

“Those who are most likely to drink heavily are those who may be already most “handicapped” neurologically to begin with.”
-- Peter Monti, PhD
Stages of Change\(^1\)
Intervention Strategies for Substance Abuse

1. Precontemplation Stage
2. Contemplation Stage
3. Action Stage
4. Maintenance of Recovery Stage
5. Relapse Stage

- **MOTIVATIONAL ENHANCEMENT STRATEGIES**
- **ASSESSMENT AND TREATMENT MATCHING**
- **RELAPSE PREVENTION & MANAGEMENT**

\(^1\) Prochaska & DiClemente 1982, 1992

Slide courtesy of Jason Kilmer, Ph.D.
Clinicians’ Usual Advice about Health Behavior Change

- It’s not very effective
- We do it anyway (we’ve been trained to)
- It lowers our anxiety

If we go into “giving advice mode”, or sound like we’re lecturing, we can re-connect with the patient by saying something like:

“So, what do you make of that?”...
The “Spirit” of Motivational Interviewing

- **Collaborative**
  - active, cooperative conversation, partnership
  - joint decision-making process

- **Evocative**
  - evoke from patients that which they already have
  - elicit patient’s own good reasons to change

- **Honors Patient Autonomy**
  - “there is something in human nature that resists being coerced and told what to do. Ironically, it is acknowledging the other’s right and freedom not to change that sometimes makes change possible.” (Rollnick, Miller, Butler, 2008)
Clinical Prevention in Practice

• “If your time is limited, you are better off asking patients why *they* would want to make a change and how they might do it rather than telling them that they should.

It is the patient rather than *you* who should be voicing the arguments for behavior change.”

Motivational Interviewing

*Basic Principles*


1. Express Empathy
2. Develop Discrepancy
3. Roll with Resistance
4. Support Self-Efficacy
Motivational Interviewing

Methods: O A R S

Open Questions
- not “yes/no”

Affirm
- patient’s positives/values/character

Reflective Listening
- statements
- understand content and meaning

Summarize
- main points, then shift
- Summarize periodically, demonstrating you’re listening

Ask permission first
MI is more like “pulling” rather than “pushing”
Teenage Case 1: Jamie

- You are called to see “Jamie”, a 17 year old high school junior. Referrals have come from the school, social worker, and teachers who say Jamie is often “out of it.”

- At this visit (e.g., school, local clinic, or home) you are told that her mom found a bag of marijuana in her room and “wants her tested.” Jamie was confronted by her parents and admitted, “sometimes I smoke weed, just like you guys sometimes drink!” She is incensed that her parents searched her room, but agrees to talk with you just to “get my parents off my back.” Her grades have been falling in the past year, and she’s had normal routine sports physicals.
Teenage Case 1: Jamie

- Clinician (RN,NP,SW,MD): “You know, Jamie, marijuana can really mess up your brain, not to mention it’s illegal and really got you into trouble at school and at home. It’s important for you to stop so you can get back on track.

- Have you ever tried to cut down?...”
• Role Play example
• What “OARS” do you notice?
Motivational Interviewing

Methods: O A R S

Open Questions  not “yes/no”
Affirm patient’s positives/values/character
Reflective Listening  statements
Understand content and meaning
Summarize main points, then shift
Summarize periodically, demonstrating you’re listening

Ask permission first
MI is more like “pulling” rather than “pushing”
Listen for “Change Talk”: Themes

- **D: Desire**
  - “I wish I could lose some weight”
  - “I like the idea of getting more exercise”

- **A: Ability**
  - “I might be able to cut down a bit”
  - “I could probably try to drink less”

- **R: Reasons**
  - “Cutting down would be good for my health”
  - “I’d sure have more money if I cut down”

- **N: Need**
  - “I must get some sleep”
  - “I really need to get more exercise”

*Examples from and/or adapted from: Rollnick, Miller, & Butler (2008)*
“30-Seconds” Brief Intervention in Clinical Visits

- Tobacco listed as part of “vital signs”: 15-30 seconds
  - It says here you smoke cigarettes [“yeah”]
  - What do you think about that? [“I should quit”]
  - Why?...[“this cough’s a drag...” “my girlfriend hates it” etc..]
  - Good for you. What would like to do? [varied responses]
  - What worked/didn’t work in the past? We’ll help you...

- Tobacco not listed in vitals: 15-30 seconds
  - Do you smoke...anything? [cigarettes... weed...?]
  - Every day...week...month...? [observe non-verbals]
  - What do you think about that?

- Smoking link to alcohol question: another 15-30 seconds
  - Do you smoke more when you’re drinking? [“yeah”]
  - What does your girlfriend think about that? [“She’s said to drink less”]
  - Why? [“Well too much of that’s not good either”]
  - I agree. What did you do? [“I stopped going out on Thursdays”]
  - How did you feel [“better”]...
“Is it ok if we talk a little more about how alcohol affects you and your body? ("ok")...I talk with all my teenage patients about how alcohol affects the judgment parts of your brain and often leads to drinking more than expected, or sometimes driving, or getting in a car, or having sex with someone who was drinking...

I’m concerned about your health, but I can’t tell you what to do; only you can decide what you’ll do. Rather, now that all this has happened, I’d like to find out what you think about drinking, and maybe we can see if together we can come up with some ways to avoid these kinds of situations in the future.

You’re the one who will decide what happens with your drinking. If you choose, you can make some changes, but that’s really up to you. How does that sound? Can we try this out?”
Sexual Risk Reduction

• Patient-Centered Approach:
    • What do you think about condoms?
    • Describe your experiences using them…
    • How does your partner feel about this?
Motivational Interviewing
Rolling with Resistance examples
Marijuana

- “It sucks to be here... the last thing you wanted to do today was talk to a (nurse, doctor, social worker, health educator...) about drugs...”

- “You wish your parents would just leave you alone.”

- “They must care about you, but you wish they’d just let you make your own decisions.”
Developing Discrepancy (between goals and behavior)

- “You enjoy getting high with your friends, but it has affected your grades and gotten you into trouble at school and at home. What do you think about that?…”
- “You talked about trying to get into a good college. How do you think the weed might affect those plans…?”
- “How would you feel if your younger brother found out you were smoking weed? ...Why?...How would that affect him? ...What would you say to him?”
Motivational Interviewing
Rolling with Resistance examples
Problem Drinking

- **Patient:** I don’t think I have a problem or need to cut down
- **Clinician:** You enjoy drinking and don’t think that reducing it would work for you right now.

[Reflective Listening; trying to be guiding]

- **Patient:** I’m having too much fun with all my friends.
- **Clinician:** OK, so how would you know if you are having a problem with drinking?… [open]

...What are your worst fears about what might happen if you don’t make any changes in your drinking? [open]

...What would have to happen for you to make a change?

...How about your friends?… [open]

...So there are no bad things about drinking for you.

[amplified reflection]
Motivational Interviewing
Rolling with Resistance examples
Problem Drinking

- Patient: “I don’t really have a problem or need to cut down”
- Clinician: “Actually, Tom, I’m concerned about your broken wrist, the hole in the wall, and the fact that your girlfriend won’t talk to you now... It seems to me the alcohol has contributed quite a bit to this situation. What do you think?”

[summary; agenda setting; asking]
Rolling with Resistance
[Responding to “Sustain Talk”]

“There’s nothing to do in high school if you don’t drink!”

Potential responses to elicit resistance:

• I hear what you’re saying, but I really think your drinking is interfering with your schoolwork and needs to change.

• You know that there are lots of things to do without alcohol— in high school or in town, right?

• I know where you’re coming from, but it’s better that you don’t just go along with what other people are doing.
Rolling with Resistance
[ Responding to “Sustain Talk” ]

“There’s nothing to do in high school if you don’t drink!”

Potential responses to minimize resistance:

• Your options seem extremely limited.
• It’s hard to imagine changing your drinking and having a good social life.
• Life in high school might get pretty boring if you decided to change your drinking...and that’s not a choice you’re ready to make now.
• You’re probably not the only student who has felt this way.
College Health Intervention Projects (CHIPS)

- A 5-year study (2004-2009), 5 campuses in U.S./Canada, NIAAA-funded
  - University of Wisconsin-Madison
  - University of Wisconsin-Stevens Point
  - University of Wisconsin-Oshkosh
  - University of Washington
  - University of British Columbia
- Randomized Control Trial, n=986 high-risk drinkers
- Brief Intervention: 2 clinician visits (15-20 min.) in 4 weeks.
- Outcomes (1 year post-study) in intervention group:
  - Significant reduction in drinks in past 28 days
  - Significant reduction in problems/harms from alcohol
  - Blackouts: strong correlations with harms, ER visits
  - Heavy drinking days independently correlated with any injuries

Brief Alcohol Interventions in Clinical Practice

Top 5 Clinician Tools

1. Summary of Patient's Drinking Level
2. Drinking Likes and Dislikes
3. Discussing Life Goals
4. Risk Reduction Agreement
5. Drink Tracking Cards

Brief Intervention “Pearls”

A - Alcohol - quantity, frequency, heavy
B - Blackouts / Brain
C - Concerned / Confidentiality
E - Enjoy
N - Not enjoy
D - Do: patient-clinician plan
S - Support / self-efficacy

If you don’t occasionally have a patient (or parent) get upset with you, you are probably not doing a thorough enough job of talking about alcohol or other risky behaviors...
### Part A
**During the PAST 12 MONTHS, did you:**

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<thead>
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<th>No</th>
<th>Yes</th>
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<tbody>
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<td><img src="image1.png" alt="Checkboxes" /></td>
<td><img src="image2.png" alt="Checkboxes" /></td>
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1. Drink any **alcohol** (more than a few sips)?
2. Smoke any **marijuana or hashish**?
3. Use **anything else** to get high?
   - "Anything else" includes illegal drugs, over the counter and prescription drugs, and things that you sniff or "huff".

If you answered NO to ALL (A1, A2, A3) answer only **B1** below, then STOP.

If you answered **YES** to ANY (A1, to A3) answer **B1 to B6** below.

### Part B
**Have you ever ridden in a **CAR** driven by someone (including yourself) who was "high" or had been using alcohol or drugs?**

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Checkboxes" /></td>
<td><img src="image4.png" alt="Checkboxes" /></td>
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</table>

1. Do you ever use alcohol or drugs to **RELAX**, feel better about yourself, or fit in?
2. Do you ever use alcohol or drugs while you are by yourself, or **ALONE**?
3. Do you ever **FORGET** things you did while using alcohol or drugs?
4. Do your **FAMILY** or **FRIENDS** ever tell you that you should cut down on your drinking or drug use?
5. Have you ever gotten into **TROUBLE** while you were using alcohol or drugs?
Office-Based Intervention Strategies: “FRAMES”

**Feedback**
“I’m concerned about your alcohol use because you told me that your stomach aches were getting more frequent…”
“Have you ever thought that you might not be arguing as much with your parents if you weren’t drinking?”

**Responsibility**
“You’re almost an adult, so you’ll be taking responsibility for your own life. Neither your parents nor I can make you change; it’s your decision. We would like to help you, but it’s really your call…”

**Advice**
“Because I’m so concerned, I recommend that you stop drinking completely (or cut down) for a while, at least until we can meet to talk about this again…”

**Menu of alternatives**
“Here are some ideas that have worked for other teens in your situation…what do you think would work for you…what are some good things and some not-so-good things about your drinking? How can you do to avoid those not-so-good experiences you’ve had with drinking? What would you like to do?”

**Empathy**
“This must be hard for you…You’d probably rather not be here talking about this…I understand what you’ve been going through, and I know what I’m suggesting is not easy…”

**Self-efficacy**
“You have a lot of positive things going for you in your life, and I know you can do this…”

Contract For Life - Appendix B
A Foundation for Trust and Caring

This Contract is designed to facilitate communication between young people and their parents about potentially destructive decisions related to alcohol, drugs, peer pressure, and behavior. The issues facing young people today are often too difficult for them to address alone. SADD believes that effective parent-child communication is critically important in helping young adults to make healthy decisions.

Young Person

I recognize that there are many potentially destructive decisions I face every day and commit to you that I will do everything in my power to avoid making decisions that will jeopardize my health, my safety and overall well-being, or your trust in me. I understand the dangers associated with the use of alcohol and drugs and the destructive behaviors often associated with impairment.

By signing below, I pledge my best effort to remain free from alcohol and drugs; I agree that I will never drive under the influence; I agree that I will never ride with an impaired driver; and I agree that I will always wear a seat belt.

Finally, I agree to call you if I am ever in a situation that threatens my safety and to communicate with you regularly about issues of importance to both of us.

______________________________
Young Person

PARENT (or Caring Adult)

I am committed to you and to your health and safety. By signing below, I pledge to do everything in my power to understand and communicate with you about the many difficult and potentially destructive decisions you face.

Further, I agree to provide for you safe, sober transportation home if you are ever in a situation that threatens your safety and to defer discussions about that situation until a time when we can both have a discussion in a calm and caring manner.

I also pledge to you that I will not drive under the influence of alcohol or drugs, I will always seek safe, sober transportation home, and I will always wear a seat belt.

______________________________
Parent/Caring Adult
Office-Based Intervention for Adolescent Substance Abuse

- SBIRT Planning
- Screen, Brief Intervention
- Develop an Action Plan
  - Abstinence Challenge
  - CUT (Controlled Use Trial)
  - Contingency Plan
- Referral to Treatment
  - Community treatment agencies
  - Specialists
  - Know local resources
  - Websites (see references list)

Abstinence challenge developed by the Adolescent Substance Abuse Program, Children's Hospital Boston.
Clinical Prevention in Adolescents

• Every adolescent clinical conversation is an opportunity to elicit a prevention “motivational moment”, however brief, but always teen-centered, relevant to the presenting concern, and designed to stimulate individual, specific efforts at behavioral risk reduction.

• Ideally, the teenager will verbalize the need and the plan to start changing behavior.
Clinical Prevention

An ounce of prevention…

is a ton of work!

Paul S. Frame, M.D.
References


• US Preventive Services Task Force (USPSTF)

• Advisory Committee on Immunization Practices (ACIP)

• National Commission on Prevention Priorities. http://www.prevent.org/content/view/43/71


• Crews F. Alcohol-induced neurodegeneration secondary to oxidative stress and proinflammatory proteins that are neurotoxic. Alcohol Alcohol 2009, Mar-Apr; 44 (2): 115-127.

• Kamb, ML et al. Project RESPECT Study Group. Efficacy of Risk-Reduction Counseling to Prevent Human Immunodeficiency Virus and Sexually Transmitted Diseases. A Randomized Controlled Trial. JAMA 1998; 280:1161-1167


• www.thecoolspot.gov (12-14 year-olds)

• www.collegedrinkingprevention.gov/HSParentStudents (15-17 year-olds)

• www.collegedrinkingprevention.gov/CollegeStudents (18-20 year olds)

• Wisconsin Clearinghouse for Prevention Resources. http://wch.uhs.wisc.edu