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## Diabetes and Tobacco: A Harmful Combination

**IDPH Satellite Teleconference, May 5, 2009**  
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## Smoking across the generations






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### Objectives

- Discuss the risks associated with tobacco use in women with diabetes
- Recognize the benefit of using a framework as decision support to assist with the management of smoking prevention and/or cessation
- Identify clinical strategies useful for primary and secondary prevention in women with diabetes
- Identify at least one evidence-based intervention to promote smoking cessation and/or prevent tobacco use in women with diabetes.

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### Causes of death in USA 2000

	<u>Estimated Number</u>	<u>% of Total Deaths</u>
Tobacco	435,000	18
Diet/activity	400,000	17
Alcohol	85,000	4
Microbial agents	75,000	3
Toxic agents	55,000	2
Motor Vehicles	43,000	2
Firearms	29,000	1
Sexual behavior	20,000	<1
Illicit drug use	17,000	<1
<b>TOTAL</b>	<b>1,159,000</b>	<b>48</b>

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(Mokdad et al. (2004). Actual causes of death in the US, 2000. Journal of the American Medical Association, 291 (10), 1238 - 1241.

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### Causes of death in USA 2004

	<u>Estimated Number</u>
Heart Disease	652,091
Cancer	559,312
Stroke	143,579
Chronic Lower Respiratory Disease	130,933
Accidents	117,809
Diabetes	75,119
Alzheimer's Disease	71,599
Influenza/Pneumonia	63,001
Kidney Disease	43,901
Septicemia	34,136

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<http://www.cdc.gov/nchs/FASTATS/leod.htm>

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### Diabetes in the US

- 23.6 million Americans
  - 1/4 undiagnosed (Type 2)
- 57 million Americans with pre-diabetes
- Increasing prevalence of T2DM
- Now at epidemic proportions
  - higher incidence in African Americans, Hispanic Americans, Native Americans and Pacific Islanders
  - Increasing incidence in children and young adults

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### Impact of Diabetes

- Diabetes....
  - Causes 2-4 times more heart attacks
  - Causes 2-6 times more strokes
  - Is the leading cause of blindness
  - Is the leading cause of kidney failure
  - Is responsible for 50% of the non-traumatic amputations in the U.S.
  - Shortens the lifespan by an average of 15 yrs.

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### Co-morbidities

- Obesity
- Hyperlipidemia
- Hypertension
- Microalbuminuria
- Sleep Apnea
- Depression

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### Risk Factor Management

- Control glucose
- Control blood pressure
- Control lipids
- Stop smoking
- Achieve/Maintain (optimal) body weight

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## Contents of Cigarette Smoke



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[http://www.ihec.org/content/smoking\\_cessation/index.shtml](http://www.ihec.org/content/smoking_cessation/index.shtml)

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## Impact of Smoking



[www.uoguelph.ca](http://www.uoguelph.ca)

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- 178,000 deaths annually
- 90% of all cancer deaths in women
  - Lung CA
  - ↑ risk for other cancers
- Double the risk for CHD
- 10 fold risk of COPD
- ↑ risk of infertility, stillbirth, low birth weight and SIDS
- ↓ bone density and ↑ risk of hip fracture in post-menopausal women

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## Women and Tobacco

- 1 in 4 women who die from cancer, die from lung CA (68,000 women)
- ~30% of High School Seniors smoke
- ~22% of women smoked in 1998
- Smoking is a major cause of CHD in women
- Infants born to women who smoke have lower average birth weight
- ~22% of women continue to smoke during pregnancy
- ~ half of all women who continue to smoke will die from diseases caused by smoking

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[www.nowfoundation.org/issues/health/whp/whp\\_fact7.html](http://www.nowfoundation.org/issues/health/whp/whp_fact7.html)

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## Women and Smoking

Age	Percentage of women who smoke	Level of Education	Percentage of women who smoke
18 – 24	20.7%	GED	38.8%
25 – 44	21.4%	9 – 11 years	29%
45 – 64	18.8%	Undergraduate Degree	9.6%
65 and older	8.3%	Graduate Degree	7.4%

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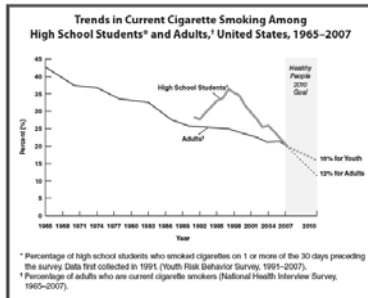
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## CDC Trend Data




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## Tobacco and Diabetes

- Patients with Diabetes are three times as likely to die of CVD.
- Smoking + Diabetes = 11 fold increase in risk of MI or stroke
- Smoking + Diabetes = twice as likely to have peripheral vascular disease
- Smoking 1 cigarette reduces the body's ability to use insulin by 15%

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### Key Guideline Recommendations

1. Tobacco dependence is a chronic disease requiring repeated intervention and multiple attempts to quit.
2. Clinicians must consistently identify and document tobacco use status and treat every tobacco user seen in a health care setting.
3. Treatments are effective across a broad range of populations.

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### Key Guideline Recommendations

4. Brief tobacco dependence treatment is effective.
5. The effectiveness of individual, group, and telephone counseling increases with treatment intensity.
  - Effective counseling strategies
    - Problem solving/skills training
    - Social Support
6. Effective medications are available for tobacco dependence

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### First Line Medications

1. Bupropion SR
2. Nicotine gum
3. Nicotine inhaler
4. Nicotine lozenge
5. Nicotine nasal spray
6. Nicotine patch
7. Varenicline

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**Key Guideline Recommendations**

- 7. Counseling and medication are independently effective for treating tobacco dependence.
  - Combined use of counseling and medication has an additive effect.
- 8. Telephone quit line counseling is effective with diverse populations and has broad reach.
  - Ensure patient access to quit lines and promote quit line use.

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**Key Guideline Recommendations**

- 9. Use motivational treatments with patients who are unwilling to make a quit attempt to facilitate readiness with future encounters
- 10. Tobacco dependence treatments are cost-effective and clinically effective
  - Insurance coverage for treatments increases quit rates.
  - Work to ensure that all insurance plans include tobacco dependence counseling and medication as covered benefits.

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**Issues Specific to Diabetes Patients**

- Post-cessation Weight Gain
  - Concern may be impediment to cessation
  - Important in Women and adolescents
- Depression/Diabetes/Smoking
  - Increased risk of relapse

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## An Ambulatory Care Disease

- 90% of all people with diabetes receive diabetes care from primary care providers (family practice, internal medicine, NP's and PA's).
- Primary care visits = ~ 12 minutes on average
- People with diabetes are responsible for ~ 95% of their care
- Diabetes self-management education essential for success

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## Routine Self-Management Tasks

- To take care of the illness
- To carry out normal activities
- To manage emotional changes

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## Requirements for Daily Management

- Integration of knowledge and behaviors that allows one to make daily decisions about food, physical activity and medications
- Additional knowledge needed for prevention and/or recognition of complications
- Sophisticated knowledge base resulting in appropriate use of the health care system

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### Mechanisms to achieve goals (targets)

- Diabetes Education
  - Necessary but not sufficient for behavior change
  - Assessment of patient knowledge and skills
  - Education is progressive
- Stages of Change
  - Where is the patient?
- Empowerment
  - Patients choose what they want to focus on
  - Clinician *asks permission* to provide information
  - Clinician provides patient directed information

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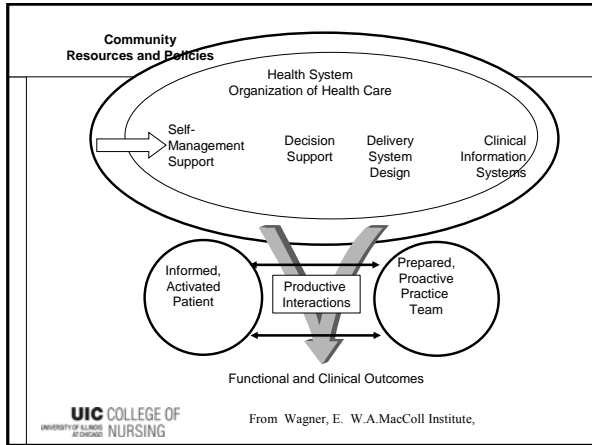
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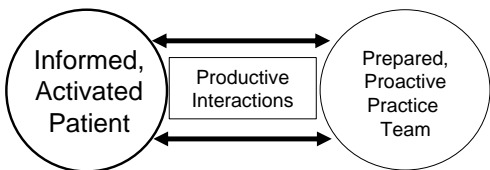
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### Wagner's Chronic Care Model




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## Framework for Management

### AADE 7 Self-Care Behaviors

Healthy eating  
Being active  
Monitoring  
Problem-solving  
Healthy coping  
Reducing risks

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AADE: The Diabetes Educator, Sept/Oct, 2003

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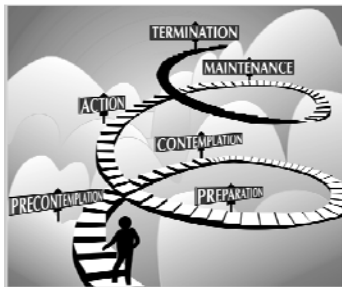
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## Transtheoretical Model



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Prochaska & DiClemente

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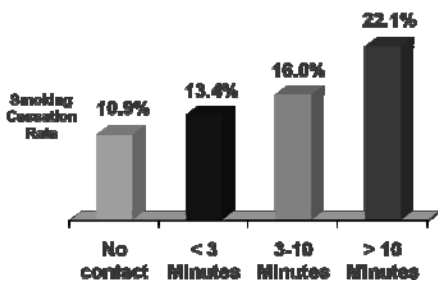
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## A dose-response effect to clinician contact



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(AHRQ, 2000)

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## Illinois Health Education Consortium

- [http://www.ihec.org/content/smoking\\_cessation/index.shtml](http://www.ihec.org/content/smoking_cessation/index.shtml)

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## 5As of Self-Management Support

- Assess (knowledge, behavior, readiness, conviction and confidence)
- Advise and inform
- Agree (on goals and methods)
- Assist (to overcome barriers)
- Arrange follow-up

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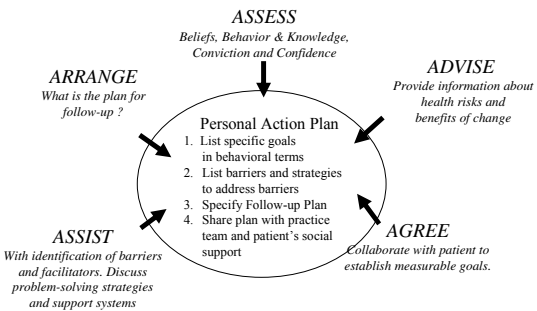
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## Create a Personal Action Plan



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### Assessing Conviction: Scaling

“On scale of 0 - 10, how convinced are you that it is important to stop smoking?”

Not at all convinced  Totally convinced

Ask important follow up questions to elicit “change talk”, e.g., highlights things in the patient’s life that are facilitators or barriers to change

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### Assessing Confidence: Scaling

“On scale of 0 - 10, how confident are you that you can stop smoking?”

Not at all confident  Totally confident

Important follow up questions:

1. What would it take to increase your confidence?
2. What can I do to help you feel more confident? (What kinds of resources would help)

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### Exemplar: Routine self-management behaviors in Young Adults

- Insulin
  - Intensive therapy
    - Frequent injections ≠ good control
- Monitoring
  - Widely varying habits
  - Men > Women?
- Meal Planning
  - Carbohydrate counting
  - < 50% consistent adherence
- Exercise
  - Widely varying habits
  - Men > Women

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### Barriers to self-management in YA

- Time
- Convenience
- Motivation
- Negative Reinforcement
- Absence of somatic symptoms
- Privacy



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### Translating Research to Care in YA

- Knowledge ≠ Metabolic Control
- Knowledge not directly associated with psychosocial self-efficacy
- Distress associated with self-efficacy in young women

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## Internet Resources: Smoking Cessation

- [Smokefree.gov](http://Smokefree.gov)  
A Web site dedicated to helping you quit smoking.
- [1-800-QUIT-NOW](http://1-800-QUIT-NOW)  
A free, phone-based service with educational materials and coaches that can help you quit smoking or chewing tobacco.
- [The Guide to Community Preventive Services](#)  
A guide that addresses the effectiveness of community-based interventions.
- [Best Practices for Comprehensive Tobacco Control Programs, October 2007](#)  
An evidence-based guide to help states plan and establish effective tobacco control programs.

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## Internet Resources: Diabetes

- American Association of Diabetes Educators: Find an educator resource  
– [www.aadenet.org](http://www.aadenet.org)
- American Diabetes Association: resources for patients and for healthcare professionals  
– [www.diabetes.org](http://www.diabetes.org)
- National Diabetes Education Program: resources for patients and for healthcare professionals  
– [www.YourDiabetesInfo.org](http://www.YourDiabetesInfo.org)
- Centers for Disease Control and Prevention: resource for healthcare providers on current statistics for both diabetes and tobacco use in the US  
– [www.cdc.gov](http://www.cdc.gov)

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