Developing a Program to Enhance the Clinical Relevance of Preventive Health Services Training: Conceptual and Program Development Issues

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Introduction

- In 2002 a multidisciplinary task force distributed to all United States Chiropractic Colleges "A Model Course for Public Health Education in Chiropractic Colleges"
- This curriculum emphasized: relevant health promotion *and* clinical preventive services (hereafter *CPS*)

Public Health Reform

Lack of modern public health curriculum

- Content analysis of syllabi
  - 75% of colleges omitted lifestyle recs; exercise and diet.
  - 33% of colleges omitted DC's role in public health.
  - 75% omitted mention of community health resources.
  - 50% did not mention Fed. public health agencies.
- Model public health curriculum
  - Responded to need to modernize topics, increase focus on behavioral aspects of risk factors, PHS and HP 2010.
  - Increase relevance of didactic coursework.
  - Increase DC student understanding of how to apply concepts to patients.

Globe et al Program Intervention and Evaluation

- In 2005, Globe et al published pre and post outcomes of the introduction of the Model Public Health Education Curriculum
  - Analysis: no clinical impact on intern behavior regarding CPS recommendations on 9 key topics
  - Conclusion: While improving didactic knowledge was essential preliminary step, no translation into CPS skills during clinical training occurred.

What went wrong?

- Model curriculum: Only a few hours of the single didactic course devoted to health promotion.
  - 1 hour on smoking, physical activity, and substance abuse respectively.
  - 1 hour divided between stress reduction, weight management, and injury prevention.
  - 2 hours on special needs populations.

Student's were aware of their responsibility to screen

Student Reported Intention to Screen	Mean	SD
Blood pressure	91.3	14.7
Smoking cessation	90.0	15.0
Sedentary lifestyle	90.0	12.6
Obesity	88.8	15.1
Diet	84.4	13.2
Cholesterol	52.5	30.3
Breast cancer	23.8	27.5
Uterine cancer (PAP)	12.5	25.0
Colorectal cancer	12.5	23.7

Next Steps post Globe et al 2005

- Develop clinically relevant program intervention.
- Research empirically-supported strategies to change provider behaviors

Model Public Health Curriculum
Stages of Change and The Transtheoretical Model

Strategies	Stage of Adoption/Implementation				
	Precontem-Plative	Contem-plative	Preparation	Action	Main-tenance
Didactic Coursework		✓			

Proposed Clinical Intervention

Stages of Change and The Transtheoretical Model

	Stage of Adoption/Implementation				
Strategies	Precon templation	Contem- plation	Preparation	Action	Main- tenance
Information about Provider Effectiveness/Need to meet new Standards	✓	✓	✓		
Posters/Materials For Patients			✓	✓	✓
Screening Forms			✓	✓	✓
Academic Detailing			✓	✓	✓

Lit Review of Practice-based Interventions Guided the Development of the Intervention

- **What works**
  - **Academic Detailing**
  - **Physician Reminders, Audits, and Feedback**
  - **Evidence-Based Guidelines (must incorporate other strategies)**
  - **Evidence-based theory is important.**
  - **Using several strategies is better than using one.**

- **What doesn't work**
  - **Continuing Education**
    - little evidence of effectiveness.
  - **Consensus Development Panels**
    - limited impact.

Methods

- **Cue to Action (Slaying the Dragon)**
  - **Information About Provider Effectiveness**
  - **Responsibility to Participate in Improving the Nation's Health (HP 2010)**
  - **Need to Meet New Accreditation Standards**
    - Grand Rounds/Small Group Rounds
- **Posters in Health Center as Reminders**

Methods

- **Materials for Patients to Facilitate Self-Efficacy Concerns**
  - Patient/Clinician Prompts and Brochures to assist with self-efficacy
- **Academic Detailing**
  - Continual Clinician Review/Chart Audits with Feedback
- **Screening Forms** (2)
  - Prompts/Reminders

Screening Forms
Selection of Target Goals

- Target areas where DCs can contribute to the nation's health.
  - Healthy People 2010 (HP 2010)
    - For *all* health care providers
    - Chiropractors well-matched to provide health promotion and disease prevention services
  - U.S. Preventive Services Task Force[2] (USPSTF)
- Utilized 'off the shelf' forms found through internet/literature search
    - Physical Activity and Nutrition Behaviors Monitoring Form (PAN)
    - Adult Health Risk Profile (AHRP)

Adult Health Risk Profile

Date of Birth/Age: _____ Sex: ❒ Male ❒ Female Ethnicity: _____

Screening	Annual Assessment of Risk Factors	Counseling Provided
1. Injury prevention	___ Does not use seatbelts when in a motor vehicle ___ Does not use a helmet when on a bike/motorcycle	
2.Problem drinking/drug use	___ Drinks >2 drinks/day (men) OR >1 drink/day (women) ___ Has had medical/social problems related to alcohol or drug use ___ Uses or has used "street drugs" ___ Long-term use of certain prescription drugs	
3. Tobacco use	___ Currently smokes cigarettes, cigars, or pipes or uses smokeless tobacco ___ Is exposed to tobacco smoke regularly	

CONFIDENTIAL

Physical Activity & Nutrition Behaviors Monitoring Form

Please complete the following questionnaire for yourself or your child.

PHYSICAL ACTIVITY/INACTIVITY

1. ACTIVITY LEVEL – Compared to others of the same age/sex, is your child (are you)?

❒ 01 - A lot less physically active than most
❒ 02 - A little less physically active than most
❒ 03 - Average - same as most
❒ 04 - A little more physically active than most
❒ 05 - A lot more physically active than most
❒ 09 - Don't know/not sure

2. EXERCISE DAYS - On how many of the past 7 days did your child (did you) exercise or participate in physical activity for at least 20 minutes that made you/your child sweat or breathe hard?

❒ 01 - 0 Day
❒ 02 - 1 Days
❒ 03 - 2 Days
❒ 04 - 3 Days
❒ 05 - 4 Days
❒ 06 - 5 Days
❒ 07 - 6 Days
❒ 08 - 7 Days
❒ 09 - Don't know/not sure

3. TV WEEKDAY - How many hours of television does your child (do you) watch on the typical school day (week day)?

❒ 01 – None
❒ 02 - 6 hours or more
❒ 03 - 5 hours
❒ 04 – 4 hours
❒ 05 - 3 hours
❒ 06 - 2 hours
❒ 07 - 1 hour or less
❒ 09 - Don't know/not sure

4. TV WEEKEND - How many hours of television does your child (do you) usually watch on the typical weekend day?

❒ 01 – None
❒ 02 - 6 hours or more
❒ 03 - 5 hours
❒ 04 - 4 hours
❒ 05 - 3 hours
❒ 06 - 2 hours
❒ 07 - 1 hour or less
❒ 09 - Don't know/not sure

SWEETENED BEVERAGES

Data collection

- Fall, 2005 - Educational intervention *implemented*
  - (PAN, AHRP, Examination Form prompts/reminders, etc.)
- Spring, 2006 – Data Collection from randomly selected *new* patient files (n=159)
  - Used standardized abstraction tool
- Nine Selected risk factors mirror previous study variables
  - Elevated blood cholesterol, hypertension, breast cancer, colorectal cancer, cervical cancer, weight/obesity, physical inactivity, tobacco use, dietary fat intake
- Abstracted data entered into SPSS ver. 12.0 for descriptive statistical analysis

Results

- 636 CPS counseling opportunities among 159 patients.
- 201 counseling recommendations documented.
- Represents a 33% improvement secondary to the clinically relevant intervention ***in one trimester***.

Intern Screening/Counseling Recommendations

	Intern Documented recommendation		
	Pre-curriculum Change Group n/possible n/(%)	Post-curriculum Change Group n/possible n/(%)	2006 Intervention n/possible n/(%)
High Blood Cholesterol Screening; Males 35-65	1/40 (3%)	0/45 (0%)	13/37 (35%)
High Blood Cholesterol Screening; Females 45-65	0/34 (0%)	0/30 (0%)	10/29 (35%)
Blood Pressure	0/7 (0%)	2/7 (29%)	7/31 (23%)
Breast Cancer Screening; Ages 50-69	0/27 (0%)	0/21 (0%)	14/24 (58%)
Colorectal Cancer Screening All ≥50 yrs	0/52 (0%)	0/46 (0%)	4/38 (11%)

Intern Screening/Counseling Recommendations Continued

		Intern Documented recommendation	
	Pre-curriculum Change Group n/possible n/(%)	Post-curriculum Change Group n/possible n/(%)	2006 Intervention n/possible n/(%)
Cervical Cancer Screen Women Age ≥ 18	1/50 (2%)	0/59 (0%)	27/43 (63%)
Obesity Screening	0/85 (0%)	0/78 (0%)	28/98 (29%)
Tobacco use screening	0/26 (0%)	0/50 (0%)	27/40 (68%)
Dietary Fat Intake Screening	0/204 (0%)	0/204 (0%)	63/159 (40%)
Physical Activity Screening	0/143 (0%)	0/182 (0%)	8/137 (44%)

Assessment of results

- What went right?
  - Program development and selection of target goals developed and championed by core group of high level administrators
  - Accrediting body mandated targeted behavior change
  - Approach focused on changing behavior first
- Areas for further improvement
- Input on screening forms after initial draft development.
- Student Barriers
  - Some initial complaining from interns about increase burden of completing forms
- Clinician attitudes – Diffusion
  - It took a long time to gain clinician buy-in to accept the idea that it is within a chiropractor's scope to actually expand beyond the narrow NMS scope they originally held

Iterative process – additional steps 1 year later

- PAN & AHRP now introduced during preclinical coursework
- No complaints from interns about completing screening forms.
- October, 2007 File Audit demonstrated continuing improvement
    - 87% of files (n=156) demonstrated that the AHRP screening forms translated into appropriate patient counseling recommendations as documented in the diagnosis and treatment progress notes.

Conclusion

- Like any program intervention Preventive Health Services training in the DCP program is an iterative process
- Tools and theories can help minimize ‘reinventing the wheel’
- Programs such as these expand health practitioner resources to meet the goals of Healthy People 2010

Back up

Example of how theoretical models help guide program design

- Stages of Change and The Transtheoretical Model Delineates stages of change as an important factor influencing behavior change.
  - Target health message to stage of change.
  - Supports evidence that an effective model includes multiple approaches.

Example of How Theoretical Models Help Guide Program Design

- The social cognitive theory and the health belief model both suggest that the following methods are valuable in influencing physician habits and performance.
  - Normative behavior feedback to physicians
  - Guideline compliance prompts
  - Administratively enforced policies

Example of How Theoretical Models Help Guide Program Design

- The Diffusion of Innovations Theory (Rogers)
  - Four stages: invention, diffusion (or communication) through the social system, time and consequences.
  - The roles of opinion leaders determine the likelihood that an innovation will be adopted.
  - Opinion leaders exert influence on audience behavior via their personal contact, but additional intermediaries called change agents and gatekeepers are also included in the process of diffusion.