

May 2-3, 2011
Identifying Core Behavioral and Psychosocial Data Elements
for the Electronic Health Record

Executive Summary

Synopsis

The conclusion from the two-day meeting was that the systematic collection of brief, practical, standardized patient-reported data elements on health behaviors, behavioral health, and psychosocial issues is important and would enhance both patient-centered care and public health. There was general consensus that this effort should move forward and that a core set of data elements from these domains should be rapidly piloted for feasibility with key stakeholders in diverse primary care settings.

Comments on this document are welcome and can be sent to Maureen Boyle at maureen.boyle@nih.gov.

Background

The HITECH Act (Health Information Technology for Economic & Clinical Health Act) and the Patient Protection and Affordable Care Act place new emphasis on the widespread and meaningful use of electronic health records (EHRs). This is an important advancement, but current EHRs fail to capture data reflecting crucial health behaviors and psychosocial issues. Such patient-reported variables are both health outcomes themselves, as well as major determinants of other additional health outcomes. This information can enhance the quality, patient-centeredness and efficiency of patient-health care team encounters. Collection of standardized behavioral and psychosocial data and the meaningful use of that data present tremendous potential to improve health outcomes.

To address the critical need for patient-reported data, several institutes/offices from the National Institutes of Health, in collaboration with the Society for Behavioral Medicine, coordinated an effort to evaluate and recommend common data elements (CDEs) for patient-reported measures of health behaviors and psychosocial factors for use in electronic health records (EHRs). This initiative focuses on CDEs that will be used broadly in adult primary care and public health settings to screen patients for behavioral health risk factors. The long term goals are to develop national standards for the collection of data related to health behaviors and psychosocial issues that can be incorporated in other healthcare initiatives, such as meaningful use, patient-centered medical homes, and accountable care organizations, to improve health outcomes. Harmonized screening and collection of data on behavioral and psychosocial issues will facilitate:

- 1- Brief interventions in primary care and improved, patient-centered clinical decision-making.
- 2- Shared decision-making, goal-setting and action planning with increased engagement of patients, families and care teams.
- 3- Improved patient education on risks associated with health behaviors and benefits of behavior change.
- 4- Patient population management for clinics, accountable care organizations (ACOs) and similar groups.
- 5- Meaningful use of EHR data, quality of care and follow-up in primary care medical homes.
- 6- Research that integrates health behavior CDEs with biometric data, healthcare utilization, and clinical outcomes in EHRs.

Process

A three-phase process of consensus building was followed to facilitate broad participation in the development of recommendations for standard core measures:

1. A panel of subject matter experts was convened for each of 13 behavioral/psychosocial domains to review available surveys and to recommend up to 4 reliable, practical options for each domain appropriate to be reported in EHRs in primary care and public health settings. *(See Appendix C for list of workgroup members)*
2. The National Cancer Institute's Grid-Enabled Measures (GEM) Database <http://www.gem-beta.org> was used to gather feedback from a wide variety of stakeholders on the proposed set of options for each domain. *(See Appendix C for list of participating organizations)*
3. On May 2-3, 2011, a meeting was held at the NIH bringing together scientists, practitioners, policy makers, and patient/consumer representatives to review the results of the effort and to make recommendations on common data elements for behavioral health and health behavior screening in primary care and public health settings. The first day consisted of an open, town-hall style meeting to gather additional feedback from a wide variety of perspectives including patients, primary care, vendors, health care systems and policy makers. On the second day, a workshop of key stakeholders was held to make final recommendations based on feedback obtained from the GEM tool and the previous day's discussions. *(See Appendix C for list of meeting participants)*

Key Criteria -- *(See Appendix A)*

A set of key criteria was established for use by subject matter experts in their review of available surveys and in selecting options for consideration and assessment. The same criteria were provided to meeting participants to frame their discussions in breakout sessions on each of the domains. These criteria included both scientific and practical, feasibility and burden issues.

Recommended Data Elements by Domains – *(See Appendix B)*

For the majority of the domains assessed, there was consensus that the recommended core data elements are ready to be piloted now. The remaining domains were believed to be important issue areas; however, additional development work is needed before they should be recommended for routine use in primary care or collected in EHRs.

Meeting participants felt that collection of these core data elements should be distributed over time to minimize burden. As summarized in the table below, 12 items were recommended for collection only once upon joining a primary care group, clinic or plan. A total of 17 screening items, (with additional secondary follow up items to be administered in response to a positive screen), were recommended to be collected annually. This would likely be through a patient online portal, health risk appraisal, or central administration. Only a limited number of additional data elements are recommended for collection more frequently, including ones to track progress on patient goals being actively addressed.

Table: Recommended Data Elements by Domain
 (Click on the domain title to see full recommendations)

Collected Annually *		
Domain	Data Elements	
	Screen	Secondary/Follow up on positive screen
Anxiety and Depression	4	7 (anxiety), 8-9 (depression)
Eating Patterns	3	0
Physical Activity	2	2 (optional)
Quality of Life	1	(To be defined)
Risky Drinking	1	3
Sleep Quality	2	0
Stress	2	5
Substance Use	1	10
Tobacco Use	1	1
TOTAL ITEMS	17	(Would vary by patient)

* i.e., Recommended for inclusion in an annual health risk assessment (HRA). These items would ideally be collected via PHR or other similar mechanism.

Collected Initially, Then As Needed		
Domain	Items	Notes
Patient Goals	Open-ended field	Structured, searchable fields to be defined
Medication-Taking Behavior	To be defined	Important, but not ready for inclusion
Health Literacy/Numeracy	To be defined	Important, but not ready for inclusion

Other		
	Only At First Visit	Review Annually
Demographics	4	8 (e.g. address)

Anticipated Immediate Next Steps *(Other recommendations welcome)*

1. Prepare a More Detailed Report -- to be distributed to stakeholders and presented at relevant meetings
2. Refine Measures and Build Support
 - a. Present recommended CDEs at major meetings (e.g., primary care, health care administrators) for feedback and further engagement
 - b. Focus groups on feasibility and understanding/actionability (patients, physicians, nurses, healthcare system administrators)
3. Conduct Rapid Demonstration Projects
 - a. Pilot test core CDEs that are “ready” for implementation to demonstrate the utility of screening in primary care
 - b. Evaluate effectiveness in real world settings (e.g., in individuals with multiple conditions)
 - c. Test how this will be implemented in primary care -- identify potential problems; define the workflow (e.g., who in the healthcare system will be effected and how); timeframe for assessments (i.e., when and how often will each be administered); revise as needed

Appendices

- A – Key Selection Criteria
- B – Recommendations by Domain
- C – Meeting Participants

Summary prepared 5/20/11

Appendix A

KEY SELECTION CRITERIA

Characteristic	Recommended Criteria
Reliable	Especially test-retest (less on internal consistency)
Valid	Construct validity, criterion validity, established norms
**Sensitive to Change	Longitudinal use, goal attainment tracking, repeated administration
**Feasible	Brief (generally 3 items or less); easy to score/interpret
Important to Clinicians	Indices for health conditions that are prevalent, costly, challenging
Public Health Relevance	To address without measures, in primary care domain, related to HP 2020 goals
**Actionable, or feasibility of developing recommended clinical decision support	Realistic actions, reliable referral, immediate discussion, on-line resources, how easy or difficult would it be to develop a clinical response 'toolkit'
User Friendly	Patient interpretability; face validity; meaningful to clinicians, public health officials, and policy makers
Broadly Applicable	Available in English and Spanish, validated in different cultures and contexts
Cost	Publicly available or very low cost to promote widespread collection of this data
Enhancing Patient Engagement	Having this information is likely to further patient involvement in their care and decision making

**** These criteria given particular emphasis**

Appendix B

Recommendations by Domain

(Click on title to go directly to the domain recommendations)

[Anxiety and Depression](#)

[Demographics](#)

[Eating Patterns](#)

[Health Literacy and Numeracy](#)

[Medication Taking Behavior](#)

[Patient Goals](#)

[Physical Activity](#)

[Quality of Life](#)

[Risky Drinking](#)

[Sleep Quality](#)

[Stress](#)

[Substance Use](#)

[Tobacco Use](#)

Anxiety and Depression -- Recommendations

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Session Facilitated by Lisa Klesges, PhD

1. Screening patients for depression and anxiety using the PHQ-4

- Highly validated, brief, feasible (cost)
- Well aligned with clinical needs
- Linked to full-length assessments, and decision support

PHQ-4:

Over the past 2 weeks have you been bothered by these problems?

	Not at all	Several days	More days than not	Nearly every day
Feeling nervous, anxious, or on edge	0	1	2	3
Not being able to stop or control worrying	0	1	2	3
Feeling down, depressed, or hopeless	0	1	2	3
Little interest or pleasure in doing things	0	1	2	3

1. Follow up for depression using the PHQ-8 or 9

Note: Inclusion of the suicide question should depend on the health care setting's ability to respond appropriately.

2. Follow up for anxiety issues using the GAD-7

Demographics -- Recommendations

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Session Facilitated by Gary Bennett, PhD

Measure	Core	Optional	Source	Item	Frequency
Sex	X		HINTS	Are you male or female	First visit
Date of Birth	X		PHENX	What is your birth date? MM/DD/YYYY	First visit
Race	X		IOM	Check All That Apply American Indian/Alaska Native Asian Black Hispanic/Latino/White Hispanic/Latino/Black Hispanic/Latino/Other Native Hawaiian/Pacific Islander White Declined	First visit
Ethnicity	X		IOM	IOM expert panel developed a 'superset' of (~600) ethnic and sub-ethnic categories that can be rolled-up to 31 major ethnicities (based on all health care organizations collecting r/e/l data)	First visit
English Fluency (Language preference assessed if not English fluent)	X		IOM	How would you rate your ability to speak and understand English? (Hasnain-Wynia et al., 2007) or How well do you speak English? (Karlner et al., 2008) (Very well, Well, Not well, Not at all (Shin and Bruno, 2003) What language do you feel most comfortable speaking with your doctor or nurse? (Hasnain-Wynia et al., 2007)	Annually
Occupational Status	X		HINTS	What is your current occupational status: employed, unemployed, homemaker, student, retired, disabled, other, add – part-time, full-time	Annually
Household income	X		?	Need to convene expert panel to identify best measure	Annually
Marital status	X		HINTS	What is your marital status? Married, living as married, divorced, widowed, separated, single, never been	Annually

Measure	Core	Optional	Source	Item	Frequency
				married	
Education	X		HINTS	What is the highest grade or level of schooling you completed? Less than 8 years, 8-11 years, 12 years or completed high school, post-high school training other than college, some college, college graduate, postgraduate	Until age 50
Address	X		Admin		Annually
Insurance status	X		Admin		Annually
Veteran status	X		CHIS	Did you ever serve on active duty in the armed forces of the U.S.?	Annually until age 30
Gender		X			First visit
Country of Origin		X	PHENX	Where were you born? -- In the US [pick state] -- Outside the US [pick country]	First visit
Number of children		X	HINTS	How many children under the age of 18 live in your household?	Annually
Perceived financial difficulty		X		Important, but not ready.	Annually
Occupation		X			Annually

Session Facilitated by Marian L. Fitzgibbons, PhD

1. Shorten the Starting the Conversation (STC) Survey to 3 items (from 8) and modify the wording of a few items:

Over the past 7 days:

- a. *How many times a week did you eat fast food or snacks or pizza? (Revised item # 1)*
- b. *How many servings of fruits/vegetables did you eat each day? (Combine items # 2 and 3)*
- c. *How many soda and sugar sweetened drinks (regular, not diet) did you drink each day? (Revised item # 4)*

NOTES:

- Salt was considered an important aspect of the diet to measure, but the large amount of sodium intake driven by processed foods (e.g., soups, cereals) rather than added table salt, make a brief measurement difficult.
- Frequency: Annual assessment is recommended unless a different frequency is dictated by a specific medical condition(s).

Session Facilitated by Kathy Mazor, PhD

1. The group recommended NOT pursuing the inclusion of health literacy and numeracy items in EHRs at this time.
2. It is important to capture **language preference** and **education level**; however, these will be captured in demographics.
3. The group supported moving forward (in a separate effort) to identify a single item focusing on:
 - a. **Preferences**
 - b. **Communication**
 - c. **Understanding**

Recommended that the following question (or similar) be posed to focus group(s):

e.g., What, if anything, would you like [us] to do to help you understand [health information]?

- i. Start with an open-ended item*
- ii. Collect responses*
- iii. Develop response options based on responses*

Medication-Taking Behavior – Recommendations

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Session Facilitated by Laura Hayman PhD, RN

1. The group concluded that this domain should be included, but more work needs to be done to develop and refine optimal measures for inclusion in EHR for primary care.
2. They recommended inclusion of **medication reconciliation** prior to assessment of medication behavior.
3. The following items, developed by Perry Dickinson and used in Connection to Health, were highly rated by meeting participants:

Many patients have good reasons for not taking their prescribed medications.

- a. *On how many days over the past week did you miss taking one or more of your medications? 0 (none), 1, 2, 3, 4, 5, 6, 7 (every day)*
- b. *When you fail to take doses of your medications, is this because (check as many as apply):*
 - i. *You forget to take your medicine*
 - ii. *Your medicine is costly*
 - iii. *You are concerned about side effects*
 - iv. *You don't think the medicine is helping you*
 - v. *You don't understand why you need this medicine*
 - vi. *You don't take this medication because you don't want to ***

** item added by workgroup

1. Goal-Setting

- Goal-setting is a critical element of patient-centered care. The workgroup recommended advocating for goal-setting to be included as a standard practice in care.
- Will likely need to be an open-ended but structured field(s) in the EHR:
 - Existing close-ended tools were not viewed as feasible.
 - Fields should be specified, and include content (SMART goal), progress, and date for follow-up.
 - Goal-setting should be recorded for each major health condition.
 - The group was not ready to specify common data elements that would be included.
- Some disagreed, but the general consensus was that minimal information on goal-setting is needed for continuity and coordination of care.

2. Patient Preferences

- Consensus that patient preferences are integral to patient-centered care.
- Strong feeling that preferences are specific to conditions and situations.
- Mixed feelings on whether the Denger item, which is best validated measure of preference for engagement, should be recommended.

Other preferences, especially about inclusions of family or others in care, may be important.

NOTES:

- There was a minority opinion that process/counseling issues, such as barriers and confidence, should be collected.

1. The Exercise Vital Sign items – Collect annually at minimum:

- a. *How many days of moderate to strenuous exercise, like a brisk walk, did you do in the last 7 days?*
- b. *On those days that you engage in moderate to strenuous exercise, how many minutes, on average, do you exercise at this level?*

2. Optional Assessments:

- a. Time sitting/sedentary behavior
- b. Strength training

NOTES:

➤ Interventions:

Threshold for intervention should align with recommended guidelines (i.e., <150 minutes per week).

Intervention options in primary care include use of community guide and USPSTF recommendations; use of community resources; use of online resources such as *MyPyramid*.

➤ Other Considerations:

The healthcare team will need training on how to use these items with people with disabilities or high-need patients.

Inclusion of an intentional-physical activity follow-up: *Do you have an exercise plan that you follow?*

There was near consensus that QOL measures should be separated into two categories:

1. Measures collected for clinical care
2. Measures collected for population monitoring

1. For data collection in clinical care, the group recommended the single item:

- a. *In general would you say your health is: Excellent, Very Good, Good, Fair, or Poor?*
- b. *For those rating their health as fair or poor, follow-up is recommended. The group did not reach consensus on whether the follow-up would be administration of another instrument, or physician directed.*

2. For monitoring the health of the populations, there was strong support for using a utility-weighted measure. This would be done by drawing a random sample of people from a health plan and should be included in the EHR. Data collection would be separated from clinical care. Candidate measures for this purpose would include:

- SF-8
- EQ-5D
- VF-12

NOTES:

- It was suggested that QOL measures may have limited value for primary care because few of the items are actionable.

Risky Drinking -- Recommendations:

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Session Facilitated by Udi Ghitza, PhD and Rob Gore-Langton, PhD

1. Single-Question Alcohol Use Screener:

How many times in the past year have you had X or more drinks in a day? (where X is 5 for men and 4 for women, and a response of ≥ 1 is considered positive).

Smith PC, et al. J Gen Intern Med 2009; 24(7):783-8

2. Follow up using the Alcohol Use Disorders Identification Test – Consumption (3-item AUDIT-C):

a. *How often do you have a drink containing alcohol?*

Never, monthly or less, 2-4 times a month, 2-3 times a week, 4 or more times a week

b. *How many standard drinks containing alcohol do you have on a typical day?*

1 or 2, 3 or 4, 5 or 6, 7 to 9, 10 or more

c. *How often do you have six or more drinks on one occasion?*

Never, less than monthly, monthly, weekly, daily or almost daily

Bush K, et al. Arch Intern Med 1998; 158:1789-95

Sleep Quality – Recommendations

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Session Facilitated by Karen Emmons, PhD

1. Short 2-question screener that will assess (1) apnea; (2) insomnia; and (3) sleep inadequacy:

a. *Do you snore or has anyone told you that you snore? (revised from BRFSS)*

b. *In the past 7 days, I was sleepy during the daytime...*

Never, Rarely, Sometimes, Often, Always (From Neuro-QOL)

NOTES:

- A sleep assessment should be included in EHR since sleep problems are highly actionable and have strong public health significance.
- These items should be closely aligned with clinical decision support. Treatments and interventions need to be evidence-based.
- There is a danger of unintended consequences; i.e. doctors send all patients who snore to a sleep clinic leading to a large increase in healthcare costs.
- Frequency: This domain should be assessed yearly.

Stress – Recommendations

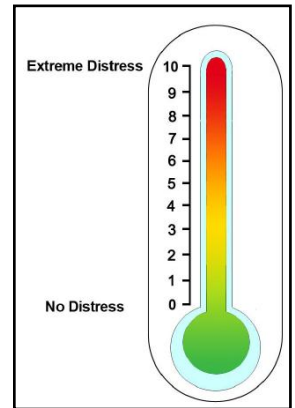
Session Facilitated by Larry Fisher, PhD

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1. Two-question screener:

- a. Distress thermometer (UK, National Health Service)
 - i. *Please circle the number (0-10) that best describes how much distress you have been experiencing in the past week including today.*
 - ii. Recommend changing the wording to “stress” instead of “distress”

- b. Plus a question to assess coping or impact on life (the specific question has not yet been identified)



2. Follow up using 5-domain stress thermometer:

- *Please rate the extent to which the following common sources contributed to your overall stress in the last week: (not at all, very little, somewhat, quite a bit, greatly)*
 - i. *Financial, social/family, work, health, other*

NOTES:

- This domain would be actionable in primary care in two ways:
 - The physician can provide resources to help the patient address stress issues
 - Level of stress also provides context for other clinical issues and can inform decision making

- Recommend following NHS cut-points for intervention and adapting their model to develop clinical decision support tools

- Frequency: Annual, or in association with clinical decisions, more frequent monitoring will likely benefit both patient and physician

1. Single-question screening for illicit drug use and prescription medication use for non-medical reasons:

“How many times in the past year have you used an illegal drug or used a prescription medication for non-medical reasons?”

Smith PC, et al. Arch Intern Med 2010; 170(13):1155-1160

2. Follow up using the 10-item Drug Abuse Screening Test (DAST-10) for additional screening/assessment:

These questions refer to the past 12 months only. (YES/ NO)

- 1. Have you used drugs other than those required for medical reasons?*
- 2. Do you abuse more than one drug at a time?*
- 3. Are you always able to stop using drugs when you want to?*
- 4. Have you had “blackouts” or “flashbacks” as a result of drug use?*
- 5. Do you ever feel bad or guilty about your drug use?*
- 6. Does your spouse (or parent) ever complain about your involvement with drugs?*
- 7. Have you neglected your family because of your use of drugs?*
- 8. Have you engaged in illegal activities in order to obtain drugs?*
- 9. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?*
- 10. Have you had medical problems as a result of your drug use (e.g., memory loss, hepatitis, convulsions, bleeding etc...)?*

Yudko E, Lozhkina O, Fouts A. J Subst Abuse Treat 2007;32(2):189-198

NOTES:

- Additional assessment questions for significant drug use are still under review.

Tobacco Use – Recommendations

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Session Facilitated by Udi Ghitza, PhD and Rob Gore-Langton, PhD

1. Screener questions for all patients at every visit:

Have you used tobacco in the last 30 days?

Smoked Cigarettes: Yes _____ No _____

Used a Smokeless Tobacco Product: Yes _____ No _____

2. For all who responded YES to having smoked or used smokeless tobacco in the last 30 days:

Would you be interested in quitting tobacco use within the next few weeks?

Yes _____ No _____

3. For all who responded YES to this question, the EHR then prompts the CLINICIAN to answer the following questions:

a. *Did you provide brief counseling/coaching to quit?* Yes _____ No _____

b. *Did you prescribe or recommend that the patient to use one of the seven FDA-approved medication for tobacco cessation?* Yes _____ No _____

c. *Did you refer the patient to your State's Tobacco Quitline (1-800-QUIT-NOW)?* Yes _____ No _____

NOTES:

- The group felt strongly about and voted that the EHR be programmed to do the following: For a patient 30 years or older whose tobacco use has been asked and documented in the past AND has always been NO, then none of these questions should be asked after age 30. But, if the patient has never been asked or if the response to tobacco use has been YES at any time in the past, then the question ALWAYS gets asked. This is based on the epidemiologic data that it is extremely uncommon for a never smoker in the United States to begin after age 30.
- Less than ¼ of adult American's currently use tobacco products, so if the clinic demographics are typical of the US as a whole, then less than 25% of patients will be asked question #2. And, if the clinic patients are typical of tobacco users in general, only about 40% of *tobacco users* will indicate that they are interested in quitting over the next few weeks. Thus, clinicians will only be prompted to deliver the intervention ("Action questions") on about 10% of patients (25% X 40%).
- For tobacco users uninterested in quitting, the 2008 PHS Guideline, Treating Tobacco Use and Dependence urges that the clinician administer brief motivational counseling designed to encourage consideration of quitting in the future. But, this recommendation to provide motivational counseling will not be EHR programmed.

Appendix C

Meeting Participants

Planning Committee

National Institutes of Health (NIH)

Maureen Boyle (OBSSR)
Russell Glasgow (NCI)
Brad Hesse (NCI)
Robert Kaplan (OBSSR)
Richard Moser (NCI)
Martina Taylor (NCI)

Society for Behavioral Medicine (SBM)

Karen M. Emmons
Paul A. Estabrooks
Amy Stone
Alicia Sukup

Workgroup Members

Anxiety and Depression:

Lisa M. Klesges (University of Memphis), Kenneth E. Freedland (Washington University), Paul B. Jacobsen (University of South Florida) and Sherri Sheinfeld Gorin (Columbia)

Demographics:

Robert Kaplan (OBSSR), Maureen Boyle (OBSSR), Richard Brown (UCLA)

Eating Patterns:

Marian Fitzgibbon (University of Illinois, Chicago), Susie Nanney (University of Minnesota), and Guadalupe Compean (University of Illinois, Chicago)

Health Literacy/Numeracy:

Kimberly Kaphingst (Washington University), Kathleen Mazor (University of Massachusetts), and Russell Glasgow (NCI)

Medication-Taking Behavior:

Laura L. Hayman (University of Massachusetts), Felicia Hill-Briggs (Johns Hopkins), and Jackie Dunbar-Jacob (University of Pittsburgh)

Patient Goals:

Geoffrey Williams (University of Rochester), Tom Bodenheimer (UCSF), Paul Estabrooks (Virginia Tech), Perry Dickinson (University of Colorado), Kathy Mazor (University of Massachusetts), Aanand Naik (Baylor), Russ Glasgow (NCI), Borsika Rabin (Kaiser Permanente) and Rick Street (Texas A&M)

Physical Activity:

Paul Estabrooks (Virginia Tech), Abby King (Stanford), Brian Focht (Ohio State), Jim Sallis (San Diego State), Jim Whitehead (UCSC), and Adrian Hutber (ACSM)

Quality of Life:

Robert Kaplan (OBSSR), Maureen Boyle (OBSSR)

Sleep:

Anna Adachi-Mejia (Dartmouth) and Glen Greenough (Dartmouth)

Stress:

Margaret Chesney (UCSF), Larry Fisher (UCSF), Maureen Boyle (OBSSR)

Substance Abuse, Risky Drinking, and Tobacco Use:

National Institute on Drug Abuse (NIDA) Initiative (Betty Tai, Udi Ghitza, Rob Gore-Langdon, and Robert Lindblad)

Participating Organizations

Lead Organizers:

Office of Behavioral and Social Sciences Research (OBSSR), NIH
National Cancer Institute (NCI), NIH
Society of Behavioral Medicine (SBM)

American Academy of Family Physicians (AAFP)
American College of Sports Medicine (ACSM)
Agency for Healthcare Research and Quality (AHRQ)
American Academy of Family Physicians (AAFP)
American College of Sports Medicine (ACSM)
Center for Advancing Health (CFAH)
Centers for Medicare & Medicaid Services (CMS)
Consumers Union
Geisinger Health System
Group Health Cooperative
Health Research Services Administration (HRSA)
HealthPartners
North American Primary Care Research Group (NAPCRG)
National Alliance on Mental Illness (NAMI)
National Committee for Quality Assurance (NCQA)
National Heart, Lung, and Blood Institute (NHLBI), NIH

National Institute of Mental Health (NIMH), NIH
National Institute of Nursing Research (NINR), NIH
National Institute on Drug Abuse (NIDA), NIH
National Quality Forum (NQF)
Preventative Cardiovascular Nurses Association (PCNA)
Patient Reported Outcomes Measurement Information System (PROMIS) Network
Robert Wood Johnson Foundation (RWJF)
Society for General Internal Medicine (SGIM)
Society of Teachers of Family Medicine (STFM)
Substance Abuse and Mental Health Services Administration (SAMHSA)
US Department of Health & Human Services (HHS)
US Department of Veterans Affairs (VA)

May 3, 2011 Workgroup Participants

Rob Adsit, Director of Education and Outreach Programs, School of Medicine and Public Health, University of Wisconsin Center for Tobacco Research and Intervention

Gary Bennett, Associate Professor, Psychology & Global Health, Duke University

Maureen Boyle, AAAS Science and Technology Policy Fellow, Office of Behavioral and Social Sciences Research, NIH

David Chambers, Chief, Services Research and Clinical Epidemiology Branch, National Institute of Mental Health, NIH

Perry Dickinson, Professor, Department of Family Medicine, University of Colorado School of Medicine

Karen Emmons, Deputy Director, Center for Community-Based Research, Associate Dean for Research, Professor, Dept. Medical Oncology, Dept. of Society, Human Development and Health, Dana-Farber Cancer Institute, Harvard School of Public Health

Paul Estabrooks, Professor, Human Nutrition, Foods, and Exercise, Virginia Polytechnic Institute and State University

Michael Fiore, Department of Medicine, University of Wisconsin Center for Tobacco Research and Intervention

Lawrence Fisher, Director, Behavioral Diabetes Research Group, Professor, School of Medicine University of California, San Francisco

Marian Fitzgibbon, Professor, Department of Medicine, University of Illinois at Chicago

Ted Ganiats, Professor, Family and Preventive Medicine, University of California, San Diego

Richard Gershon, Research Associate Professor, Department of Medical Social Sciences, Northwestern University Feinberg School of Medicine

Udi Ghitza, Health Scientist Administrator, Center for the Clinical Trials Network, National Institute on Drug Abuse, NIH

Russell Glasgow, Deputy Director of Dissemination and Implementation Science, Division of Cancer Control and Population Sciences, National Cancer Institute, NIH

Michael G. Goldstein, Associate Chief Consultant for Preventive Medicine, Office of Patient Care Services, VHA National Center for Health Promotion and Disease Prevention (NCP)

Erin Grace, Center for Primary Care, Prevention and Clinical Partnerships, Agency for Healthcare Research and Quality

Laura Hayman, Associate Dean for Research & Professor of Nursing, College of Nursing & Health Sciences, University of Massachusetts Boston

Bradford Hesse, Chief, Health Communication & Informatics Research, Behavioral Research Program, National Cancer Institute, NIH

Adrian Hutber, Vice President, Exercise is Medicine Program, American College of Sports Medicine

Dorothy Jeffress, Executive Director, Center for Advancing Health

Robert Kaplan, Director, Office of Behavioral and Social Sciences Research, NIH

Lisa Klesges, Interim Dean, School of Public Health, University of Memphis

Michael Klinkman, Professor, Departments of Family Medicine and Psychiatry, University of Michigan

Thomas, Kottke, Medical Director for Evidence-Based Health, Chief Health Officer, HealthPartners

Alex Krist, Associate Professor, Family Medicine, Virginia Commonwealth University

Kathy Mazor, Research Associate, Assistant Professor of Medicine, Meyers Primary Care Institute, University of Massachusetts Medical School

Jason Mitchell, Assistant Director, Center for Health Information Technology, American Academy of Family Physicians

Quyen Ngo-Metzger, Chief, Data Branch, Office of Quality and Data, Bureau of Primary Care, Health Research Services Administration

Karen Pace, Senior Director, Performance Measures, National Quality Forum

Michael Painter, Senior Program Officer, Robert Wood Johnson Foundation

James Ralston, Associate Scientific Investigator, Group Health Research Institute, Group Health Cooperative

Lygeia Ricciardi, Senior Policy Advisor for Consumer e-Health, Office of the National Coordinator for Health IT

William Riley, Program Director, Clinical Applications and Prevention Branch, National Heart, Lung, and Blood Institute, NIH

Kenneth Salyards, Special HIT Expert, Substance Abuse and Mental Health Services Administration, DHHS

Robert Saunders, Research Scientist, National Committee for Quality Assurance

Elissa Schuler Adair, Manager Health Care Research, Health Ratings Center, Consumers Union

Hardeep Singh, Research Physician, Department of Medicine, Baylor College of Medicine

Walter Stewart, Associate Chief Research Officer, Center for Health Research, Geisinger Health System

Richard Street, Professor, Communication Department, Texas A&M University

Martina Taylor, Senior Advisor for Implementation Science, Division of Cancer Control and Population Sciences, National Cancer Institute, NIH

Linda Weglicki, Health Scientist Administrator, Office of Extramural Programs, National Institute of Nursing Research, NIH

Jim Whitehead, Executive Vice President, Chief Executive Officer, American College of Sports Medicine