

## Appendix 8 (continued): Summary of Elements Used in Risk Screening of Adults by NCCC Networks

Thirteen risk screens were contributed by NCCC networks for this report. Of the thirteen submissions, only patient-reported questionnaires or self-assessments were utilized in the matrix. Five questionnaires designed to be professional assessments through patient interview and observation were excluded from this review. The remaining eight questionnaires all assessed the following categories: Health Status, Functional Status, Living Arrangements, and Psychosocial Status. The matrix is organized by those categories. The questionnaires vary in length from one to five pages and in the specificity of the questions asked. Program sources of the forms submitted are listed following the table.

**Table 11: Summary of Elements Used in Risk Screening**

### HEALTH STATUS

<u>Existing Conditions</u>	<u>Perception of Health Status</u>	<u>Medications</u>	<u>Use of Resources</u>
Special therapies or treatments	Severity rating	Kind	Hospital admissions
Hip fractures or falls		Number	ER usage
Eating/sleeping habits		Questions	Home health
Bladder/bowel function			Nursing home
			DME

### FUNCTIONAL STATUS & LIVING ARRANGEMENTS

<u>Type of Residence</u>	<u>Level of Independence</u>	<u>Financial Status</u>	<u>Use of Community Resources</u>
	IADLs, ADLs	Hardship	Meals on wheels
	Helpers in home	secondary to	Transportation
	Transportation	purchase of meds	
	Dependents in home	Other hardships	

### PSYCHOSOCIAL STATUS

<u>Significant Others</u>	<u>Losses/Stressors</u>	<u>Feelings</u>	<u>Other</u>
Marital status	Death/injury	Isolation	Educational level
Family	Divorce/victim of	Loneliness	Presence of power of
Friends	crime	Sadness	attorney in will
Neighbors	Serious illness	Have confidante	

## Contributors of Questionnaires Reviewed for this Task

### Self-Administered Questionnaires Included in the Matrix:

1. Bay Area Visiting Nurse Association, Beverly Hospital, Beverly, MA. Community Care Liaison Program. "Self-Administered Questionnaire."
2. Carondelet Health Care, Tucson, Arizona. "Health Care Questionnaire."
3. Ebenezer Community Services, Minneapolis, MN. Group Health, Inc.: "Health Status Survey" and Seniors Plus: "Health Status Survey."
4. Huntington Memorial Hospital, Pasadena, CA. Physician Partnership Project, Senior Care Network. "Questionnaire."
5. Lutheran Healthcare Network, Chandler, AZ. "Health Needs Assessment."
6. Mount Zion Institute on Aging/University of California-San Francisco, San Francisco, CA. Center on Aging: "Seniority Plus Health Survey" (Medicare Risk HMO).
7. Mount Zion Institute on Aging/University California-San Francisco , San Francisco CA. Mount Zion Medical Center: "Lakeside Senior Medical Center Assessment."

### Tools Utilized by Medical/Professional Personnel and not included in the table:

1. Benjamin Rose/University Hospitals of Cleveland, Cleveland, OH. "Comprehensive Assessment."
2. Beth Abraham Hospital, Bronx, NY. New York State "DMS-1."
3. Community Coalition for Long Term Care, Rochester, NY. "DMS-1."
4. Intermountain Health Care, LDS Hospital, Salt Lake City, UT: "Health Perception - Health Management Pattern Questionnaire."
5. Rochester Health Care/Park Ridge Health Systems, Rochester, NY. Health Associations of New York State (HANYS): List of common elements found on assessment forms used primarily in long-term placement of the elderly.

## **Appendix 9: Three Studies of Screening Processes**

### **The Social/Health Maintenance Organization**

The Social/HMO has had extensive experience with a screening process used to identify members needing long-term care. This screening process was studied by The SCREEN Project, using data from the Kaiser Permanente Northwest Region S/HMO. A screening tool called the Health Status Form is mailed to each member upon enrollment to facilitate timely initial clinic appointments and to screen all new members for eligibility for long-term care services. Current members complete the form annually. The overall response rate to this mailed questionnaire is 90%. (Nonrespondents do not differ from respondents in any meaningful way.) An algorithm using sixteen items identifies members who should receive a callback and possible referral to long-term care. A study compared the use of these sixteen items on the screen with the use of four items (needing assistance with bathing, needing assistance with medications, age, and health conditions that interfere with daily activities) and the use of administrative data (hospital admissions, days in hospital, and pharmacy data) to predict which enrollees would experience frailty (becoming certified for nursing home care or residing in a nursing home or using community-based long-term care services) in the coming year. The four items performed the best, correctly classifying 90.6% of members, compared to 88.9% for the sixteen items and about 75% for the administrative information.

### **Secure Horizons**

Secure Horizons, a Medicare-risk HMO, developed a mail survey to identify high risk in new enrollees. The “Secure Horizon Health Inventory” (SHIN) contained questions about five categories of factors potentially predictive of future health care expenditures: health self-assessment, presence of chronic conditions, functional limitations, prior health care utilization, and the presence of social support. The SHIN was sent to all new enrollees (21,158 people) between October 1, 1991 and February 28, 1992 and had a return rate of 58%. Using a sample of 7,806 respondents, the survey responses were matched with claims data for the first year of enrollment. Average costs per member per month and number of admissions increased dramatically as health perceptions worsened, as the number of chronic conditions increased, and as prior utilization increased. For people with ADL impairments, average inpatient costs were higher (e.g., costs for those unable to bathe were five times higher than costs for patients independent in bathing); for those living alone, costs were modestly higher.

### **Blue Cross and Blue Shield of Florida**

In developing a pilot case management program for an employer, Blue Cross and Blue Shield analyzed claims data to identify employees at risk of high utilization. Triggers used to identify

individuals included: claims greater than \$10,000, specific ICD-9 codes, length of stay, and more than one admission in a six-month period. Subsequent analysis of one year of utilization data revealed that this process had identified: 100% of the top utilizers (claims > \$30,000); 73% of moderate utilizers (claims > \$20,000) and 56% of low utilizers (claims > \$10,000).

## Appendix 10: NCCC Member Networks Currently Using SF-36

Site	How Used?	Target Population	Time Intervals	Admin Method	Application/ Interventions
Philadelphia Geriatric Center	outcome measure	65+ individuals: post MI, arthritis, cancer, inpatient rehab	every 6-12 months, depending on research protocol	face-to-face	research: general functioning level
Fairview, Arthritis Institute	outcome measure	arthritis clinic, self-help courses, total joint replacement, hysterectomy, cardiac, primary care	pre-intervention, 6-month follow-up	mostly mail	clinical pathways
Group Health Cooperative	outcome measure	diabetes care, low back pain, specified HMO panels	pre- and post-testing, varies	mail, in-office: paper and computer, face-to-face	clinical practice improvement
Johns Hopkins Health System	outcome measure  plan to use in risk screening	GYN, oncology, geriatric evaluation, total joints	first visit, admission	in-office	research
IHC, Salt Lake Valley Hosp.	outcome measure	total joint, low back pain, coronary artery bypass graft	pre-intervention; 3-, 6- and 12-month follow-ups	in-office, mail	outcome assessment, clinical practice improvement
	risk screening	employee population	first screening, year follow-up	handed out/ returned	employee health assessment
Carondelet Health Care	outcome measure	65+ yr. old enrollees in CNO HCFA demonstration project	pre-intervention, annually for 3 years	face-to-face	research tool for treatment and control groups
	risk screening	HMO Senior Plan enrollees	enrollment	mail	first step in risk ID, followed by evaluation for those at high risk

**Appendix 10 (continued): Health Status Questionnaire 2.0**  
**(incorporating the “RAND 36-Item Health Survey 1.0, RAND Health Services Program)**











## Appendix 11: Possible Outcome Measures For Prevention Strategies

A variety of measures can be considered in evaluating prevention strategies such as risk identification and intervention. The following table summarizes many of them.

Concept	Example	Advantages	Difficulties
cost containment	-rate of growth in healthcare expenditures	-politically-valued outcome	-must be broad to take possible cost-shifting into account
mortality and survivorship		-traditional outcome in epidemiologic research -can be counted	-cause-specific mortality is difficult to ascertain -not all prevention aims to prevent death
morbidity (reflecting illness and impairment rather than bottom line mortality)	-presence or absence of medical conditions or long-term sequelae of sudden events -functional status -days restricted activity	-could include improvements if measured over time	-morbidity seen as harder to measure and therefore a poorer outcome measure -key is to convince others that the indicator is validly and reliably measured
service utilization	-hospital episodes per year -number MD visits -use of community services -rates of influenza immunization	-also seen as a facet of cost of care	-ensure utilization data have been measured accurately
quality of life	includes: - physical status - life satisfaction - economic status - residential quality - social support		-difficult because it summarizes status over several domains
other psychosocial outcomes	-health-related perceptions -knowledge -interpersonal relations (changes in family stress) -perceptions of control over health	-intermediate between prevention activities and behavior	-don't carry much weight in higher level policy forums -draw implications for more bottom line outcomes like morbidity and mortality
behavioral change	-smoking cessation -increased exercise	-valuable to the extent they can be linked to less morbidity, lower mortality, reduced cost of care	
productivity	-ability of elders to contribute to society in some documented way, some indicators of "return"	-could be good strategy	-new area
population targeting	-how easily target population can be found, recruited & retained relative to resources available -what percentage of population is affected -which types of people does it work best on	-important for implementation, replication	

## Quality of Life as an Outcome Measure

The May 27, 1994 issue of the MMWR, an index of “Health Related Quality of Life” (HR-QOL) was described. Questions to assess HR-QOL were added to the 1993 Behavioral Risk Factor Surveillance System (BRFSS), which is a continuous, state-based, random-digit-dialed telephone survey of the U.S. adult non-institutionalized population. HR-QOL includes functional status and individual health perceptions. (HR-QOL is a component of overall quality of life. This latter concept also includes satisfaction with one’s life and circumstances.) HR-QOL data were based on participants’ responses to the four questions below:

- 1) Would you say that in general your health is excellent, very good, good, fair, or poor?
- 2) Now thinking about your physical health, which includes illness and injury, for how many days during the past 30 days was your physical health not good?
- 3) Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?
- 4) During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

The latter two items were also used to calculate a “good health days” (GHDs) index to estimate the number of days during the last 30 days preceding the survey that respondents’ overall health was good. The GHD index is calculated by subtracting the sum of “not good” physical health days and “not good” mental health days from 30 days, with the restriction that the number of GHDs cannot be less than zero.

Overall, in 21 states, the following limitations were reported:

Fair health	10.4%
Poor health	4.4%
Recent physical limitations	32.0%
(8 or more days)	11.1%
Recent mental health limitations	31.0%
(8 or more days)	10.9%
Recent activity limitations	19.0%
(8 or more days)	6.5%

## References

- U.S. Department of Health and Human Services. “Quality of Life as a New Public Health Measure—Behavioral Risk Factor Surveillance System, 1993.” Centers for Disease Control. *Morbidity and Mortality Weekly Report* 43, no. 20 (1994): 375-380.
- Rakowski, W. “The Definition and Measurement of Prevention, Preventive Healthcare, and Health Promotion.” *Generations*. 18, no. 1(1994):18-23.