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CARE Vital Signs Supports Patient-Centered, Collaborative Care

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Abstract: CARE Vital Signs refers to a standard form created by practices to *C*heck what matters to patients, *A*ct on that assessment, *R*einforce the actions, and systematically *E*ngineer or incorporate actions into staff roles and clinical processes. On its face, CARE Vital Signs is a deceptively simple tool that, when properly used, can help a practice attain levels of efficiency and quality. This article describes the rationale for CARE Vital Signs and the ways it can be used for the greatest benefit.
Key words: *behavior change*, *care team*, *collaborative care*, *patient centered*

IN CLINICAL PRACTICE, someone obtains vital signs, such as blood pressure, pulse, temperature, and respiration rate, to assess body functions before the patient is evaluated by a healthcare professional. CARE Vital Signs refers to a standard form created by practices to *C*heck what matters to patients, *A*ct on that assessment, *R*einforce the actions, and systematically *E*ngineer or incorporate actions into staff roles and clinical processes (Wasson et al., 2003). Thus, CARE Vital Signs offers a method for practices to routinely screen patients to determine whether they have common, important issues for which effective actions might be implemented without necessarily depending on an evaluation by a healthcare professional. For example, based on particular items in CARE Vital Signs, office staff might implement standing orders to provide specific screening tests or self-management education to the patient.

CARE Vital Signs has proven to be useful for both patients and practices. Patients benefit because this method offers the promise of reliable action for "what matters" to them: CARE Vital Signs supports patient-centered, collaborative care (Moore & Wasson, 2006). Practices benefit from using this approach in 2 ways. First, doctors and nurses find that knowing "what matters" to patients improves the efficiency and effectiveness of the care they deliver. For example, the presence of pain and emotional problems adversely impacts patient confidence with self-management, which, in turn, undermines the proven power of collaborative care (Wagner et al., 1996; Wasson et al., 2006b, 2008b). Second, as practices incorporate CARE Vital Signs, the professional and nonprofessional staff invariably uncover inefficient, behaviorally unsophisticated processes and invent better processes and means of deploying the practice's workforce. For example, instead of relying only on the physician, a medical assistant can be trained to help patients use valuable self-management resources for particular issues identified by CARE Vital Signs (Wasson et al., 2003).

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The Institute for Healthcare Improvement has encouraged the use of CARE Vital Signs in its various collaboratives and programs to redesign office practices. On the basis of this experience, this article illustrates the typical lessons practices learn when they implement CARE Vital Signs.

In the actual order learned, the lessons are as follows:

- Who will do this? (Implementation)
- What will our patients say? (Population)
- What actions might we take and reinforce? (Behaviorally sophisticated actions)
- How do we build CARE Vital Signs or the concept of CARE Vital Signs into practice? (Resource planning)

CARE VITAL SIGNS: IMPLEMENTATION

The Institute for Healthcare Improvement faculty present CARE Vital Signs as a "standard form" to office practices (Appendices 1–3). The faculty inform practices that the questions on the form have been extensively tested and that there is an advantage to try it "as is" before considering modifications for their setting. Office staff are encouraged to begin using CARE Vital Signs with 10 patients, perhaps with 1 patient in the morning and 1 in the afternoon over the course of 5 working days. Most practices will be able to complete 10 CARE Vital Signs; those that have difficulty will need to improve practice function before proceeding (see "The How and Why of Balanced Measurement"; Wasson & Baker, 2009).

The simple request to complete 10 CARE Vital Signs engages the office in an evaluation of its patient flow. Who does what and why? Who will do CARE Vital Signs, when, and how? Michelle A. Eads, MD, a physician in Colorado Springs, offers the following guidance when implementing CARE Vital Signs:

> I want to share a few tricks I've learned about using the CARE Vital Signs forms.
>
> We do this only for annual preventative physical appointments (or for people we suspect need self-management support and won't go to www.howsyourhealth.org) and not at every encounter. The medical assistant takes the patient's vitals, enters them into the computer as usual, then gets the [CARE Vital Signs] provider form in front of her and gives the patient the patient [version of the CARE Vital Signs form]. They both fill out the forms simultaneously. The medical assistant tells the patient their vitals and body mass index (BMI), and then the patient looks at the pain/feelings/health habits charts [on the form], and tells my medical assistant what their numbers are. Then the patient brings in both copies to me and I circle/add the appropriate actions, scan the provider copy into the medical record, and give the patient their copy.

CARE VITAL SIGNS: POPULATION

By starting with a small sample of 10 patients, most practices will identify some new insights by chance alone or perhaps none at all. In order that staff do not draw erroneous conclusions based on an inadequate sample, it is important for a practice to identify how its population of patients is likely to respond. The following is an overview of responses from 85,000 adults, aged 19 to 59, who completed the HowsYourHealth.org web-based survey tool, from which a few survey items are excerpted as part of CARE Vital Signs.

Adult CARE Vital Signs emphasizes 6 items: pain, emotion, body mass index, general health habits, confidence with self-management, and possible illness related to medications. Across any 50 practices, the middle 25 practices (ie, the 25–75 interquartile range) have from 25% to 40% of their adult patients reporting no abnormality on CARE Vital Signs, as well as 6% to 17% reporting 3 or more abnormalities. Table 1 shows selected problems of patients based on the number of abnormalities reported on CARE Vital Signs.

By assessing the number of reported CARE Vital Signs abnormalities, clinicians immediately understand that patients with few reported abnormalities, and therefore fewer problems, require fewer services. Table 1 underscores this clinical observation. Table 2 demonstrates a dramatic decrement in the quality of care when an increasing number of CARE Vital Signs abnormalities are reported.

The data in Tables 1 and 2 illustrate that CARE Vital Signs is a simple method for

Table 1. Sample of patient problems by category based on number of reported Adult CARE Vital Signs abnormalities

Patient problems by category	Patients reporting abnormal Adult CARE Vital Signs, %		
	No abnormalities	1–2 abnormalities	≥3 abnormalities
Medications			
Taking more than 5 medications	1	4	19
Common diagnoses			
Hypertension	12	22	43
Arthritis	7	14	32
Respiratory	7	10	22
Diabetes	2	6	19
Atherosclerotic cardiovascular disease	2	4	11
Poor health habits			
Smoker	10	15	25
Exercising <4 d/wk	43	65	86
Prevention not done			
No mammogram in past 2 y (females aged 50–69)	10	13	22
Common chronic symptoms (often/always)			
Weight and nutrition concerns	5	24	60
Joint pains	5	17	50
Sleeping problems	6	17	49
Back pain	5	14	48
Dizzy, tired, fatigue	4	15	48
Troublesome home environment			
Inadequate social support	5	11	30
Possible domestic abuse (female)	6	12	26
Adverse impacts on life			
Hospitalized in past year	5	8	18
Harmed by healthcare in past year	1	2	4
Confined to bed in past 3 mo	13	22	44
Difficulty doing usual activities or tasks in past month	0	3	25
Limit on hours needed to work in past 2 wk	8	22	57
From CARE Vital Signs*			
Not confident (no or maybe)	0	75	96
Obese ("trouble": body mass index > 30)	0	36	76
Pain (moderate or severe)	0	12	63
Pills causing illness (yes or maybe)	0	13	54
Bothersome emotions (quite a bit, extremely)	0	8	50
Not good general health habits (a little or none)	0	3	30

*See Appendix Figure 1 for response category from Adult CARE Vital Signs.

Table 2. The association of Adult CARE Vital Signs abnormalities with quality of care

Quality indicators	Patients reporting abnormal Adult CARE Vital Signs, %		
	No abnormalities	1–2 abnormalities	≥3 abnormalities
Information and assistance			
Excellent information about chronic disease(s)	47	28	15
Helped live with their problem(s)	54	42	24
Care processes			
Very easy access to needed medical care	60	39	28
Office is efficient: My time is not wasted	66	56	48
Relationship with clinicians			
I have a personal clinician	75	73	73
I have 2 or more clinicians	17	24	37
I know who is in charge (if 2 or more clinicians)	82	76	72

identifying patients who are likely to have few, some, and many medical and psychosocial issues, as well as few, some, and many deficiencies in quality of care.

CARE VITAL SIGNS: BEHAVIORALLY SOPHISTICATED ACTIONS AND RESOURCE PLANNING

Other lessons learned from the data in Tables 1 and 2 include the following:

- There are too many problems to be dealt with one at a time, even if the office visit time was extended.
- There is too much information for a patient to remember when it is communicated at one time.
- There is a need to segment patients into categories and provide effective generic solutions to problems because a disease-by-disease or a problem-by-problem intervention is not feasible.

The challenge, of course, is knowing what "generic solutions" are effective. Although this is still an area of active research, 4 interrelated actions have evidence of value:

1. *Segmentation* of patients into meaningful categories for which specific actions are routinely prescribed (Wasson et al., 2006a).
2. *Problem solving* and *action planning* as techniques to identify key issues of concern and simple, feasible strategies to begin addressing these issues (Ahles et al., 2006).
3. *Brief, repetitive intervention* rather than overwhelming, 1-time exhortation (Stange et al., 2002; Von Korff et al., 1997).
4. *Confidence building* so that patients become comfortable and adept at self-management (Wasson et al., 2006b).

Table 3 summarizes examples of initial generic solutions to problems reported as abnormalities on Adult CARE Vital Signs. All of these actions require collaboration and bidirectional information transfer between patients and a member of the office staff. (The office staff member does not need to be a clinician!) All interventions will require the office practice to be accessible and efficient.

In addition to the actions specified in Table 3 for specific problems identified from CARE Vital Signs responses, office practices need to assess the intensity of any action over

Table 3. Examples of initial generic solutions for abnormal Adult CARE Vital Signs responses

Patient problems identified from abnormal Adult CARE Vital Signs responses	Initial generic solutions*
Not confident	1. Review understanding of confidence 2. Identify what things the patient feels least confident about and why 3. Begin "campaign for confidence"*
Pain	1. Determine the source and nature of pain 2. Identify problem-solving strategies* 3. Initiate medication management
Medications are perhaps causing illness	1. Identify which medications are suspected 2. Determine how the medications are "causing illness" 3. Assess the impact on patient "compliance" with taking medications 4. Explore possible alternatives
Emotional issues	1. Determine the source and nature of emotional issues 2. Identify problem-solving strategies* 3. Initiate medication management
General health habits/obesity	1. Explore the nature of barriers 2. Identify problem-solving strategies*

*For more details on these initial generic solutions, refer to "Activation of Patients for Successful Self-management." Several tools are available at www.howsyourhealth.org.

time. Behavioral research underscores the importance of reinforcing most actions so that they have a sustained effect. For patients, this often implies feedback and follow-up. For professional and nonprofessional staff, actions need to be systematically engineered (ie, the "E" in CARE) into staff roles and clinical processes to improve reliability.

Resource planning enables providers to deliver higher quality, more efficient care to patients: if it is scheduled, it will happen; if it is not planned, it is difficult to make it happen. This approach requires knowledge of both "what is the matter?" and "what matters" and uses this information to segment patients into behaviorally meaningful categories such as patients with low needs, medium needs, and high needs. Resource planning also requires healthcare providers to match care that is known to be effective with the high-leverage "commonalities" among 80% of the patients in each category (Wasson et al., 2006a).

Resource planning for low-needs patients

Low-needs patients with *no* CARE Vital Signs abnormalities reported, regardless of diagnoses, generally require fewer services. About 40% of patients with adequate finances are low-needs patients versus 20% of poor patients. Should low-needs patients require services from the practice, they need immediate and unfettered access, high continuity and reliability of care, and very good information so that they may make appropriate adjustments in their care. Although some patients in this category may have chronic diseases, they are confident in self-management and have no pain or emotional issues that will impede their ability to manage their conditions (Wasson et al., 2008b). The clinician's role is to

reassure them of their good health status, reinforce healthy behaviors, and provide proven preventive care. The HowsYourHealth.org registry function can be used to remind patients to complete the on-line health survey tool annually, helping ensure these patients maintain positive health behaviors and continue to do well.

Resource planning for medium-needs patients

Medium-needs patients with 1 to 2 CARE Vital Signs abnormalities do not achieve key care goals with consistency. Although the majority of these patients do not feel confident with self-management, those who do may need less reinforcement. However, as a general rule, these patients generally perceive that they have received low-quality information about their problems and can benefit from simple strategies to help them better understand and cope with identified issues.

CareSouth Carolina devised and tested a simple reinforcement strategy by medical assistants based on a "red-yellow-green" colored information sheet to improve patient understanding of their health problem and confidence in managing it. The results were dramatic in terms of increased patient confidence and better control of their blood pressure. (Wasson et al., 2008a)

In a controlled trial, 3 phone calls to patients to support self-management of patient and emotional problems proved significant and lasting. (Ahles et al., 2006)

In addition to the basic services required by low-needs patients, the practice may introduce some of the initial generic solutions (Table 3) and experiment with different types of reinforcement such as e-mail or phone follow-up. Because medium-needs patients have many other potential issues, full assessment by using the HowsYourHealth.org survey tool is a helpful way for clinicians to identify "what matters" and provide tailored information. The article in this series, "Activation of Patients for Successful Self-management," contains additional resources for enhanced self-management support.

Resource planning for high-needs patients

High-needs patients with 3 or more reported CARE Vital Signs abnormalities require much greater frequency and depth of interaction with the practice, as well as consultation and support from additional external sources. Given these patients' multiple needs, it is imperative that patients, family members, and all providers have a shared understanding of priorities and goals for managing identified problems. About 25% of poor patients have high needs versus 10% of patients with adequate finances.

In addition to providing the same services as those required by medium needs patients, a typical office practice will benefit from having a designated staff member who coordinates care for high-needs patients. Most importantly, this staff member needs to continuously provide brief, proactive reinforcement of self-management support and monitoring of important health concerns by phone, if possible, or at every office visit. Group visits are another beneficial way to fulfill the care needs of both medium-needs and high-needs patients (Improving Chronic Illness Care, 2008).

CONCLUSION

CARE Vital Signs has proven to be a useful tool for assisting practices that want to improve their provision of patient-centered, collaborative care. Three versions for adult, adolescent, and geriatric patients are included in the appendices. Any of these CARE Vital Signs forms can be customized by adding or deleting items, and items may be implemented in a staggered fashion over time to avoid overwhelming staff. A shorter version of the CARE Vital Signs is often used either initially by a practice to gain experience with the concept of CARE or as a tool for more frequently monitoring of the patients. The critical factors to determine which CARE Vital Signs items to use in a practice depend on the estimated frequency of abnormalities in a patient population and the ability of staff

to adequately manage abnormalities when they are identified. Completing 30 CARE Vital Signs forms usually gives an office practice a good estimate of the frequency of expected abnormalities. However, we urge practices to be very careful about permanently eliminating measures of emotional health, confidence with self-management, and pain because these factors have decisive influence on patient outcomes (Wasson et al., 2008b).

On its face, CARE Vital Signs is a deceptively simple tool that, when properly used, can help a practice attain levels of efficiency and quality.

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Appendix 1

Adult CARE Vital Signs

Patient Self-Assessment

Today's date _____

Name _____

1. What questions or concerns do you wish to discuss?
   (please state in the space provided)

_____

_____

2. Pain score _____ (*see below*)
3. Feeling score _____ (*see below*)
4. Health habits score _____ (*see below*)
5. Are you confident in managing your health problems? *(circle one)*
   Yes No Maybe Not applicable
6. Are your pills making you ill? *(circle one)*
   Yes No Maybe Not applicable
7. What does your weight and height tell you? *(see below)*

What is your weight? (in pounds)

Your height without shoes	Pay attention	Trouble
5 feet	Over 128	Over 148
5 feet 4 inches	Over 146	Over 169
5 feet 8 inches	Over 164	Over 190
6 feet	Over 184	Over 213
6 feet 4 inches	Over 205	Over 238

_____ Pay attention _____ Trouble _____ Neither "pay attention or trouble"

Thank you.

During the past 4 weeks...

Pain
How much bodily pain have you generally had?

No pain	1
Very mild pain	2
Mild pain	3
Moderate pain	4
Severe pain	5

Feelings
How much have you been bothered by emotional problems such as feeling anxious, depressed, irritable, or downhearted and blue?

Not at all	1
Slightly	2
Moderately	3
Quite a bit	4
Extremely	5

Health habits
How often did you practice good health habits such as using a seat belt, getting exercise, eating right, getting enough sleep, or wearing safety helmets?

All of the time	1
Most of the time	2
Some of the time	3
A little of the time	4
None of the time	5

Appendix Figure 1.

Appendix 2

Adolescent CARE Vital Signs

Patient Self-Assessment

Today's date _____

Name _____

1. What questions or concerns do you wish to discuss?
   (please state in the space provided)

_____

_____

2. Pain score _____ (*see below*)
3. Feeling score _____ (*see below*)
4. Social support score _____ (*see below*)
5. Health habits score _____ (*see below*)
6. Do you exercise for about 20 minutes 3 or more days a week? *(circle one)*
   Yes, most of the time Yes, some of the time No, I usually do not excercise this much
7. How often in the past 4 weeks have you been bothered by trouble solving problems? *(circle one)*
   Never Seldom Sometimes Often Always

Thank you.

During the past month...

Pain

How often were you bothered by pains such as backaches, headaches, cramps, or stomach aches?

None of the time		1
A little of the time		2
Some of the time		3
A lot of the time		4
All of the time		5

Feelings

How often did you feel anxious, depressed, irritable, sad, or downhearted and blue?

None of the time		1
A little of the time		2
Some of the time		3
Most of the time		4
All of the time		5

Social support

If you needed someone to listen or to help you was someone there for you?

Yes, as much as I wanted		1
Yes, quite a bit		2
Yes, some		3
Yes, a little		4
No, not at all		5

Health habits

How often did you practice good health habits such as using a seat belt, getting excercise, eating right, getting enough sleep, or wearing sfety helmets?

All of the time		1
Most of the time		2
Some of the time		3
A little of the time		4
None of the time		5

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Appendix 3

Geriatric Care Vital Signs

Patient Self-Assessment

Today's date _____

Name _____

1. What questions or concerns do you wish to discuss?
   (please state in the space provided)

_____

_____

2. Pain score _____ (*see below*)
3. Feeling score _____ (*see below*)
4. Social support score _____ (*see below*)
5. Do you often have trouble eating well? *(circle one)*
   Yes, often Yes, sometimes No, never
6. Do you often have trouble remembering or thinking clearly? *(circle one)*
   Yes, often Yes, sometimes No, never
7. Do you often have trouble with dizziness or falls? *(circle one)*
   Yes, often Yes, sometimes No, never
8. Are your pills making you ill? *(circle one)*
   Yes No Maybe Not applicable
9. Are you confident in managing your health problems? *(circle one)*
   Yes No Maybe Not applicable
10. How do you rate your health in general? _____ (*see below*)

Thank you.

Pain

During the past 4 weeks ...
How much bodily pain have you generally had?

No, pain		1
Very mild pain		2
Mild pain		3
Moderate pain		4
Severe pain		5

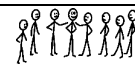
Feelings

During the past 4 weeks ...
How much have you been bothered by emotional problems such as feeling anxious, depressed, irritable, or downhearted and blue?

Not at all		1
Slightly		2
Moderately		3
Quite a bit		4
Extremely		5

Social support

During the past 4 weeks ...
Was someone available to help you if you needed and wanted help? For example, if you
—felt very nervous, lonely, or blue
—got sick and had to stay in bed
—needed someone to talk to
—needed help with daily chores
—needed help just taking care of yourself

Yes, as much as I wanted		1
Yes, quite a bit		2
Yes, some		3
Yes, a little		4
No, not at all		5

Overall health

During the past 4 weeks...
How would you rate your health in general?

Excellent		1
Very good		2
Good		3
Fair		4
Poor		5

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CARE Vital Signs for preteens and teens (aged 8–18) would give the distribution of findings shown in the following table on the basis of number of abnormal vital signs. (Analysis based on 3500 respondents to the HowsYourHealth.org Web-based survey tool). The age of respondents do not change by the number of abnormalities. Females are represented a bit more frequently in those with abnormalities: 53% for none, 60% for 1 to 2, and 65% for 3 or more. Overall, about 40% to 45% of preteen/teens will have no abnormalities, an equal number 1 to 2 and 10% to 15% will have 3 or more. The HowsYourHealth.org survey does not include an income question for preteens/teens.

	Abnormal vital signs for ages 8–18		
Sample respondent characteristic	**No abnormalities**	**1–2 abnormalities**	**3 or more abnormalities**
Medications, %			
Taking a medication daily	19	24	34
Common diagnoses, %			
Asthma	15	17	27
Obesity	22	21	32
Other diagnoses	6	10	21
Habits, %			
TV or computer > 3 hours a day	26	36	43
Risky behavior	6	10	28
Very bothersome symptoms, %			
Headache	9	22	51
Dizzy, fatigue	8	21	51
Trouble paying attention	7	19	56
Eating and weight problems	7	16	43
Skin problems	7	12	22
Abdominal pains	4	13	38
Breathing problems	3	8	19
Sexual problems	1	3	17
Concerns, %			
Exercising well	28	39	45
Eating well	23	33	43
Sexual and birth control issues	14	20	31
Depression and suicide	12	26	55
Substance abuse	11	16	34
Acquired immunodeficiency syndrome and sexually transmitted diseases	11	14	26
Violence and abuse	9	15	30
Impact on life, %			
Sick day in past 3 mo	24	28	42
Unable to talk about problems and feelings with family	23	37	60
School work very inadequate	6	16	50
From CARE vital signs, %			
Not good health habits	0	14	64
Pain	0	21	58
Not exercising regularly > 3 d a week	0	75	87
Lacking social support	0	17	60
Emotional problems	0	22	75
Problems solving difficulties	0	9	50

Twenty percent of those with no abnormality have seen a counselor in the past year, whereas 31% of those with 3 or more abnormalities have seen a counselor.

The following table illustrates that preteen/teens with problems are less likely to talk about them, the more abnormalities they have.

	Talked to someone based on abnormal vital signs for ages 8–18		
Problem area	**No abnormalities**	**1–2 abnormalities**	**≥3 abnormalities**
Emotion	NA	76%	46%
Pain	NA	75%	49%
School work	58%	51%	35%
Risk behaviors	53%	44%	22%
Social support	NA	22%	17%

The last table illustrates the quality of the discussions and percentage of discussions preteen/teens have had with a doctor or a nurse.

	If they talked to someone, how helpful was it?		
Problem area	**No abnormalities**	**1–2 abnormalities**	**≥3 abnormalities**
Pain			
% Claiming discussion was quite helpful	NA	29	18
% Talking with a doctor or a nurse	NA	49	54
Risky behavior			
% Claiming discussion was quite helpful	49	29	18
% Talking with a doctor or a nurse	4	17	12

The analysis is based on 3500 responses of patients 70 years or older to the www.HowsYour Health.org Web-based survey tool.

In a majority of practices, about 40% of the patients older than 70 will have no abnormal responses, 40% will have 1 or 2 abnormal responses, and 20% will have 3 or more. However, if a practice cares for patients with low financial status, the distribution will change dramatically with only 10% having no abnormalities and 60% having 3 or more. Appendix Table 1 provides samples of diagnoses, health habits, symptoms, use of assistive devices, and instrumental activities of daily living. Also, it provides days sick in bed and previous use of the hospital. Not surprisingly, every sample marker of illness increases with the number of abnormal Geriatric CARE Vital Signs.

Appendix Table 2 illustrates the quality of care for patients who have adequate finances on the basis of abnormalities on Geriatric CARE Vital Signs. The greater the number of abnormalities, the worse is the perception of care.

ILLUSTRATIVE *ACTIONS* THAT MIGHT BE TAKEN AFTER USING GERIATRIC CARE VITAL SIGNS

Low-needs patients

Patients whose Geriatric Vital Signs have no abnormalities are very low needs patients. Although some of them have chronic diseases, they are confident in self-management and have no pain or emotional problems that will impede their ability to manage their concerns (Wasson et al., 2008a). Except for the smokers among them, the vast majority will also have about a 5 years' longer life expectancy than average for their age (Welch et al., 1996).

A clinician's job is to reassure patients of their good health status, reinforce healthy behaviors, and provide proven preventive care after informing them of their likely life expectancy. The patients should also be encouraged to continue their self-management activities by performing a health check-up annually on-line by using free, noncommercial tools such as HowsYourHealth.org. If this survey tool is used, its registry function can be used to remind them every year to complete the HowsYourHealth.org tool to make sure that they are continuing to do well. They should also be reminded to complete or update an advanced care plan.

Medium-needs patients

These patients have 1 to 2 abnormal responses to the Geriatric CARE Vital Signs. Appendix Table 3 illustrates the types of action an office might consider. (Similar lists of actions generated by expert panels are available elsewhere) (Wenger et al., 2007).

Within this category, the office staff can describe explicit actions and "standing orders" for each of the responses. Many of these actions need not be executed by a physician. In addition, group visits are a very useful enhancement for the typical office visit of a patient who has a few CARE Vital Sign problems.

Because these patients have so many other issues, a comprehensive tool such as HowsYourHealth.org might be used before the next office visit to tailor information for their need and help the clinical staff find out "what matters" to these patients. Patients with medium or high needs will often require family members assist them with the use of computers.

Appendix Table 1. A sample of patient characteristics by category of Geriatric CARE Vital Sign*

Sample patient characteristic	Abnormal Geriatric CARE Vital Signs		
	No abnormalities	1–2 abnormalities	≥3 abnormalities
Medications			
>5 medications	15	28	48
Common diagnoses			
Hypertension	41	54	61
Arthritis	34	51	63
Atherosclerotic cardiovascular disease (any manifestation)	17	26	36
Atherosclerotic cardiovascular disease (congestive heart failure)	3	6	13
Diabetes	10	16	31
Respiratory	10	15	26
Health habits			
Smoker	22	22	30
Not exercising >3 d/wk	37	49	79
Common symptoms			
Wetting	3	8	24
Constipation	4	7	23
Sleeping problems	7	16	36
Instrumental activities of daily living limits			
Cannot get out of the house without help	2	8	30
Cannot handle finances	2	7	18
Impact on life			
Using cane or wheelchair	5	19	40
Confined to bed in last 3 mo	9	15	37
Hospitalized in past year	14	22	39
Quality of life "bad"	0	2	25
Harmed by healthcare in past year	1	2	4
From CARE Vital Signs			
Not confident	0	62	88
Pain	0	30	70
Overall health fair or poor	0	15	72
Pills perhaps causing illness	0	17	54
Lacking social support	0	17	36
Emotional problems	0	5	41
Problems thinking	0	9	37
Dizzy or falling	0	3	23
Eating/nutrition problems	0	1	21

*Values given are in percentages.

High-needs patients

This group of patients represents a rather frail group of elderly patients. They invariably require many services and are at high risk for death, rehospitalizations, and harms associated with healthcare. However, despite their illness burden, about 1 in 4 do not have a clear idea about who will make decisions for them if they become too sick to speak for themselves. They also tend to overestimate their likelihood of survival.

Appendix Table 2. Quality of care reported for 70 years or older patients with adequate financial status*

Quality indicators	Abnormal Geriatric Vital Signs		
	No abnormalities	1–2 abnormalities	≥3 abnormalities
Information and assistance			
Excellent information about chronic disease(s)	50	28	15
Helped live with their problem(s)	59	53	32
Care processes			
Very easy access to needed medical care	62	47	25
Office is efficient: My time is not wasted	87	82	69
Relationship with clinicians			
I have a personal clinician	91	90	91
I have 2 or more clinicians	37	61	66
I know who is in charge	89	88	80

*Values given are in percentages.

Many of these patients will benefit from the same approaches suggested for medium-needs patients. Given these patients multiple needs, it is imperative that family members, the patient, and other providers are all on the "same page" about management issues, priorities, and goals. The special survey within www.howsyourhealth for frail patients may be invaluable for assessing their needs and providing basic education based on their needs. The tool can save much clinician time and help the family and the patient be sure they are on the "same page."

Appendix Table 3. Initial actions for abnormal Geriatric CARE Vital Signs responses

Problems from Geriatric CARE Vital Signs	Initial actions*
Not confident	1. Review understanding of confidence 2. Identify what things patients feel least confident about and why 3. Begin "campaign for confidence"
Pain	1. Source and nature of pain 2. Problem-solving strategies 3. Medication management
Overall health fair or poor	1. Reconfirm rating with patient 2. Use for "decision making in the gray" 3. Use to trigger reminder for advance care planning 4. For those who have fair or poor health have someone help them complete the special HowsYourHealth.org tool for the "very sick or frail"
Pills perhaps causing illness	1. Which pills? 2. How are they "causing illness"? 3. Impact on patient "compliance" with pill taking 4. Explore possible alternatives

(*continues*)

Appendix Table 3. Initial actions for abnormal Geriatric CARE Vital Signs responses (*Continued*)

Problems from Geriatric CARE Vital Signs	Initial actions*
Lacking social support	1. Why the response? 2. What is needed? 3. What is lacking? 4. Problem solving 5. Possible referral
Emotional problems	1. Source and nature of emotional problem 2. Problem-solving strategies 3. Medication management
Problems thinking	1. Why the response? 2. Mini-Mental State Examination or MiniCog 3. Review options based on results
Dizzy or falling	1. Explore nature of problem 2. Get up and go 3. Orthostatic blood pressure 4. Evaluate as needed with particular focus on medications
Eating/nutrition problems	1. Explore nature of the problem 2. Weight and body mass index 3. Evaluate as needed

*For more details on these initial generic solutions, refer to "Activation of Patients for Successful Self-management." Several tools are available at www.howsyourhealth.org.

If possible, the office should designate someone to look out for high-needs patients and coordinate their care. Most importantly, this member of the staff should continuously provide brief proactive reinforcement of self-management and monitoring of important health concerns by phone, if possible, or at every visit.