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The "Top 5" Lists in Primary Care

Meeting the Responsibility of Professionalism

The Good Stewardship Working Group

Background: Physicians can adhere to the principles of professionalism by practicing high-quality, evidence-based care and advocating for just and cost-effective distribution of finite clinical resources. To promote these principles, the National Physicians Alliance (NPA) initiated a project titled "Promoting Good Stewardship in Clinical Practice" that aimed to develop a list of the top 5 activities in family medicine, internal medicine, and pediatrics where the quality of care could be improved.

Methods: Working groups of NPA members in each of the 3 primary care specialties agreed that an ideal activity would be one that was common in primary care practice, that was strongly supported by the evidence, and that would lead to significant health benefits and reduce risks, harms, and costs. A modification of nominal group process was used to generate a preliminary list of activities. A first round of field testing was conducted with 83 primary care physicians, and a second round of field testing with an additional 172 physicians.

Results: The first round of field testing resulted in 1 activity being deleted from the family medicine list. Support for the remaining activities was strong. The second round of field testing showed strong support for all activities. The family medicine and internal medicine groups independently selected 3 activities that were the same, so the final lists reflect 12 unique activities that could improve clinical care.

Conclusions: Physician panels in the primary care specialties of family medicine, internal medicine, and pediatrics identified common clinical activities that could lead to higher quality care and better use of finite clinical resources. Field testing showed support among physicians for the evidence supporting the activities, the potential positive impact on medical care quality and cost, and the ease with which the activities could be performed. We recommend that these "Top 5" lists of activities be implemented in primary care practice across the United States.

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In 2009, THE AMERICAN BOARD OF Internal Medicine Foundation launched "Putting the Charter into Practice," a program providing small grants to advance principles of professional commitment in medicine, in keeping with the Physician Charter,[1] a document jointly issued in 2002 by the American Board of Internal Medicine Foundation, the American College of Physicians Foundation, and the European Federation of Internal Medicine. These principles include improving patients' access to high-quality care, practicing evidence-based care, advocating for just and cost-effective distribution of finite resources, and maintaining trust by minimizing conflicts of interest.

The National Physicians Alliance (NPA) was founded in 2005 and today represents 22 000 members across specialties and across the United States. The NPA's primary mission is to ensure affordable, high-quality health care for all; the organization is committed to building a sustained network of physician leaders dedicated to achieving this goal.

The NPA was awarded a grant by the American Board of Internal Medicine Foundation to develop and disseminate 5-activity lists of evidence-based, quality-improving, resource-sparing activities that could be incorporated into the practices of primary care providers in family medicine, internal medicine, and pediatrics. Each activity was to be well supported by evidence, have beneficial effects on patient health by improving treatment and/or reducing risks, and, where possible, reduce costs of care.

Simultaneously, an editorial on the medical ethics of health care reform by Howard Brody[2] called on each medical specialty to generate top-5 lists of diagnostic tests or treatments that are commonly ordered but that offer limited benefits or

carry risks that outweigh their benefits. Brody asserted that by focusing on the top 5 examples of the most egregious causes of waste in each specialty, the medical profession could demonstrate to a skeptical and concerned public that high-quality care and efficient use of resources are complementary.

To compile an evidence-based top-5 list that would improve quality of care in the context of limited resources, the NPA initiated a project entitled "Promoting Good Stewardship in Clinical Practice."

METHODS

The project began by assembling working groups in each of the 3 primary care specialties. An e-mail solicitation was sent to all NPA members, inviting participation by interested primary care physicians. The project director (S.R.S.) selected a chairperson and 4 other physicians for each working group from among the respondents to the e-mail solicitation. Selection took into account geographical, gender, and racial and/or ethnic diversity and yielded 15 members: 10 women, 2 Asian Americans, 1 African American, 1 Hispanic American, and 2 physicians from rural areas.

Each working group met in a series of teleconference calls to delineate the candidate top-5 activities. The groups agreed that an ideal activity would be one that was common in primary care practice, that was strongly supported by the evidence, and that would lead to significant health benefits, reduce risks and harms to patients and communities, and reduce costs.

A modification of nominal group process was used to generate an initial list of top-5 activities.[3] A shared Google document was used to generate the list and conduct the voting online in real time.

A research assistant reviewed the literature to find evidence supporting or refuting the candidate top-5 activities and reported this to the working groups. Working groups modified their candidate activities in response to these findings, and each group generated a preliminary list of top-5 activities for field testing.

Working group members were asked to recruit 3 to 5 physicians from their specialties to serve as initial field testers. Project goals were explained to the 83 initial testers, and each tester consented to participate. Each completed an online survey in which they rated candidate activities for their specialty on 5 parameters: (1) frequency with which they engaged in this activity in their practice; (2) the potential impact of the activity on quality of care; (3) the potential impact of the activity on cost of care; (4) the strength of the evidence supporting the activity; and (5) the ease or difficulty of implementing the activity in their own practice.

Physicians in the 3 primary care specialties were recruited for the second round of field testing through a general e-mail invitation sent to all NPA members. The 172 second-round testers completed the same survey as the initial testers.

The activity was considered well supported if, on average, a majority of the survey respondents rated the activity in the 2 highest categories on the 5-point scale (ie, "significant" or "large" on the quality-of-care and economic-impact parameters, "somewhat strong" or "very strong" on the evidence parameter, and "not difficult" or "easy" on the ease-of-implementation parameter).

The first question on the survey asked the respondents "How often are you confronted with patients where you would have to decide whether or not to do the following tests or procedures?" The responses, however, seemed to indicate that a substantial number of the respondents misinterpreted the question and reported how often they *followed* the recommendation.

The question was rephrased in the beta test to "How often do you need to make a decision whether or not to order the following tests, procedures, or treatments?" The problem with misinterpretation persisted. Therefore, the data from the first question on the survey, titled "Frequency Encountered," were deemed to be invalid and were not considered further in deciding whether to keep the item.

Members of the working groups were unanimous in their belief that most of the candidate activities were sufficiently common in primary care practice to be included. For clinical encounters that were not as common, such as children presenting with minor head trauma, the working group believed that this was important enough to include anyway.

RESULTS

In the first round of testing, the 83 field testers generally rated the items favorably (**Table**), but 1 activity in the family medicine list—not doing routine blood chemical analysis for asymptomatic, healthy adults—showed weak support. While 70.3% felt that the evidence supporting the recommendation was somewhat strong or very strong, only 37.0% felt that adhering to the recommendation was quite important or critically important to the quality of care, and only 48.1% felt that it would be easy or not difficult to implement. Therefore, the activity was dropped, and another candidate activity (not routinely prescribing antibiotics for mild to moderate sinusitis) replaced it for the second field test. All other activities underwent only minor wording changes, based on the feedback of the first field testers.

A second round of field testing was performed on the revised lists with a new group of 172 primary care physicians. The results of the second field test are also listed inTable. These testers endorsed the activities on the revised list.

The final top-5 lists are presented in the **Figures 1**, **2**, and **3**. Although working groups functioned independently of one another, some activities arose in more than 1 group. The family medicine and internal medicine groups independently selected 3 activities that were the same, so the final lists reflect 12 unique activities. This commonality across specialties reinforced the importance and relevance of addressing overuse of these activities. When substantively similar items arose in different groups, one working group was designated as the lead on that item, modified the wording in response to field testers from all relevant specialties, and returned the activity to the second working group for ratification.

COMMENT

Physician panels in the primary care specialties of family medicine, internal medicine, and pediatrics identified common clinical activities where changes in practice could lead to higher-quality care and better use of finite clinical resources. Field testing showed support among physicians for the evidence supporting the recommendations, the potential positive impact on quality and cost, and the ease with which the recommendations could be implemented.

Table. Field Testers Who Agreed or Strongly Agreed on the Importance of the Clinical Activity

Practice Activity	Testing Group	Field Testers Who Agreed or Strongly Agreed on Importance, %				
		Frequency Encountered	Quality of Care	Economic Impact	Strength of Evidence	Ease of Implementation
Family Medicine						
Imaging for low back pain	Alpha	55.5	51.8	85.1	100.0	70.3
	Beta	38.2	41.9	81.8	96.4	83.6
Routine laboratory studies	Alpha	74.1	37.0	59.2	70.3	48.1
Antibiotics for sinusitis	Beta	38.2	63.6	60.0	94.6	70.9
Annual ECGs	Alpha	44.4	40.7	48.1	92.6	88.9
	Beta	29.0	40.0	54.5	92.7	96.3
Pap test for patients <21 y	Alpha	40.7	74.1	59.2	96.3	74.0
	Beta	36.4	51.0	50.9	96.3	89.1
DEXA scans younger patients	Alpha	40.7	55.5	66.7	85.1	81.4
	Beta	25.4	32.7	60.0	90.9	83.7
Internal Medicine						
Imaging for low back pain	Alpha	65.5	75.8	82.7	100.0	75.8
	Beta	40.0	49.0	74.0	90.0	80.0
Routine laboratory studies	Alpha	72.1	51.7	62.1	68.9	44.8
	Beta	54.0	40.0	54.0	78.0	60.0
Annual ECGs	Alpha	58.6	69.0	62.0	89.7	89.6
	Beta	26.0	40.0	42.0	84.0	88.0
Generic statins	Alpha	75.9	79.3	86.2	89.7	93.1
	Beta	70.0	46.0	78.0	82.0	94.0
DEXA scans for younger patients	Alpha	58.6	58.6	44.8	65.5	75.8
	Beta	22.0	22.0	50.0	74.0	86.0
Pediatrics						
Antibiotics pharyngitis	Alpha	42.9	85.7	61.9	90.5	81.0
	Beta	53.6	46.5	53.6	96.5	89.3
Head injury imaging	Alpha	9.5	90.5	85.7	95.3	71.4
	Beta	10.7	35.7	71.5	96.5	89.3
OME referral	Alpha	23.8	52.4	66.6	85.8	90.5
	Beta	21.4	21.4	39.3	78.6	85.7
No cough medications	Alpha	90.5	71.4	47.6	71.5	42.8
	Beta	82.1	60.7	35.7	92.9	78.0
Inhaled steroids for asthma	Alpha	71.4	90.5	81.9	95.2	47.6
	Beta	67.8	78.5	71.5	89.3	85.7

Abbreviations: ECG, electrocardiogram; DEXA, dual energy x-ray absorptiometry; OME, otitis media with effusion; Pap, Papanicolaou.

LIMITATIONS

The items generated by the 3 working groups reflect the opinions of the physicians serving on the working groups. A different group of physicians might have elaborated a different list. We believe that the specific items included on the list may be less important than the process for developing a consensus to change clinical behavior to improve care and reduce risk and cost.

The physicians recruited for field testing may not be representative of physicians in the 3 primary care specialties. A larger sample of physicians selected to reflect the demographic characteristics of the specialties might have responded differently to the survey questions. Resource limitations of this study precluded recruiting a representative sample. Finally, the field testing relied on the opinions of the physicians who participated in the survey rather than on empirical data or actual implementation in practice.

NEXT STEPS

The top-5 lists will be distributed to all NPA physicians in the respective primary care specialties. A virtual practice community will be formed to support physicians' efforts to implement the recommended activities in their practices.

Many of the field testers believed that successful implementation would depend on enlisting patient agreement with the recommendations. Misunderstanding and miscommunication between physicians and patients explain a significant part of why unnecessary and even harmful tests and treatments are ordered. For example, many primary care physicians state that pressure from patients leads them to prescribe antibiotics when they are not indicated. Yet studies have shown that, in fact, patients don't expect antibiotics nearly as often as doctors believe they do.[19-21]

Patient satisfaction and understanding are closely related, and physicians can improve patient satisfaction by focusing on understanding. This can be achieved by acknowledging and validating patient concerns while providing factual information in an easy-to-understand manner, explicitly clarifying the rationale for a selected course of action, and providing a contingency plan that empowers the patient.[22]

With this in mind, the NPA is planning to produce training videos to help physicians gain their patients' understanding and support by learning the communication skills necessary to enlist patient partnership in collaborative work. Videos will also be produced specifically for patients, explaining the rationale for the recommendations by clarifying that risks outweigh benefits, and the

Top 5 List in Family Medicine

1. Don't do imaging for low back pain within the first 6 weeks unless red flags* are present
- Imaging of the lumbar spine before 6 weeks does *not* improve outcomes but does increase costs
- Low back pain is the fifth most common reason for all physician visits

* *Red flags include but are not limited to severe or progressive neurological deficits or when serious underlying conditions such as osteomyelitis are suspected*
Sources: AHCPR and Cochrane

2. Don't routinely prescribe antibiotics for acute mild to moderate sinusitis unless symptoms (which must include purulent nasal secretions AND maxillary pain or facial or dental tenderness to percussion) last for 7 or more days OR symptoms worsen after initial clinical improvement
- Most maxillary sinusitis in the ambulatory setting is due to a viral infection that will resolve on its own
- Despite consistent recommendations to the contrary, antibiotics are prescribed in over 80% of outpatient visits for acute sinusitis
- Sinusitis accounts for 16 million office visits and $5.8 billion in annual healthcare costs

Source: Cochrane and Ann IM

3. Don't order annual ECGs or any other cardiac screening for asymptomatic, low-risk patients
- Little evidence that detection of coronary artery stenosis in asymptomatic patients at low risk for coronary heart disease improves health outcomes
- False-positive tests are likely to lead to harm through unnecessary invasive procedures, over-treatment, and misdiagnosis
- Potential harms of this routine annual screening exceed the potential benefit

Source: USPSTF

4. Don't perform Pap tests on patients younger than 21 years or in women status post hysterectomy for benign disease
- Most dysplasia in adolescents regresses spontaneously; therefore, screening Pap tests done in this age group can lead to unnecessary anxiety, morbidity, and cost
- Pap tests have low yield in women after hysterectomy (for benign disease), and there is poor evidence for improved outcomes

Sources: ACOG (for age), USPSTF (for hysterectomy)

5. Don't use DEXA screening for osteoporosis in women under age 65 years or men under 70 years with no risk factors*
- Not cost-effective in younger, low-risk patients, but cost-effective in older patients

* *Risk factors include but are not limited to fractures after age 50 years, prolonged exposure to corticosteroids, diet deficient in calcium or vitamin D, cigarette smoking, alcoholism, thin and small build*

Sources: NOF, USPSTF, AACE, ACPM

Figure 1. "Top 5" activities in family medicine. AACE indicates American Association of Clinical Endocrinology[4]; ACOG, American College of Obstetrics and Gynecology[5]; ACPM, American College of Preventive Medicine[6]; AHCPR, Agency for Healthcare Policy and Research[7]; Ann IM, *Annals of Internal Medicine*[8]; Cochrane, Cochrane Database of Systematic Reviews[9]; DEXA, dual energy x-ray absorptiometry; ECG, electrocardiogram; NOF, National Osteoporosis Foundation[10]; Pap, Papanicolaou; and USPSTF, US Preventive Services Task Force.[11]

Top 5 List in Internal Medicine

1. Don't do imaging for low back pain within the first 6 weeks unless red flags* are present
- Imaging of the lumbar spine before 6 weeks does *not* improve outcomes but does increase costs
- Low back pain is the fifth most common reason for all physician visits

* *Red flags include but are not limited to severe or progressive neurological deficits or when serious underlying conditions such as osteomyelitis are suspected*
Sources: AHCPR and Cochrane

2. Don't obtain blood chemistry panels (eg, basic metabolic panel) or urinalyses for screening in asymptomatic, healthy adults
- Only lipid screening yielded significant numbers of positive results among asymptomatic patients
- Screen for type 2 diabetes mellitus in asymptomatic adults with hypertension

Source: USPSTF

3. Don't order annual ECGs or any other cardiac screening for asymptomatic, low-risk patients
- Little evidence that detection of coronary artery stenosis in asymptomatic patients at low risk for coronary heart disease improves health outcomes
- False-positive tests are likely to lead to harm through unnecessary invasive procedures, overtreatment, and misdiagnosis
- Potential harms of this routine annual screening exceed the potential benefit

Source: USPSTF

4. Use only generic statins when initiating lipid-lowering drug therapy
- All statins are effective in decreasing mortality, heart attacks, and strokes when does is titrated to effect appropriate LDL cholesterol reduction
- Switch to more expensive brand-name statins (atrovastatin [Lipitor] or rosuvastatin [Crestor]) only if generic statins cause clinical reactions or do not achieve LDL cholesterol goals

Sources: CURVES[12] and MERCURY[13] trials and metanalyses

5. Don't use DEXA screening for osteoporosis in women under age 65 years or men under 70 years with no risk factors*
- Not cost-effective in younger, low-risk patients, but cost-effective in older patients

* *Risk factors include but are not limited to fractures after age 50 years, prolonged exposure to corticosteroids, diet deficient in calcium or vitamin D, cigarette smoking, alcoholism, thin and small build*

Sources: NOF, USPSTF, AACE, ACPM

Figure 2. "Top 5" activities in internal medicine. AACE indicates American Association of Clinical Endocrinology[4]; ACOG, American College of Obstetrics and Gynecology[5]; ACPM, American College of Preventive Medicine[6]; AHCPR, Agency for Healthcare Policy and Research[7]; Ann IM, *Annals of Internal Medicine*[8]; Cochrane, Cochrane Database of Systematic Reviews[9]; DEXA, dual energy x-ray absorptiometry; ECG, electrocardiogram; LDL, low-density lipoprotein; NOF, National Osteoporosis Foundation[10]; Pap, Papanicolaou; and USPSTF, US Preventive Services Task Force.[11] Lipitor is manufactured by Pfizer, New York, New York; Crestor, by AstraZeneca, Wilmington, Delaware.

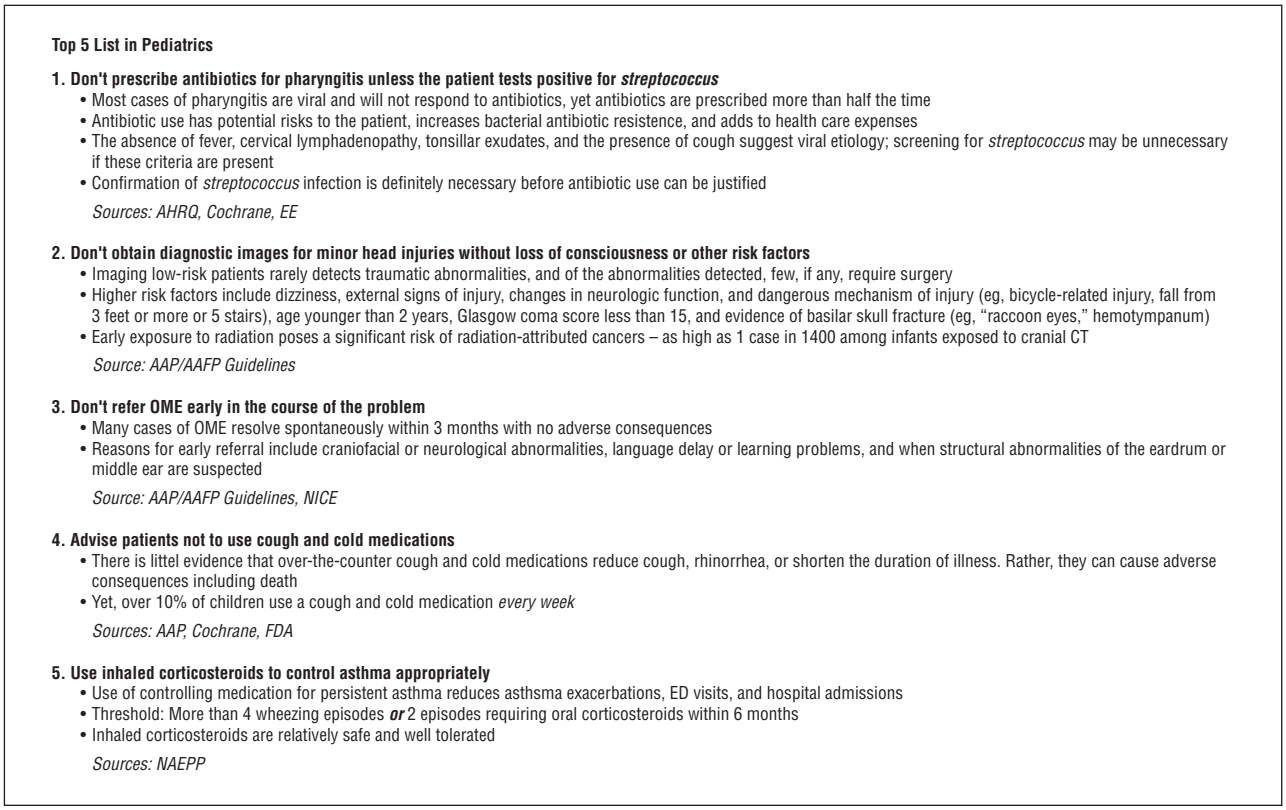

Figure 3. "Top 5" activities in pediatrics. AAP/AAFP indicates the American Academy of Pediatrics/American Academy of Family Practice[14]; ACPM, American College of Preventive Medicine[6]; AHCPR, Agency for Healthcare Policy and Research[7]; CT, computed tomography; ED, emergency department; EE, Essential Evidence[15]; FDA, US Food and Drug Administration[16]; NAEPP, National Asthma Education and Prevention Program[17]; NICE, National Institute for Health and Clinical Excellence[18]; and OME, otitis media with effusion.

link between overutilization and increases in insurance premiums.

Patient-centered approaches that discuss expectations and share information with patients have been shown to successfully reduce antibiotic prescriptions in primary care.[23] Effective implementation of the top-5 lists must respect patients' values and beliefs while also honoring clinical logic and protecting finite resources.[24]

The NPA also plans to request the endorsements of consumer groups and patient safety groups for the recommendations in the top-5 lists. Having such endorsements will help dispel the misconception that these clinical recommendations represent rationing and support the idea that often less is truly more.

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EDITOR'S NOTE

The "Top 5" Health Care Activities for Which Less Is More

In this article, the Good Stewardship Working Group reports the results of an effort by the National Physicians Alliance to develop a list of the "Top 5" activities in family medicine, internal medicine, and pediatrics where the quality of care could be improved, generally by providing less health care. The editors of the *Archives of Internal Medicine* applaud this effort and plan to publish a series of articles focused on specific top 5 activities, providing evidence to document that the risks and costs of these activities outweigh the benefits. We

See also page 1385

look forward to studies documenting the impact of the top 5 list on the quality of health care.

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