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Physician Profiling & Behavior Change REPORT

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U.S. falling short on quality, but are physicians to blame?

A new summary of more than 150 published studies and reports suggests that serious gaps remain on many crucial dimensions of health care quality. On the positive side, *Quality of Health Care in the United States: A Chartbook*, released in May by The Commonwealth Fund in New York, also cites numerous successful examples of collaborative efforts that have led to quality improvement (QI).

In examining the details of various dimensions of health care delivery, from effectiveness of care to patient safety, it's apparent that "quality will not improve by itself," maintains **Karen Davis**, president of The Commonwealth Fund. "In fact, the task will be even more challenging in the future because of the increasing complexity of care, with new tests, procedures, and treatments, including drugs.

"Health care leaders need to develop processes that support quality improvement," Davis says. "This report provides a starting point for action."

Using a variety of data "snapshots," the *Chartbook*'s authors paint an overall picture of quality that is troubling, but with encouraging signs of progress.

"What we discovered is that there's good news and there's room for improvement," says **Douglas McCarthy**, research associate at Argus Insights (now President of Issues Research, Inc.) in Durango, CO. "In terms of preventive care, we've seen a doubling in flu shots for adults, faster treatment for heart attack patients, higher rates of mammography screening, and improved treatment and outcomes for HIV.

"But the health care system is still falling short on many measures, including screening rates for colorectal cancer, inappropriate use of antibiotics, lack of preventive care for diabetes, and medical errors -- not only on the inpatient side but, new research suggests, on the ambulatory side, as well."

"Quality problems are not just isolated incidents that affect a few people," adds **Sheila T. Leatherman**, president of the Foundation for Health Care Policy and Evaluation in Minneapolis and adjunct professor in the School of Public Health at the University of North Carolina in Chapel Hill. "This report proves this is a pervasive problem that affects all of us."

Six key areas affect health care outcomes

Part of the problem with measuring health care quality is that each stakeholder comes to the table with its own unique set of definitions, according to Leatherman and McCarthy. Physicians typically view quality in a technical sense -- whether an accurate diagnosis was made, a surgical procedure was performed proficiently, or a patient's health status was improved. Patients judge an encounter with the health care system both by its outcome and in more personal terms -- whether a physician listened well, communicated clearly, and treated them with compassion as well as skill. Payers and purchasers, meanwhile, simply want to know if the service was cost-effective -- whether the optimum clinical outcome was achieved in the most efficient manner.

These disparate definitions sometimes create incongruity among stakeholders, McCarthy admits. For example, use of reminder systems is highly associated with improvements in childhood immunizations, yet only 20% to 35% of pediatri-

cians and family practitioners use these tools, he says. The reason? They cost money, and most health plans and provider groups don't want to spend the bucks because they don't see any immediate reward for their particular piece of the quality equation.

"There's little argument that the payoff for preventive care comes down the road," McCarthy says. "But we can't wait for tomorrow to improve preventive care. A better alignment of incentives is needed now between health plans and providers. This is a major issue that needs to be addressed."

Whether through the eyes of providers or patients, recent barometers of opinion suggest the performance of the U.S. health care system is eroding, the authors say. More than half of U.S. physicians report their ability to deliver quality care has worsened over the past five years, while barely half of the U.S. public rates the quality of health care as good or excellent -- though, in part, these ratings reflect exceptionally high expectations that Americans have for their health care, according to Leatherman and McCarthy.

In any event, "it is clear that improvement in six areas of performance could significantly affect the process and outcomes of health care," they write. These include:

1. consistently providing appropriate and effective care;
2. reducing unjustified geographic variation in care;
3. eliminating avoidable mistakes;
4. reducing access barriers, including lack of insurance;
5. improving responsiveness to patients;
6. eliminating racial/ethnic, gender, socioeconomic, and other disparities and inequalities in access and treatment.

Not all of these areas are under the direct control of physicians, of course, but doctors can and should be held accountable for shortcomings in many of them -- particularly the failure to apply evidence-based knowledge.

"There are many tools for improving quality of care," McCarthy says. "Medical directors -- both at health plans and practices -- have a responsibility to stay abreast of current evidence-based practice and relay that information to their physicians."

'Typical care' does not reflect good science

A battery of studies have consistently reported that individuals with acute and chronic medical conditions receive only about two-thirds of the health care they need and that 20% to 30% of tests and procedures they receive are not necessary or beneficial, the researchers write. For example, physicians continue to prescribe antibiotics for the common cold, as indicated in **Figure 1**, even though clinical evidence clearly shows that antibiotics are ineffective for viral infections. Figure 1 suggests that some PCPs are getting the message to reduce inappropriate use of antibiotics -- prescribing declined to 57% of primary care visits by adults with sore throats in 1999 -- but the numbers still are double the expected rate if clinical guidelines were uniformly followed.

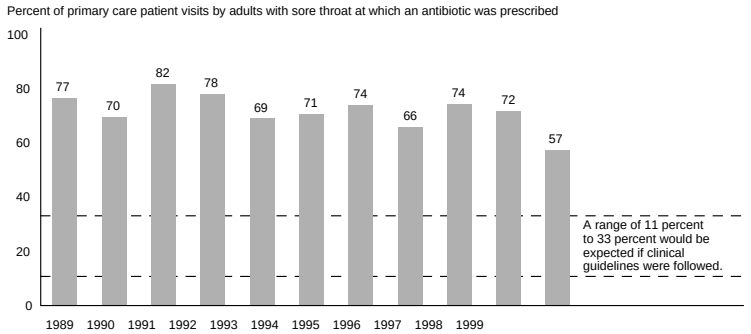
On the other hand, beta blockers, which are known to be effective in preventing the recurrence of heart attack, are underprescribed, as indicated in **Figure 2**. During 1998-99, on average, more than one-fourth of Medicare patients with coronary heart disease who were ideal candidates for beta blockers did not receive a prescription for one when they were discharged from the hospital. Rates of beta blocker prescribing ranged from just 47% in Mississippi to 93% in the District of Columbia and Massachusetts, with a median of 72% across the United States.

Throughout the *Chartbook*, the researchers provide compelling evidence that typical clinical care does not reflect good science, including deficiencies in diabetes management, treatment for pneumonia, and treatment for depression. One of the most unsettling findings is that, despite the influence of managed care, one-third or more of surgical procedures still are performed for inappropriate reasons or for questionable clinical reasons, including a large volume of hysterectomies, coronary bypass surgeries, and angioplasties.

"The quality of health care as measured by the appropriateness of procedures shows unexplained variability," McCarthy points

Figure 1: Antibiotic Treatment for Sore Throat

Primary care physicians moderated their use of antibiotics to treat sore throats in 1999, but antibiotics continue to be overused at a rate well above what clinical guidelines suggest is appropriate.



Data Source: Linder JA, Stafford RS. Antibiotic treatment of adults with sore throat by community primary care physicians: A national survey, 1989-1999. *JAMA* 2001; 286:1181-1186.

Source: Leatherman S, McCarthy D. Quality of HealthCare in the United States: A Chartbook. New York City: The Commonwealth Fund, 2002.

out. "Overuse of procedures exposes patients to unnecessary risk of complications and wastes resources that could be put to better use."

Some of this variability is related to geography. Beginning with the inaugural studies in 1973 by John Wennberg, MD, and colleagues at Dartmouth Medical School, several decades of research have produced enormous evidence of geographic variation in medical treatments and procedures, even for patients whose symptoms and illness are similar. For example, physicians in Texas are more likely to perform invasive heart procedures than doctors in New York, the authors say, yet outcomes are not better for the Texas patients. This quality problem stems, at least in part, with the failure to practice medicine consistently in accordance with evidence-based guidelines, Leatherman and McCarthy maintain.

Look to the system, not the individual

What are the most effective agents for promoting behavior change among physicians that will improve quality of care? Look to the system, not to individual practitioners, the authors advise.

"A lesson learned from other industries is that most quality problems can be traced to flawed systems, lack of proper training, and perverse incentives that hinder people from performing optimally," Leatherman and McCarthy write. "Long-term restructuring programs to build knowledge, standardize processes, redesign systems, and reward good performance are needed."

Closing the gap between what is scientifically known and how health care is practiced is not simply a matter of "exhorting everyone to work better and harder," they add. With thousands of clinical research trials under way, the sheer volume of medical literature makes it humanly impossible for physicians to master all of the emerging knowledge. Consequently, "methods and systems to support the best of medicine, such as systematic reviews of the literature, guidelines, and computerized practice prompts, need to be routinely implemented."

Some of the "best practice" examples of clinical improvement in the *Chartbook* have done just that, serving as terrific benchmarks for provider organizations that have or are planning to implement clinical improvement strategies. **Figure 3** represents a synthesis of 41 controlled studies conducted over the past three decades. These data conclude that reminding patients about immunizations vastly improves vaccination rates, both among children and adults.

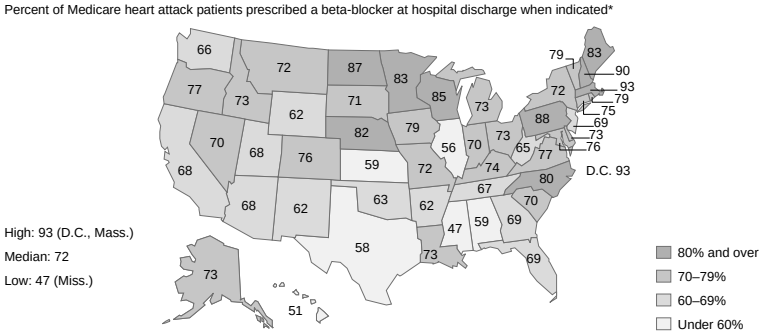
"Patient reminder systems are highly effective," McCarthy points out. "Although there is a cost to implementing such systems, advances in automated billing systems and immunization registries are making them increasingly affordable to physicians."

Multifaceted approach targets antibiotics

Similarly, a multifaceted intervention to reduce unnecessary antibiotic use reduced prescribing by more than one-third among patients with uncomplicated bronchitis at Kaiser Permanente in Denver. The intervention was directed by Ralph Gonzales, MD, MSPH, director of the Division of General and Internal Medicine at the University of Colorado Health Sciences Center, and

Figure 2: Medication to Prevent Recurrent Hear Attack

In half the states during 1998–1999, over one-quarter of Medicare heart attack patients who were ideal candidates for medication to prevent recurrent heart attacks did not receive it.

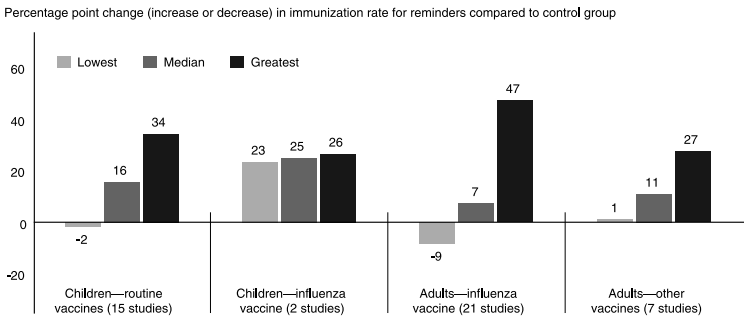


Data Source: Jencks SF, Cuerdon T, Burwen DR, et al. Quality of medical care delivered to Medicare beneficiaries: A profile at state and national levels. *JAMA* 2000; 284:1820-1827.

Source: Leatherman S, McCarthy D. *Quality of HealthCare in the United States: A Chartbook*. New York City: The Commonwealth Fund, 2002.

Figure 3: Improving Immunization Rates

A synthesis of controlled studies found that patients who received reminders (such as postcards, letters, or phone calls) about upcoming or overdue immunizations were two-and-a-half times more likely to be vaccinated or up-to-date on their vaccinations than those who did not receive such reminders.



Data Source: Szilagyi PG, Bordley C, Vann JC, et al. Effect of patient reminder/recall interventions on immunization rates. *JAMA* 2000; 284: 1820-1827

Source: Leatherman S, McCarthy D. *Quality of HealthCare in the United States: A Chartbook*. New York City: The Commonwealth Fund, 2002.

Paul Barrett, MD, MSPH, director of research for Colorado Permanente Medical Group, both in Denver. They selected a full intervention site, a limited intervention site, and two "usual care" control sites from the largest of Kaiser's 17 medical office practices in Denver.

Patient education materials, mailed to 25,000 households that receive primary care services at the full intervention site, included:

1. large refrigerator magnets outlining issues related to prevention, self-care, when to seek care, and what to expect from the office visit;

2. a pamphlet produced by the Centers for Disease Control and Prevention (CDC) in Atlanta entitled "Your Child and Antibiotics -- Sometimes Antibiotics Can Be Harmful";

3. a pamphlet produced by Bayer Pharmaceutical Division in West Haven, CT, entitled, "Operation Clean Hands" that addresses proper hand washing techniques;

4. a letter from the medical director at the full intervention site explaining the problem of bacteria-resistant antibiotics and Kaiser's efforts to reduce unnecessary antibiotic use.

Additional materials directed at both patients and clinicians were placed both in the full and limited intervention clinics, including colorful 11" x 17" posters (see **Figure 4**) and information sheets that patients could tear off and take home (see **Figure 5**).

Only providers at the full intervention site also received a targeted educational intervention designed to help them "just say no" to inappropriate patient demands for antibiotics. The professional education, which was presented during a single, 30-minute session during regularly scheduled staff meetings, consisted of: 1) a description of the patient education intervention; 2) the results of a practice profiling tool showing site-specific -- not provider-specific -- antibiotic prescribing rates for acute bronchitis from the preceding quarter; 3) current scientific evidence on the appropriate management of acute bronchitis, and 4) practical advice on patient-physician communications, focusing on how to respond to patient demands for antibiotics.

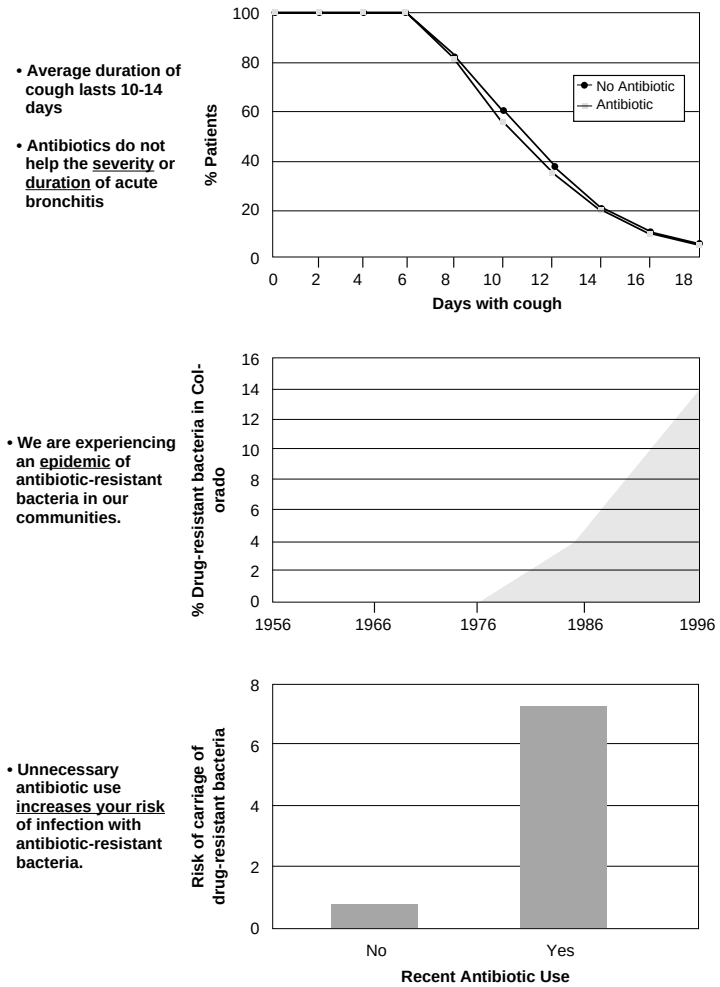
Plans, providers can collaborate for success

The full intervention site saw extraordinary results, with antibiotic prescribing for bronchitis falling from 74% at baseline (November 1996 to February 1997) to 48% during the study period (November 1997 to February 1998). Notably, antibiotic prescribing for bronchitis fell only from 82% to 77% during the study period at the limited intervention site, which included only the clinic posters and information sheets, and the control sites had virtually no change. Reducing antibiotic treatment for uncomplicated acute bronchitis was not associated with increases in prescriptions for other medications, there was no difference in return visit rates, and patient satisfaction rates at the full intervention clinic remained high.

A similar program to improve diabetes management was undertaken in Arizona, where six managed care plans collaborated with the state's Medicare Peer Review Organization (PRO) on a QI initiative that encompassed regular follow-up, education, and monitoring. Each health plan designed its own intervention, which included case management, physician-developed tracking forms, medical record reminder systems, data feedback to individual physicians, and patient education.

The PRO measured and provided comparative feedback on health plan performance at the beginning of the project and one year later. As

Figure 4: Campain Poster
Acute Bronchitis (Chest Cold) & Antibiotics
Too many antibiotics may be harmful to your health



Source: Ralph Gonzales, Acute Respiratory Illness Project. University of Colorado Health Sciences Center and Colorado Permanente Medical Group. Reprinted with permission.

illustrated in **Figure 6**, 59% of patients received all of the recommended services, including diabetes monitoring, education, and follow-up, compared to just 34% of patients at baseline. The proportion of patients who maintained appropriate blood sugar control (HbA1c below 8%) rose from 40% of patients at baseline to 62% after the intervention.

"It makes sense for health plans to collaborate for monitoring and management of a chronic illness such as diabetes, since physicians contract with multiple plans and patients move from plan to plan," McCarthy points out. "This improvement in blood sugar control is a measure that certainly can be replicated in other states."

Successful collaboration for QI also can occur among health care providers, McCarthy adds. The *Chartbook* cites the work of the Northern New England Cardiovascular Disease Study Group, a voluntary consortium of hospitals founded in 1987. By collecting detailed clinical data over time, the group discovered wide variation in bypass surgery death rates, ranging from 2% to 10% among surgeons.

In response, the consortium implemented a cooperative QI intervention consisting of 1) regular confidential feedback of outcomes data to each surgeon and hospital in the region, 2) training in QI techniques, and 3) a series of site visits to discover best practices at each institution. As a result of these efforts, numerous changes were instituted at each hospital, and the regional in-hospital bypass surgery death rate fell by 24% more than expected, based on historical data, resulting in 74 fewer deaths from 1991 to 1993.

Practice-level research needed

The common denominator in all of these process improvement approaches is a targeted, collaborative intervention involving either a health plan and provider organization, multiple plans, or multiple providers, McCarthy points out. In each case, the organizations also published results of their own controlled trials -- information that is urgently needed by other health care organizations to develop their

Figure 5: Patient Information Sheet
Acute Bronchitis (chest cold) and Antibiotics:
What you need to know

What is acute bronchitis (chest cold)?
- Acute bronchitis most often refers to a viral infection of the bronchi (bronchial tubes) accompanied by a cough. The cough usually produces white, yellow, or green phlegm.
- Other common symptoms include low-grade fever, headache, sore throat, sinus congestion, chest tightness, and wheezing.

How long do symptoms usually last?
- Feeling ill and weak should get better within 1 week.
- The cough of acute bronchitis usually lasts from 1 to 3 weeks.

Is there any reason to prescribe antibiotics for acute bronchitis?
- If you do not have lung disease or immune problems, studies have shown no benefit of taking antibiotics for acute bronchitis. Antibiotics do not help how bad or how long you have symptoms.
- Antibiotics do not prevent pneumonia, sinus, or ear infections in healthy patients with acute bronchitis.

Why did I get better the last time I used antibiotics for bronchitis?
- If you have bronchitis, you will get better regardless of antibiotic use. Sometimes bronchitis may last only 1 week. Other times it may last up to 3 weeks.

Why were they given to me for acute bronchitis in the past?
- We used to think that antibiotics wouldn't harm you. So while they were unlikely to help, they were prescribed more freely.
- As a result of this practice, some patients now expect or request antibiotics for acute bronchitis. Some doctors say that they prescribe antibiotics in response to this pressure.

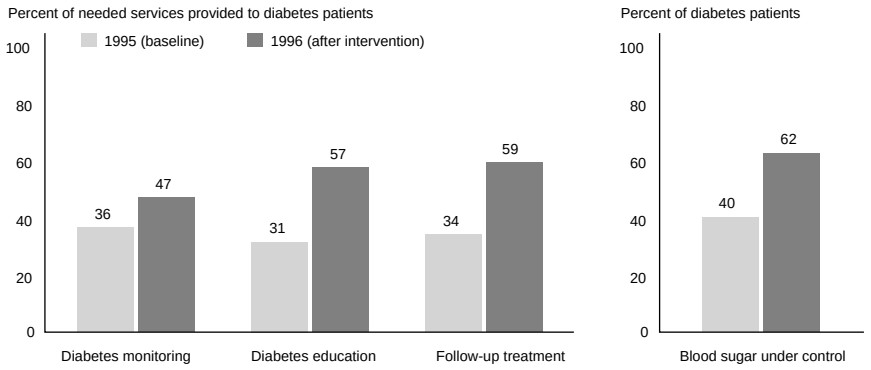
Antibiotic-resistant bacteria have developed, in large part, because of widespread use of antibiotics for colds, bronchitis, and other viral infections.

What We Must Do To Prevent a Crisis with Drug-Resistant Bacteria:
- You can help by not pressuring your doctor to prescribe an antibiotic for colds, flu, and bronchitis, and by giving your body's immune system enough time to clear the infection naturally (2 to 3 weeks).
- Doctors must prescribe antibiotics only for illnesses that antibiotics can treat.

Source: Ralph Gonzales, Acute Respiratory Illness Project. University of Colorado Health Sciences Center and Colorado Permanente Medical Group. Reprinted with permission.

Figure 6: Improving Diabetes Management

Care of diabetes requires regular follow-up, education, and monitoring. Process and outcomes of care improved among Medicare patients with diabetes after six competing Arizona Medicare health plans collaborated for performance monitoring and implementing plan-specific interventions.



Data Source: Marshall CL, Bluestein M, Briere E, et al. Improving outpatient diabetes management through a collaboration of six competing, capitated Medicar manged care plans. Am J Medical Qual 2000; 15(2):65-71.

Source: Leatherman S, McCarthy D. *Quality of HealthCare in the United States: A Chartbook*. New York City: The Commonwealth Fund, 2002.

own strategies for reducing unwanted variation, changing physician behavior, and improving clinical performance.

"Organizations need to look at a menu of options and decide what approach is best suited to their infrastructure," McCarthy suggests. "In Colorado, Kaiser had the ability to randomize clinics for its antibiotic prescribing trial. Few provider practices are large enough to undertake this type of formal study, but they can focus on areas of opportunity and provide physicians with individual, group, and regional performance feedback, like the New England hospitals did in their bypass surgery initiative."

Health care purchasers and payers also must do a better job of evaluating and rewarding quality, McCarthy insists. Some purchasing coalitions are beginning to look at pay-for-performance incentives, he points out, both in financial terms and in non-financial mechanisms such as "green-lighting" efficient physicians so they can bypass routine UR protocols.

The key to sustained QI is to examine the entire system of care rather than blaming physicians.

"You have to look at all of the tools for incorporating evidence-based guidelines into daily practice," McCarthy says. "Provider profiling, whether through confidential feedback or public reporting, should be explored. Physician leaders should be recruited as process improvement champions, because the importance of physician buy-in cannot be overemphasized.

"You need appropriate training for nurses and other staff," he adds. "Finally, information systems are critical, especially as physician practice software becomes more sophisticated. If you want to effect change, you need tools to track performance and develop reports that provide meaningful feedback to physicians."

Editor's Note: Copies of Quality of Health Care in the United States: A Chartbook *are available by calling The Commonwealth Fund at (888) 777-2744 and requesting publication #520. The report also can be downloaded from the Fund's website at* www.cmwf.org. *Contact Douglas McCarthy at (970) 259-7961.* □