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Designing Benefits With Evidence in Mind

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- This *Issue Brief* explores whether an old concept (benefit design) and a newer concept (evidence-based clinical information) can be more explicitly linked in order to better focus care on health improvement, and to discourage services and costs that do not result in improved health.
- ***Potential of evidence-based medicine not yet successful—***The better use of evidence in coverage design could reduce the use of marginal services and control some of the variation in utilization among providers. Recent efforts to move in this direction have not been particularly successful, but they have led to the identification of obstacles that, if overcome, will increase the chances of significant progress in this effort.
- ***Interest is growing in evidence-based medicine—***There is growing interest in more explicit approaches to benefit language that better integrate evidence, encourage its use, reward improvement in the quality of evidence, and provide more precision for decision makers. These developments give credibility to a movement in which the demand side of the U.S. health care equation is becoming ever more explicit about exactly what it expects for the enormous sums it is transferring to the supply side of the health care system.
- ***Evidence is essential to success of consumer-driven health plans—***Consumer-driven plans use various strategies to offer patients more and better information. They need to do so, since evidence consistently shows cost sharing is indiscriminant in its effects, reducing utilization of valuable services that improve health as much as it reduces ineffective services. Without more transparency, consumers may conclude that these efforts to provide patients with better information are incomplete or biased.
- ***Obstacles to increased use of evidence—***Major obstacles to increased use of evidence in health benefits include a perceived lack of sufficient evidence to proceed, credibility and transparency, benefit design language, financial relationships, and administrative costs.
- ***Key elements—***Among the major factors in designing evidence-based health benefits are analysis, decision making, communication; synthesis of evidence used in deciding what is covered or excluded; and primary studies that would help determine the value of various benefits.
- ***Oregon example—***The state of Oregon has developed a language of benefit design that is organized around combinations of conditions and treatments that use medical evidence in determining covered conditions and approved treatments. Health plans currently administering the Oregon Health Plan benefit have been profitable over the course of multiple changes in the plan.

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Introduction

There is broad recognition that current cost trends in health care are unsustainable. This *Issue Brief* explores whether an old concept (benefit design) and a newer concept (evidence-based clinical information) can be more explicitly linked in order to better focus care on health improvement, and to discourage services and costs that do not result in improved health.

While there are significant differences between public-sector and private-sector approaches to benefit design, neither has succeeded in controlling costs. Both are driven by public policies that mandate coverage of specific benefits as well as by advancing technology. Cost is also driven by litigation and the

entrepreneurial U.S. health care system in which organizations seek financial success that is not explicitly linked to health improvement. Entrepreneurial behavior leads not only to the provision of many marginal services, but also to vast differences in expenditure between locations and populations without corresponding increases in health status, effectively wasting billions of dollars.

The better use of evidence in coverage design could reduce the use of marginal services and control some of the variation in utilization among providers. Recent efforts to move in this direction have not been particularly successful, but they have led to the identification of obstacles that, if overcome, will increase the chances of significant progress in this effort. These challenges include:

- A current benefit design language that does not offer sufficient detail to allow the explicit integration of evidence.
- Limitations of the research literature on the effectiveness of health services.
- Resistance to change among providers and vendors.
- Fragmentation among purchasers and consultants.
- Lack of capacity among human resource administrators and benefit consultants.
- Resistance to change among consumers.

None of the challenges is insurmountable, however, and for each there are examples of progress already made. In particular, the quality and quantity of evidence related to crucial health issues are increasing. More and more evidence is being evaluated using systematic methodologies by researchers who do not have conflicts of interest. Many collaborative projects offer examples of how evidence can be a factor in improving health outcomes and value purchasing. The optimal conditions for the use of evidence in benefit design to control costs and improve outcomes include:

- Requiring all product research to be registered and disclosed.
- Requiring evidence of superior health outcomes or cost savings as a prerequisite for covering new technologies.
- Agreeing on a common language for describing covered health benefits that reduces ambiguities and can be readily understood by professionals and patients.
- Support for purchasers' decisions to withhold business from providers that do not meet explicit evidence or quality standards.
- Collaboration among labor, businesses, and consumer advocates to express their mutual interest in clinically sound cost control and to support the uses of the best evidence in benefit design.

While these steps may appear daunting, the preconditions for realizing them are falling into place. Cost increases that erode wages and profits have consumers and purchasers increasingly aware of these current shortcomings, making possible growing agreement between these central players that heretofore has been unreachable. Both consumers and purchasers are realizing that without good scientific linkage, they have little on which to base their value determinations for services except marketing claims and the decisions of providers whose income is directly linked to those decisions. There is growing interest in more explicit approaches to benefit language that better integrate evidence, encourage its use, reward improvement in the quality of evidence, and provide more precision for decision makers. These developments give credibility to a movement in which the demand side of the U.S. health care equation is becoming ever more explicit about exactly what it expects for the enormous sums it is transferring to the supply side of the health care system.

This *Issue Brief* summarizes the history of benefit design in the U.S. approach to health care; the state of research evidence currently available for use in benefit design; and past and current efforts to integrate evidence into benefit design, including the barriers encountered in these efforts and suggestions for overcoming them. It focuses especially on the need for a different benefit design language that would enable an explicit linkage between evidence and benefits. This analysis is based on a review of the literature; on one of the author's experience, which includes executive service in a BlueCross/BlueShield plan; on policymaking in state government; and on interviews with health care leaders in both the public and private sectors.

History of Benefit Design

The U.S. approach to health insurance coverage is unique among western nations. Modern private-sector health insurance began in the 1930s and expanded under the major public programs in the mid-1960s. Unlike in any other nation, private-sector health insurance in the United States has been linked to employment. Public policy has encouraged this linkage since World War II. While this coverage is optional, and the final decision about whether or not to provide it is up to employers or to collective bargaining with organized labor, it has come to be viewed (especially among those workers who have this coverage) as an earned entitlement.

As health care costs quickly grew after World War II, increasing numbers of Americans could not afford access to the care they needed. Beginning in the 1950s, states began to pay for some health care for the poor, especially for seniors, children, and working-age adults with disabilities. These programs, which had origins in welfare law going back three centuries, were subsumed in the federal-state Medicaid program in 1965. Medicare, a social insurance program like Social Security, also began in 1965; it was a result of political mobilization by middle-class seniors and their allies, especially in the labor movement, and President Johnson's Great Society program.

The different origins of health insurance (private and social) and welfare-based health care programs have been important for the design of benefits. Perceived insurance entitlements have created an expectation among consumers and insurers that any "reasonable" benefit is appropriate. This expectation starts a cascade of events that drive costs upward. Full coverage of any "reasonable" intervention has led to a variety of implicit rationing strategies to control costs. The earned entitlement perception of private coverage and Medicare sets an implicit community standard of care that results in constant upward cost pressure on them and for some populations on Medicaid as well. It also undermines the bargaining power of benefit administrators. Public and private purchasers of insurance are much more likely to "blink" first even when benefits have little or no basis in evidence. The expectation of full coverage has made it easier for both public and private purchasers to reduce eligibility for coverage than to reduce its scope.

Subject to the pressures of the labor market, *successful* businesses can afford an "any reasonable benefit" approach as part of overall policy for compensation, but *stressed* businesses cannot. Cost sharing with beneficiaries preserves access to any reasonable benefit but only buys time. Eventually, the stressed employer without a more effective benefit design has only one option to reduce costs—reduce eligibility and thereby eliminate coverage for some employees or dependents.

Coverage decisions for both Medicaid and Medicare are made in a more overtly political context. The combination of the economic clout of health care providers and consumer expectations of receiving any reasonable benefit makes it difficult for the public sector to find ways to allocate resources differently. Because uninsured low-income people have little political clout, it is easier for Medicaid to please providers by rationing people via eligibility for an entitlement than to ration benefits within that entitlement.

The development of benefits under all types of coverage is also constrained by tension between two primary rationales for insurance:

- One rationale is the goal of financial protection from the cost of catastrophically expensive health events.
- The second adds a focus on improving health by emphasizing prevention and primary care, and in so doing also attempting to control costs while improving outcomes.

The first rationale does not promise to control costs, but rather to only moderate their impact on an individual. Those who purchase health insurance may or may not be actually interested in controlling costs in the system as a whole. The second rationale promises to improve value, but struggles to demonstrate benefit from avoidance of disease while more visibly restricting access to reduce unnecessary utilization. Two different sets of expectations are created:

Financial Protection vs. Health—Most health insurance benefit designs for employers developed initially as part of an indemnity insurance approach meant to protect healthy individuals from financial threats due to catastrophic, unpredictable health events (especially diseases of sudden onset) and injuries.

Treatments were generally assumed to be "worth a try," especially since before the introduction of antibiotics in the 1940s most of them were of little or unknown effectiveness, risks were underappreciated, and the outcomes of treatment were not rigorously evaluated. Medicare incorporated a slightly modified version of the indemnity insurance approach from its inception.

In the early years of health insurance, employers and carriers could reasonably assume that individuals appreciated the need for and value of less expensive but effective services and that practitioners were advocates for patients and not subject to conflicts of interest or marketing pressures from the health care products industry. Consumers assumed that, if a doctor ordered a treatment, it was the best treatment and would not subject them to unnecessary costs. Most hospitals were either public institutions or nonprofit entities with strong ties to their communities.

Perhaps most importantly, primary care was inexpensive compared with inpatient care. In contrast, the rapid increase in invasive and intensive care in hospitals seemed to perform miracles, literally bringing people back from what only a few decades earlier would have been certain death. Moreover, middle-class consumers could afford to pay out of pocket for routine access to physicians for mild and moderate episodes of illness. Protection from the expense of extended hospitalization became the most desired element of insurance. Hence, the first cost-based insurance products of the Blue Cross plans and the indemnity plans of commercial insurers covered only hospital expenses. As doctors became more comfortable with the way this payment source worked, they developed Blue Shield plans that offered indemnity for physicians' expenses; as the cost of doctor services grew, these plans became popular among consumers as well. Major medical coverage, originated by the Metropolitan Life Insurance Company in the early 1950s, became the standard for coverage of physicians by Blue and commercial plans within a decade. Medicare incorporated the major medical design in 1965.

As indemnity insurance evolved, the more costly a service became the more likely it was to be covered. Less expensive and often more cost-effective services (office-based care, prevention, outpatient surgery) were left to individuals to finance. Individuals with coverage were so well protected from the most expensive segments of the system that they began to view these services and products as free. Consumers, employers, and insurers assumed that rational patients would first use their own resources at reasonable prices for effective services and turn to insurance when unpredictable events occurred. And patients did turn out to be rational. They, under the guidance of practitioners who often had a direct conflict of interest, used the services and products least costly to them but most costly to the health care system as a whole. And as the costs of less expensive services increased, these services also became covered, increasing the range of services perceived as "free." In order to counteract this rational reaction, insurers tried to impose limits by financial contributions, administrative rules, and definitions. Unfortunately, few decision makers related costs to either outcome or evidence of effectiveness.

Prepaid benefit designs (managed care) developed parallel to these indemnity designs. The better managed care plans emphasized comprehensive coverage for prevention, primary care services, and conditions that could be anticipated among a broad cross section of patients, especially those related to chronic disease. They also restricted access to ineffective services and limited choice of providers, which increased their ability to provide integrated services. This approach reached beyond financial protection to emphasize a proactive "system" approach to the delivery of health care. Under this model, the clinicians and hospitals that provided services in these plans were integrated—or at least coordinated—and often took account of the best available evidence of effectiveness. Patients' access was restricted to clinicians and hospitals designated by the plans. Although the plans had a lower premium cost and better health outcomes than other insurers, patients had less choice and control.

But the benefit designs of these plans caused controversies. Rather than inform patients explicitly in advance of the lack of evidence supporting an uncovered service or product, most plans, whether indemnity or managed, left this difficult task to a practitioner or to the system via various administrative hurdles—was the service or product medically necessary or experimental, for example.

These two approaches reflect the different desires of two subsets of American consumers. One set of desires emphasizes catastrophic protection with minimal willingness to commit to any system boundaries. The other accepts some boundaries within the health care process in return for better coverage and a systematic approach. Both approaches, now more than half a century old, are currently threatened by

overwhelming costs. Both, moreover, short-change consumers. The indemnity approach has left value determinations to them, even when they lack sufficient information to make them. Prepaid plans have made implicit value determinations that consumers cannot understand.

The third parties involved in both approaches have consistently failed to persuasively differentiate their products based on value to patients and consumers. Both approaches struggle to meet their objectives. A substantial number of middle-income Americans experience financial stress due to illness despite insurance coverage.[1] Mediocre health outcomes plague most of our systems.[2]

Governmental mandates for specific types of health coverage add to the stress on insurers and health plans. Few attempts have been made to systematically review the health effects of various mandates and compare them with the benefits of other insured services, although California has pursued a more evidence-based approach.[3] An unanswered question is whether the public is better off when government mandates coverage of a moderately effective service if the mandate leads to more cost sharing for very effective services and loss of eligibility for a portion of the population.

Litigation further complicates benefit design. Any description of benefits is likely to create ambiguities about coverage. Existing coverage has the advantage of a history of legal challenges that leads to more precise definitions. The problem is that these legal challenges focus on ambiguous general terms whose definition may change depending on the disease, the treatment, or the prevailing approach in a community. Benefit design changes that increase specificity may reduce litigation risk, but to be credible they must remain sensitive to the best available evidence about treatment.

Litigation also creates incentives for benefit design to favor increases in cost sharing and changes in eligibility rather than limitations of services. Precise explanation of cost-sharing requirements is easier than establishing the same specificity for coverage of medical services and products. As a result, it is easier to defend an across-the-board increase in cost sharing than to increase exclusions that may involve ambiguous medical language. Many states now offer independent medical review of health plan coverage decisions. Analysis of initial trends of health plan coverage denials shows that 58 percent of decisions are upheld in favor of the plan.[4] It is possible that this may be an overestimate of benefit design specificity, since many plans likely provide benefits and avoid an independent medical review if their benefit language is ambiguous.

Several principles that are key to benefit design have been repeatedly tested in the courts. Defining, administering, and defending what the terms *medical necessity*, *experimental*, and *cosmetic* mean remains a moving target. Purchasers carefully weigh the impact of litigation in these sensitive areas. A precedent that changes the interpretation of any of these key terms can have effects across many payers and jurisdictions.

Public and private purchasers can also be challenged to make benefit design consistent with other laws that apply to the same populations. Medicaid programs, for example, need to constantly weigh the impact of their initiatives against the regulations for the mandatory federal Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) program for children. Private insurers need to consider statutes protecting the disabled as they design benefits.

Current Benefit Design

The entrepreneurial nature of U.S. health care dominates the current approach to benefit design. While the language of benefit design has remained the same over many years, there have been substantial changes in approaches to cost sharing and to various administrative rules linking choice to benefits. Although evidence continues to play an indirect and implicit role, it is increasingly used to inform important decisions.

Consumer-Driven Plans

The most common new benefit design focuses on stimulating more consumer participation in decision making by giving consumers more direct control of resources and changing the timing and extent of cost sharing. Many of these designs differentiate benefits by providing immediate and often complete coverage for certain effective services—usually preventive services. They tend to provide good coverage for catastrophic events, with variable coverage for many services in the middle. These "middle" benefits become most important since it is for these benefits that consumers will be expected to make value

determinations and then use their "leverage" as buyers. *Doughnut hole,* a phrase popularized in the rollout of Medicare Part D (prescription drug coverage), can also describe these approaches if no coverage is available in the middle of the design for a service or product.

Still, these designs are primarily defined by site of service and type of products. However, for preventive services, coverage is often based at least in part on an evidence-based report—the periodically updated U.S. Preventive Services Task Force report, and is defined by disease, appropriate population (age and gender for the most part), and type of preventive service, rather than site of service or product. The remainder of the design is traditional in nature, although evidence may play a role in the tiered reimbursement of some services or products, especially prescription drugs.

Consumer-driven plans use various strategies to offer patients more and better information. They need to do so, since evidence consistently shows cost sharing is indiscriminant in its effects, reducing utilization of valuable services that improve health as much as it reduces ineffective services.[5] Many of those interviewed for this *Issue Brief* expressed concern that, without more transparency, consumers may conclude that these efforts to provide patients with better information are incomplete or biased because of relationships among all the various parties involved in health benefits.

For example, it is no longer a secret that significant medical errors occur more frequently than expected—but consumers have little sense of the risk of such errors for specific services or any sense of the comparative incidence of errors across medical groups and hospitals. Similarly, current regulatory approaches to prescription drugs are being reassessed as concerns rise that haste to make drugs more available has led to the sacrifice of important safety protections. As a result, consumers lack reliable evidence about the safety and side effects of many services or products. Some evaluations of early effects of consumer-driven plans are under way. Initial results suggest consumer-driven plans will need to significantly improve if they are to deliver the maintenance of health and cost containment promised by their advocates.[6]

Prescription Drug Benefits.

Prescription drug benefits offer particularly interesting opportunities for benefit design in consumer-driven plans, and more generally. The presence of multiple classes of drugs, generic drugs, and homogeneity among brands in many classes has led to tiered benefit structures. Tiering allows a benefit design to communicate information to members about cost and effectiveness through either cost-sharing or administrative processes. These processes, combined with use of evidence, result in value determinations that stimulate price competition.

Medicare Part D is the most significant expansion of health benefits in recent history. Its design offers an indemnity benefit, with the major variables related to cost sharing. Administrative rules define some of the coverage boundaries related to the definition of drug classes and the exclusion from coverage of some classes. Although the legislation creating the program authorizes federal expenditures for syntheses of research on the effectiveness of prescription drugs, it specifically prohibits federal decision makers from using these syntheses to make benefit decisions.[7]

The design begins with a substantial deductible, followed by partial coverage up to a threshold near the average cost of prescription drugs for Medicare patients, a sizeable repeat deductible (the *doughnut hole*), and then nearly complete coverage at a catastrophic level. Coverage, and as a result the premiums, vary substantially among the policies. The doughnut hole design a participant chooses has virtually no administrative or actuarial track record and creates incentives that, some experts claim, contradict traditional principles of insurance.[8]

The insurance plans that choose to administer Part D will be able to use a variety of tools to design benefits so long as they meet administrative rules and provide actuarially equivalent benefit designs. Many of them have retained the doughnut hole design. Many plans provide coverage through tiered formularies that create a sliding scale of coverage based on which tier a drug has been placed in. Placement into a tier is dependent on a variety of factors—cost, effectiveness, adverse effects, mode of delivery, patent status, and practitioner/patient preference. Unlike other services, such as physician or hospital office visits, the benefit design can weigh one or more of these factors more heavily if desired, including the evidence of effectiveness and adverse effects. Many insurers have made a substantial commitment to the use of evidence

in covering a prescription drug. It will be important to evaluate the extent to which they explicitly use evidence to make decisions and whether those decisions result in differentiation in the market, reduced costs, or improved outcomes.

Separate from prescription drug coverage in Medicare Part D (but authorized in the same legislation), the Centers for Medicare & Medicaid Services (CMS) is piloting new benefit approaches for other services that grant coverage for services contingent on participation in clinical trials and patient registries. The effectiveness of lung reduction surgery for emphysema, implantable cardiac defibrillators, and disease management has been or will soon be the focus of such studies. These approaches will significantly expand the availability of evidence regarding specific conditions and treatments and legitimize the importance of purchasers facilitating such efforts.

Medicaid

Budget pressures in many states have caused Medicaid programs to evaluate their approach to benefit design. Like private insurance, many states have tried increased cost sharing, with similar results in terms of health outcomes.[9] Of special interest is the design used by states that try to provide a "basic benefit" approach in Medicaid.

The most ambitious of these benefit designs has been in place in Oregon's Medicaid program for more than 10 years, as part of the Oregon Health Plan. The benefit design is unique because it describes benefits not by site of service, type of provider, or product, but rather by condition and treatment.[10] (For details, see Figure 1.)

Figure 1
Examples of Treatment/Condition Pairs

Diagnosis: TYPE I DIABETES MELLITUS
Treatment: MEDICAL THERAPY
ICD-9: 250.01,250.03,250.11,250.13,250.21,250.23,250.31,250.33,250.61,250.63,250.91,250.93, 251.3,V53.91,V65.46
CPT: 90918-90997,93990,95250-95251,98160-98162,99024,99070,99078,99201-99362,99374-99375, 99379-99440
HCPCS: G0245,G0246,G0308,G0309,G0310,G0311,G0312,G0313,G0314,G0315,G0316,G0317,G0318,G0319, G0320,G0321,G0322,G0323,G0324,G0325,G0326,G0327,S9145
Line: 2

Diagnosis: DISLOCATION KNEE AND HIP, OPEN
Treatment: SURGICAL TREATMENT
ICD-9: 835.1,836.2,836.4,836.6
CPT: 27253-27258,27275,27350,27430,27435,27496-27498,27556-27558,27560,27562,27566,27830-27832,27892-27894,29861-29863,29882,97001-97004,97012-97014,97022,97032,97110-97124, 97140-97535,97542,97602,97760-97762
Line: 286

Diagnosis: ALLERGIC RHINITIS AND CONJUNCTIVITIS, CHRONIC RHINITIS
Treatment: MEDICAL THERAPY
ICD-9: 372.01-372.05,372.14,372.54,372.56,472,477,995.3,V07.1
CPT: 30420,92002-92060,92070-92353,92358-92371,95004-95180,99024,99070,99078,99201-99362, 99374-99375,99379-99440
Line: 597

Source: These examples provided by Darren Coffman, Oregon Health Services Commission Director. The entire prioritized list can be found at http://egov.oregon.gov/DAS/OHPPR/HSC/current_prior.shtml

Evidence and public values were the major factors in determining the initial Oregon list of covered conditions and treatments. This dual approach resulted in a list that has been remarkably stable and broadly accepted across the state. Over the last decade, evidence has been used as an important part of the process for updating the list. Several private insurers have successfully administered the Oregon Health Plan's benefit design in Medicaid products, although no commercially successful product has used the design to any significant extent.

Oregon's experience is significant because:

- Benefits are described and coverage is designed and administered successfully using methodologies other than site of service or type of product.

- The benefit design has been communicated effectively to the public and to practitioners, especially for those conditions near key decision points.
- The design provides a template that more easily relates to evidence.
- The design can be actuarially valued; hence, multiple carriers have successfully used the rates generated by the state's actuaries and their own experience.
- The design allows evidence to be one of several explicit factors in a more transparent coverage process.

Several Medicaid programs have created tiers for prescription drugs through the use of preferred drug lists. The preferred drugs are more accessible than nonpreferred drugs through a variety of different administrative mechanisms. Many states have explicitly used evidence to compare drugs within classes. These approaches create competition among manufacturers within drug classes when purchasers conclude that outcomes are similar or no evidence of comparative outcomes is available.[11] This benefit design process also leads to communication of evidence to practitioners and patients.

Other Approaches

Other groups are pursuing different approaches to benefit design. Each of them has found substantial resistance to a different approach to benefit design, but each offers relevant experiences.

The National Business Group on Health has commissioned a National Committee on Evidence-Based Benefit Design to "improve quality of care and promote value by using benefit design to encourage and reward effective care and discourage ineffective care." The committee is "linking benefit design to medical practices with demonstrated effectiveness." One of its objectives is to "identify a core schedule of benefits for which there is already scientific evidence of effectiveness." Committee members believe that the "schedule might also form the core of a benefits plan for sponsors considering more limited coverage and/or by individuals who cannot afford or do not want a comprehensive plan." Their initial approach has been to commission summaries of evidence in such key benefit areas as back disorders, cervical cancer, and hypertension. These summaries use systematic reviews from public sources and proprietary information from private sources. The committee has also devoted resources to developing model contract language in order to increase the importance of evidence in making benefit decisions.[12]

The California Health Care Foundation organized a roundtable of stakeholders in 2003 to discuss setting priorities through benefit design and medical management. The conference summary notes that "public programs and private health plans share a goal of focusing resources on the conditions and interventions that are most likely to improve the health status of individuals and populations." [13] Important comments by roundtable participants included:

- There is a "mismatch between the detail of available evidence and the blunt instrument of a benefit package. Benefits are defined in broad classes, such as inpatient services, physician visits, and pharmaceuticals, whereas scientific evidence applies to specific procedures and therapies."
- While evidence was deemed important, participants felt "that scientific evidence of effectiveness…cannot serve as the sole basis for resource allocation."
- "Prioritizing among benefits requires classifying some therapies as being of low value, an exercise not for the faint of heart."

The same year, Blue Shield of California convened physicians recommended by professional associations to define an "essential benefit package." They identified very few services as not essential. In fact, participants suggested, in some cases, that coverage be *expanded* from current benefits.[14]

The Commonwealth Fund convened stakeholders on behalf of Minnesota decision makers in 2004 to "craft a benefit package to discourage waste and overuse." [15] Participants found that:

- "There are relatively few services that should never be covered."
- "Overuse is ubiquitous."
- "Restricting coverage of services that are sometimes appropriate, but are also overused, is difficult."

- "The research literature is rarely exhaustive."

Sacramento Healthcare Decisions has pioneered explicit collaborative benefit design using CHAT, a "game about insurance." CHAT presents 16 benefit categories to small groups in two-hour meetings. Each individual is allowed to make 50 "decisions" by placing markers in 99 possible places. Participants must confront tradeoffs. The group then seeks a consensus regarding a benefit package. CHAT has been used in multiple settings to get a sense of how decisions are made. A 2003 report summarizes the findings of an effort to define a statewide health plan using 744 employees from 41 public- and private-sector groups. A key finding from this process was that participants prioritized the inclusion of benefits over choice, convenience, or increased cost sharing. Moreover, individual participants were clearly influenced by the group process and were willing to change their preferences. The final result was accepted by the overwhelming majority, even though coverage was significantly limited.[16] CHAT has been used in a variety of other settings, including low-income populations.[17]

Oregon's Public Employee Benefits Board (PEBB) asked health plans in 2005 if they were prepared to offer an evidence-based benefit design. Most of the plans that responded presented traditional benefit designs with explanations of their rules about key contractual terms or described internal processes designed to better inform practitioners about evidence. No plan proposed a benefit design that was a significant departure from current designs. On the other hand, every respondent to a request for proposals from the PEBB for prescription drugs agreed that support for evidence-based approaches was important and they would be able to administer any design proposed by PEBB, including reference-based pricing. No Oregon-based carrier familiar with Oregon's Medicaid benefit design proposed it as an alternative to PEBB.[18]

Challenges

These initial attempts make it possible to identify obstacles to the increased use of evidence in benefit design. Innovators were able to overcome some of these challenges, but have also encountered some substantial resistance to change. Challenges include:

Perceived Lack of Sufficient Evidence to Proceed. An obstacle to increasing the use of evidence in benefit design is concern that there may not be sufficient evidence of suitable quality to make such an effort successful. While there are significant gaps in the clinical evidence available, there are many important issues with excellent evidence that is not being utilized adequately, if at all, in current benefit designs. In addition, many experts in research and its applications note there is overwhelming evidence of varying quality that should be evaluated. They argue that an organized effort by purchasers and plans to find, analyze, summarize, and use evidence could encourage more high-quality research and reduce the opportunities to profit by using misleading information. Researchers are also doing more to organize their efforts through international cooperation, and some medical journals have recently played the lead role in establishing a registry of trials for pharmaceutical products.

More than 2,000 high-quality systematic reviews of the evidence about particular interventions are currently available, and hundreds are performed and updated each year.[19] Many countries have begun to more explicitly use the best evidence in their decision making about health services.[20]

Credibility and Transparency. Current benefit designs are well established, but the origins of the decisions made within them are not transparent and their credibility may be declining. Many hold the opinion that insurers withhold services in order to increase their profits—not because the services are useless, unproven, or not cost effective. Designs based on sites of service and types of product appear at first to be explicit and their rationale apparent. It seems fairly easy to describe hospital services in general and communicate that to beneficiaries. Problems occur, however, when hospital services are provided that could be done elsewhere or when another administrative rule in the design (for instance, a requirement to demonstrate medical necessity or a prohibition on experimental and cosmetic services) takes priority over the site of service. This lack of prospective specificity and conflicting provisions may contribute significantly to the decline in consumers' trust of insurers.

This lack of trust is not without some reason. Many current benefit designs operate counter to the best interests of patients. Because most health insurance plans fail to vigorously integrate evidence, many ineffective services are paid for while many effective services are not. Benefit design often encourages patients to behave counter to their interests—better coverage of emergency room services than for prevention, for example, or better coverage for an MRI than for a physician office visit. Increasingly, patients are aware of the conflicts in benefit design.

Transparency and full disclosure in the benefit design process could increase the likelihood that practitioners and patients will understand and accept the decisions underlying them. This conclusion is supported by Oregon's experience (although admittedly only applied to low-income persons) with the prioritized list of conditions and treatments. Despite its uniqueness, the prioritized list remains public policy, functions effectively within the limits imposed by the federal government, and is widely accepted by practitioners in the state as preferable to excluding even more people from coverage.

Benefit design can also reassure practitioners and patients that the health plan or public sponsor discourages greed, waste, and abuse. Current benefit designs are vague in this regard. Benefit designs that emphasize consumer participation assume that people will more effectively detect waste and abuse when their own dollars are at risk. A limitation of this assumption is that consumers are not knowledgeable about health services or in a strong position to police them when they are sick. Greater integration of evidence could make misuse of a benefit design less likely by, for example, helping consumers understand the criteria for covering expensive diagnostic procedures.

The challenge is developing an evidence integration process that will be trusted by patients, practitioners, and payers and then translating the results of that process into a design rationale that successfully communicates its logic.

Benefit Design Language. The language used in a benefit design is critical to effective communication with patients and practitioners. The language in site-of-service/product type design lacks specific and comprehensible connection to evidence. Any new benefit design language must also make it possible to compare new benefits with old. A benefit language also needs to be shared by many people. For example, there have been difficulties in administering some prescription drug benefits that depend on pharmacists to make critical edits because in some jurisdictions physicians are not required to provide diagnoses to pharmacists on a routine basis.

Any new language will need to use terminology familiar to all participants in the system. Practitioners, administrators, and researchers are all familiar with the language of diseases and treatments and use the terminology on a daily basis. Patients want to understand this same language rather than administrative terms they are unfamiliar with, are unduly vague, or have the potential for manipulation in their application.

Financial Relationships. Many stakeholders vigorously oppose any changes in benefits that threaten their income. Some services and products have been covered without strong evidence of their effectiveness. Any effort to design benefits differently will need to be based on a methodology that can appeal to purchasers and consumers efficiently, to outweigh complaints from manufacturers or stakeholders likely to lose market share.

Administrative Costs. Any successful new benefit design must credibly promise eventually to recover the administrative expense of conversion from traditional designs. An information revolution is occurring in the health sector. Consideration of new approaches to benefit design could be part of proactive planning for that revolution. The shared language referred to earlier needs to include language that administrators, practitioners, purchasers, and researchers all understand. Many health care organizations that are moving ahead with different information approaches could offer settings in which different benefit designs are piloted.

Using Evidence

Sufficient initial work has been done to begin anticipating how credible, well-organized evidence can be used as a factor in decision making.[21] Many current projects attempting to use evidence to inform benefit design are maintaining strict conflict-of-interest separations from individuals and organizations that have financial interests at stake.[22] Progress is being made on standardizing and grading evidence, although much work remains.

Key Elements to Using Evidence

A thorough evidence-based benefit design process would include activity in these areas:[23]

- *Analysis, decision making, communication.* Processes for making decisions that incorporate research findings into benefit decisions and explanations of the linkage should be described and tested.
- *Synthesis.* The process of benefit design should enable formal syntheses of evidence to be used in the prioritization, selection, and communication to the practitioner and the public of what is covered or excluded. The syntheses should be done by researchers without an economic stake in whether or not a given service is covered.
- *Primary studies.* Purchasers should demand, and health plans and research agencies should finance, randomized trials, registries, cohort studies, or other studies that would help determine the value of various benefits and provide a basis for more robust syntheses. Similar to the CMS pilot approaches requiring that services without conclusive evidence be included in trials or registries, commercial benefit design could also encourage or require information to be generated that will allow the impact of a benefit to be evaluated.

Evidence should not, however, be the only factor in benefit design. Some communities may value a benefit for which there is minimal evidence of effectiveness more than one with strong evidence for reasons—such as prevalence of a disease, cost, or cultural beliefs—that have nothing to do with the benefit's effectiveness. An implicit, secret process of design that results in selection of a benefit without consideration of both evidence and community preferences could undermine trust in the decision-making process and in the practitioners who provide the service. Full disclosure fosters the trust needed for consumers and practitioners to delegate the selection of services to a third party.

Revision of the current language of benefit design is crucial to moving forward because current language does not encourage either the explicit use of evidence or transparency. Evidence is used mainly to determine the applicability of implicit coverage rules such as medical necessity, experimental status, and least costly alternative. While such general rules will likely remain, different approaches to benefits could be communicated more efficiently to providers and patients.

Two Examples of the Evidence-Based Benefit Design

Benefit designs that have used evidence effectively are characterized by:

- A benefit language that incorporates evidence, provides sufficient specificity, and can be understood by practitioners and patients.
- A language that also incorporates terms currently used in standard claims submission and is available in an electronic medical record.
- Tiers, levels, or sliding-scale approaches that enable the design to differentiate benefits based on evidence and other factors and then to communicate that differentiation through cost sharing, administrative processes (such as authorization), or other means.
- Procedures for communicating the importance of a benefit as well as its affordability, delivery mode, and likely demand for it.

Example 1: Prescription Drug Benefit-Based Co-Payments

Fendrick has written extensively about "benefit-based co-payments for prescription drugs."[24] He points out that some drugs substantially improve outcomes for specific diseases, resulting in improved outcomes including decreased utilization of other services. He suggests that the current tiering system include a tier that has no co-payment, in order to remove any financial obstacle to using specific drugs for specific diseases. He has recently published an example: lisinopril in diabetics.[25] Lisinopril is a generic drug that lowers blood pressure and preserves renal function in diabetics. Barring significant side effects, he says, almost all diabetics should be treated with lisinopril.

Fendrick's principles exemplify an evidence-based approach to benefit design. He uses evidence to determine effectiveness, focuses on specific diseases and treatments, and varies the design based on the clinical outcome.

Figure 2

Category Approach to Prioritization

(Categories listed in order of priority, example for each category provided)

Category 0: Diagnosis.
- All diagnostic tests.

Category 1: Acute fatal condition, treatment prevents death with full recovery.
- Appendicitis.

Category 2: Maternity care.
- Pregnancy.

Category 3: Acute fatal condition, treatment prevents death without full recovery.
- Severe head injury.

Category 4: Preventive care for children.
- Preventive services birth to 10 years of age.

Category 5: Chronic fatal condition, treatment improves life span and quality of life.
- Type I Diabetes.

Category 6: Reproductive services (excluding maternity and infertility services).
- Birth Control.

Category 7: Comfort care.
- Terminal illness regardless of cause.

Category 8: Preventive dental care.
- Preventive dental services.

Category 9: Proven effective preventive care for adults.
- Preventive svcs with proven effective services above age 10/USPSTF A & B.

Category 10: Acute non-fatal conditions, treatment causes return to previous health state.
- Gonorrhea.

Category 11: Chronic non-fatal condition, one-time treatment improves quality of life.
- Kidney stones.

Category 12: Acute non-fatal condition, treatment does not result in a return to previous health state.
- Internal derangement of knee.

Category 13: Chronic non-fatal condition, repetitive treatment improves quality of life.
- Breast cysts.

Category 14: Self-limiting conditions where treatment expedites recovery.
- Mononucleosis.

Category 15: Infertility services.
- Services improving fertility.

Category 16: Less effective preventive care for adults.
- Ineffective preventive care USPSTF C, F & I.

Category 17: Fatal or non-fatal condition, treatment causes minimal or no improvement in quality of life.
- Benign skin tumors.

Source: The categories and their priorities provided on request by Darren Coffman, Oregon Health Services Commission Director. Direct inquiries to Darren.D.Coffman@state.or.us. The example for each category were chosen by one of the authors (Santa.)

Example 2: Oregon's Condition/Treatment Pairs

The state of Oregon has developed a generalizable language of benefit design mentioned earlier in this report. The benefit design for the Oregon Health Plan (OHP) is organized around combinations of conditions (expressed by an inclusive disease terminology abbreviated as "ICD 9" codes) and treatments (expressed by inclusive procedure and device terminologies abbreviated as "CPT" and "HCPCS" codes). A total of 710 condition/treatment pairs cover the current services provided under Medicaid. Examples of typical condition/treatment pairs are presented in Figure 1. The list was developed in public with input from multiple stakeholders and is updated as new CPT, HCPCS, and ICD codes are developed. Software is available that relates submitted claims to a specific condition/treatment pair. All the information needed to assign a treatment condition pair is already provided on hospital and physician claims.

Oregon's major use of the list has been to identify excluded services based on priority and available funding. Each condition/treatment pair is assigned a per-member per-month cost based on actuarial data that now reaches over several years. The plans currently administering the OHP benefit have been profitable over the course of multiple changes in the plan.

The benefit design language allows the public body responsible for maintaining the list, the Health Services Commission (HSC), to focus on three major factors in assigning a position on the list—evidence, subjective importance, and comparison to other services of one pair with many others on the list. In 2000, a subcommittee of HSC suggested a sliding-scale approach to the list using variable cost sharing for some

optional Medicaid populations.[26] The state elected a more direct cost-sharing alternative because of federal concerns about the prioritized list approach.

Oregon's 710 condition/treatment pairs may create too many groupings for effective communication to consumers. Early in the development of the Oregon process, an approach using 17 categories was used to describe treatments. All of the 710 condition/treatment pairs can be placed in one of 17 categories. Figure 2 provides a benefit design listing the categories in the approximate priority order determined by the HSC. A crosswalk is available between the 17 categories and the 710 condition/treatment pairs.

The categories suggest a variety of additional alternative designs. Figure 3 provides one such example. Tiers related to effectiveness and burden of disease are created for acute, chronic, and preventive services. The categories capture condition and treatment information. Cost sharing or access to a benefit could be varied based on these tiers. As Oregon's HSC has demonstrated, the explicit integration of evidence, importance, and comparison can be used to place a condition/treatment pair in the appropriate tier.

This organizing by categories and groups also matches up to different delivery approaches. Acute care is more consistent with an insurance model and the current delivery system. Prevention and chronic care are more predictable, not as "insurable," and may be best provided in a different delivery model. Incentives could be provided that encourage patients to use the most efficient delivery model.

Figure 3
Benefit Categories

Acute Conditions/Treatments

Category 1:	Acute fatal condition, treatment prevents death with full recovery.
Category 2:	Acute fatal condition, treatment prevents death without full recovery.
Category 3:	Acute non-fatal conditions, treatment causes return to previous health state.
Category 4:	Acute non-fatal condition, treatment does not result in a return to previous health state.

Preventive Care

Category 1:	Maternity care.
Category 2:	Preventive care for children.
Category 3:	Preventive dental care.
Category 4:	Proven effective preventive care for adults.
Category 5:	Less effective preventive care for adults (including pregnant women), children.

Chronic Care

Category 1:	Chronic fatal condition, treatment improves life span and quality of life.
Category 2:	Chronic non-fatal condition, one-time treatment improves quality of life.
Category 3:	Chronic non-fatal condition, repetitive treatment improves quality of life.

Other Categories

- Reproductive services (excluding maternity and infertility services).
- Infertility services.
- Fatal conditions, comfort care.
- Fatal or non-fatal condition, treatment causes minimal or no improvement in quality of life.
- Self-limiting conditions where treatment expedites recovery.

Source: The same categories from Table 2 are rearranged. One of the authors (Santa) is responsible for the groupings and the order within each grouping.

Conclusion

Purchasers and patients should have strong incentives to encourage fundamental change in benefit design. As medical information systems are modernized, purchasers should also adopt more effective and explicit means of communicating information critical to design. There is enough information about promising approaches to experiment with different benefit design languages. It would seem logical for everyone involved in a patient's care to know his or her condition, treatment, and how the health care system would propose to provide the care, including its financing. A recent *Health Affairs Perspective* article urged employers to "get serious about buying health care as individual companies or explore other options."[27] Better linking of evidence and benefit design could facilitate either approach. Employers deserve to have a better understanding of the value of some of the most costly services they purchase.

The U.S. health care system has for many years adjusted to limited resources for health care in the private and public sectors by excluding individuals from coverage. Using the best evidence for treatment and insurance coverage more strategically offers decision makers the opportunity to make more defensible

decisions about what services to cover in explicit settings. It is hard to argue that eliminating coverage for all services for some individuals results in better outcomes than eliminating or reducing coverage for ineffective services.

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