Economics of Implementing EBP: Payers, Providers, and Consumers


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Economics has an important role to play in ensuring that patients receive evidence-based practice (EBP). Many steps are required between first determining efficacy then effectiveness and then making a service or treatment widely available. At each step, economic incentives likely inform and influence decisions by different stakeholders and/or can facilitate or block a policy maker’s efforts to have EBP delivered. Efficacy represents the first step and refers to the ability of the treatment to produce desired patient outcomes, generally under ideal circumstances. Multiple studies corroborating positive outcomes are necessary for establishing that a treatment is an evidence-based practice (EBP). This chapter starts at the point that an EBP has been established as efficacious.

Our premise is that for families to receive this EBP, a series of steps need to be taken by multiple stakeholders. Payors need to be willing to reimburse providers for delivering the EBP; providers need to be willing to deliver the service at that rate. Consumers have to be willing to engage in such treatment and that decision reflects a range of economic factors, including the copayment or deductible. At any step a stumble can derail the process and prevent a client from receiving EBP. Our goal here is to consider how financial incentives can block or facilitate the receipt of those services at each step.

To illustrate our discussion, we use an EBP, the Incredible Years Parents, Teachers, and Children Training Series (IYS). Developed by Carolyn Webster-Stratton, Ph.D., and evaluated by colleagues at the University of Washington’s Parenting Clinic, IYS is a multi-component program designed to treat young children with or at risk of early-onset conduct problems. Stratton argues that each facet of the model must be implemented with fidelity in order to elicit the impacts found in efficacy studies. One component of the program involves parent training. Our discussion will consider resources necessary for implementing the IYS parenting component with high fidelity, We begin our discussion by briefly reviewing the IYS.
Background: The Incredible Years Series

Developed by Carolyn Webster-Stratton, Ph.D., and evaluated by colleagues at the University of Washington’s Parenting Clinic IYS is a multi-component program designed to treat young children with or at risk of early-onset conduct problems. The program has been adapted to serve as a cost-effective, community-based prevention program for children at risk for the development of CD (conduct disorder). Over the past 20 years, this intervention repeatedly has been implemented in both clinic and natural environment contexts such as mental health settings and schools.

Ultimately, the IY Series strives to prevent delinquency, drug abuse, and violent acts among high-risk children. However, immediate goals of the program include the reduction of conduct problems in children; the enhancement of social, emotional, and academic capabilities of children; the promotion of parental competence and positive discipline strategies; the strengthening of families as well as the school-home connection; and the enhancement of teacher classroom management skills (Webster-Stratton, 2000).

The IY Series comprises three components each focusing on different contexts for and types of children’s social interactions. The three treatment components include (1) a child-based program (referred to as Child Training or CT); (2) a parent-based program (referred to as Parent Training or PT); and (3) a teacher-based program (referred to as Teacher Training or TT). (Since our focus is on the medical sector, this chapter does not discuss the last of these in any detail.) CT and PT leaders initially learn program curricula from certified IY trainers; following training, CT and PT leaders deliver program curricula to child and parent participants, respectively, during weekly small group sessions. For a detailed description of treatment component goals, curriculum, and implementation methods, please see Webster-Stratton (2000).

The IY Series has been effective in reducing the frequency of children’s conduct problems regardless of treatment locale. Service agencies (mental health agencies, child
welfare systems, and schools) continue to implement the IY Series; large-scale diffusion of the program has occurred across the United States, Canada, UK, and Norway. Agencies adopting the IY Series are responsible for budgeting for initial training from certified IY trainers, program materials (videotapes, group leader manuals, parent and child materials, and handouts), program implementation, and ongoing consultation with IY trained staff. Following the initial materials and training fees, the IY Series may be offered to participants from successive cohorts at minimal cost to the service agency.

Past literature has assessed the impact of participant characteristics, individual component intensity, and multi-component delivery methods on the effectiveness of the IY Series. Numerous randomized control group studies by the developer (e.g., Webster-Stratton, 1990; Webster-Stratton & Hammond, 1997; Webster-Stratton & Reid, 1999a; Webster-Stratton & Reid, 1999b; Webster-Stratton, Reid & Hammond, 2001) and by independent investigators (e.g., Taylor, Schmidt, Pepler, & Hodgins, 1998; Miller & Rojas-Flores, 1999; Scott, Spender, Doolan, Jacobs, & Aspland, 2001; Barrera, Biglan, Taylor, Gunn, Smolkowski, Black, et al., 2002) strongly support the assertion that the IY Series consistently improves child behavior across a range of outcome indicators.

The Incredible Years Series has been identified as an effective CD/ODD treatment and prevention program for young children by the Office of Juvenile Justice and Delinquency Prevention(Webster-Stratton, 2000). Additionally, when an independent review committee of the American Psychological Association reviewed findings from over 82 studies of CD interventions, the Incredible Years Series was identified as only one of two behavioral intervention strategies that met the criteria for well-established efficacious CD treatments (Brestan & Eyberg, 1998).

**Step 1: Payors Need to Pay**

As noted the delivery and receipt of EBP involves a series of choices by multiple agents. As a first step, payors such as private or public insurers must be willing to pay for the service.
That decision is complex, reflecting a mix of research, values, political pressure and regulation. On a large scale, the initial awareness regarding the need for such a decision might come from a social movementsuch as Ryan White’s family championing government support for pediatric AIDS treatment and psychosocial support services. 

Research on the treatment’s effectiveness and cost-effectiveness likely plays some role, but that influence may differ from that described in classes on economic evaluation. The decision, for example, likely is somewhat speculative. Cost-effectiveness may have been established based on the same studies that demonstrated efficacy. As with effectiveness itself, moving into the real world raises a series of issues involving the treatment’s costs. Moving from efficacy to effectiveness, for example, may involve a change in the personnel delivering the treatment—those providers may differ not only in their effectiveness at delivering the treatment but also in their salaries.

Note as well that the decision likely reflects a different perspective than that highlighted by economists. The emphasis in economics is on the societal perspective and generally presumes that resources are available to fund a treatment with a cost-effectiveness ratio below a threshold value. Neither may be the case in a real-world situation. The payor will assess cost-effectiveness from its perspective, which may diverge from that of society as a whole, especially when the insurer is a private firm. Public or private, decisions made based on a payor perspective may create substantial cost-shifting. Insurers may or may not cover a treatment based on bottom-line considerations. Adding or subtracting that treatment may shift costs onto other elements of society, such as care givers or tax payers, effects that the insurers ignore. When these broader effects are considered, whether the treatment is a good value for society may differ from that of the insurer. Even public payors (such as Medicaid) that nominally serve the public interest face limits on their budgets. Those limits may leave them unable to afford a cost-effective treatment. Program administrators also may take actions that shift costs onto other public systems, such as juvenile justice.
Beyond these broader considerations, the specific details about what insurers cover reflects a web of regulatory considerations that vary across different countries. Those considerations depend on the level of public involvement in health care delivery. To illustrate these issues, we discuss the health care systems in the United States and the United Kingdom.

Health Insurance in the United States

In the United States, decisions about what services to cover are made administratively by payors. Those decisions are made within a regulatory framework dictated by state or federal laws depending on the nature of the insurer and population covered. Private insurers are generally regulated by the laws of the states in which they practice. Those regulations are generally fairly broad in nature. For example, the state of New Jersey requires that insurers operating in that state cover all services for “biologically based mental illness” prescribed by physicians. This law is among the broader addressing the coverage of mental health services. A variety of other states have laws that require that co-payments and deductibles for mental health be equal to those for services for physical disorders and illnesses.

Many private employers offer “self-funded” health insurance plans. These firms essentially fund their own insurance plan, spreading the risk across its employees. (Generally, they contract with a specialized firm to handle administrative details, such as enrollment and claims processing.) Within the relevant laws, these plans have a wide flexibility in determining what services to offer.

These state laws generally do not apply to federally funded public programs such as Medicaid, Medicare, and the Veterans Administration. In the case of children, the Medicaid program is most relevant. Children become eligible through the program through a variety of means but most are poor or near-poor. The related State Children’s Health Program (SCHIP) operates in a similar manner. Both states are funded with state funds and federal matching funds. The percentage mix varies from state to state depending on the state’s level of poverty. States have considerable flexibility in determining what services they can or cannot cover but
are required to offer services in several broad categories (e.g., inpatient hospitalization). Other categories of services are optional but are eligible for federal matching funds (e.g., rehabilitation and physical therapy services). State can obtain additional flexibility by applying for waivers from federal requirements. These can involve statewide demonstration projects or small experimental programs. Under these waivers, states maintain the federal matching funds to offer services that might otherwise not be eligible.

Note that federal law plays some role in determining coverage. For example, as part of the $700 billion financial rescue package in October 2008, Congress passed the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008. The measure requires covered employer-sponsored health plans to cover mental illness and substance abuse on the same basis as physical conditions.

Health Insurance in the United Kingdom

The National Health Service is the single-payer insurer for the United Kingdom. To some degree, the British system stands at the other end of the spectrum of decision-making: decisions about whether a service is funded by the National Health Service depend heavily on strictly regulated technological assessments. Those assessments are funded and regulated by the National Institute for Health and Clinical Excellence (NICE). NICE produces ‘appraisals’ (national guidance on individual technologies), ‘clinical guidelines’ (the management of specific conditions) and clinical audits. The appraisals of new technologies are intended to encompass clinical effectiveness, cost effectiveness and wider implications of the technologies selected. The assessment guidelines recommend that a cost-effectiveness or cost-utility analysis be included (see below) (Gafni & Birch, 2003). The NHS is legally obligated to fund medicines and treatments recommended by technology appraisals (National Institute for Health and Clinical Excellence, 2007). These appraisals have stimulated many of the advances in cost-effectiveness and economic evaluation developed by the researchers who prepare the appraisals.
Having decided that a program or treatment is eligible for reimbursement, an insurance plan then needs to determine how to pay for that service. For example, a state Medicaid program may simply decide that parenting programs are a form of group-therapy and that providers delivering the IYS parenting program can bill the state for payment. Of course, such an approach does little to ensure that families receive a program delivered with fidelity. For that reason, payors are developing various forms of pay for performance, and we consider in the next section.

**Step 2: Providers Need to Deliver EBP**

A budding literature examines incentives real-world providers face when deciding whether to adopt and deliver evidence-based practice. A range of factors govern these processes, such as perceived professional standards and inertia in provider behavior. However, economists have explored whether and how financial and other incentives might shape providers’ adoption of EBP. That literature grows out of the economists’ approach to all human behavior—that people are rational actors. Rational actors maximize their own well-being, but the well-being of providers is difficult to define. To some extent, it reflects the well-being of their patients, but their interests also includes the bottom line for their practice or facility. That the two forces may be in conflict has long been of interest to economists. (This is the “principal agent” problem.)

To some extent, the economics of evidence-based practice is a matter of reimbursement rates, and low rates represent a barrier to the delivery and receipt of evidence-based care. That perspective is rather blunt, and a literature examines how those rates and other incentives can be used to shape clinical practice. Those incentives tie reimbursement to specific features of service delivery, features that represent direct indicators of EBP or factors that facilitate its delivery.

Such payments could take a range of forms. Most direct would be a system that reimburses providers for patient outcomes, but such systems are fairly rare for a variety of
reasons. Most problematic is the issue that health outcomes reflect a variety of factors {Donabedian, 1966 #2778}. Providers control only a subset of these determinants, and even fewer still can be related to a specific program or treatment. In that case, one could expect the effect of provider compliance with a specific aspect of treatment to be quite small. To reliably measure (and reward) such a small effect would require a reliable measure of the outcome and substantial data for each provider. This issue is the same as any effort to measure treatment quality. While outcomes are ideal measures of quality, efforts to measure quality generally focus on treatment process and structure.

For that reason, payors have more experience in tying payment to various measures of treatment structure or process. These programs can function at any of several levels. One possibility is to link reimbursement to the level of evidence supporting a program. Currently Medicaid programs in twelve states have pay for performance initiatives (Center for Medicare and Medicaid Services, 2008b). For example, the state of Washington has implemented what it calls “Evidence Based Medicaid.” The heart of the program is the “A-B-C-D Model” (Center for Medicare and Medicaid Services, 2008a). That program assigns letter-grade values to services for which reimbursement is required. The state considers both the quality and strength of evidence in decision making. The grades range from “A” (indicating “proven benefit”) through “D” (“investigational, experimental, ineffective, or unsafe”). At this time, cost or cost-effectiveness is not considered.

Another possibility is to tie reimbursement to treatment structure, such as a characteristic of the provider him- or herself. For example, Webster-Stratton {, 2004 #4030} identifies appropriate training as a key to maintaining the fidelity of the IYS—i.e., to generating the same level of benefits in real-world settings that were observed in efficacy studies. Such training should be conducted by experienced leaders who in turn have received extensive training and supervision.

Other programs tie reimbursement to specific aspects of service process, such as
adherence to program guidelines. In an economic framework, better performance is costly and 
economic incentives are designed to induce providers to expend the necessary time and effort 
to meet performance standards. The goal of pay for performance is to induce providers to 
undertake those activities that generate benefits greater than those costs. Incentives could be 
configured in a variety of ways to accomplish this goal, and the specific configuration of 
incentives likely would vary across disorders and EBP. For example, if performance involves 
provider training, a one-time payment to cover the costs of that training would be appropriate.

Research linking provider incentives and EBP does not exist for children’s behavioral 
health, but a small body of research examines the treatment of other disorders and for other 
populations. Most relevant in that literature is that on the treatment for the use and abuse of 
alcohol and other drugs by adolescents. This research examines two dimensions of the link 
between incentives and provider behavior. These features involve the target of the incentives 
(either physicians or organizations) and the form (e.g., monetary or non-monetary).

*Target Audience: Physicians vs. Organizations*

Health care payers such as the government and insurance companies may offer 
incentives to providers for practicing evidence-based care. With EBP, the responsibility rests 
with the health care provider to understand these practices and prescribe them. As such, 
supply-side incentives are central to our discussion.

Incentives have been targeted to both individual physicians and the health care 
organizations for which they work. Some literature describes interventions at the individual 
physician level, offering direct payments to physicians for meeting criteria associated with EBP 
(Gilmore et al., 2007). Other research examines incentives at the organizational level, where 
the employers of the physicians receive the incentive (Grossbart, 2006; Roski et al., 2003; 
Shortell et al., 2001). For example, a community mental health center might receive additional 
payments by documenting that all of their psychologists have been trained to provide Incredible 
Years as an EBP.
Debate persists about whether to offer incentives to individual doctors or their employers. On the one hand, direct compensation to providers will have the most direct effect on their perceived benefits, and therefore, on their personal benefit-cost analysis. Managing this from the payer perspective, however, would be challenging. The data required for such monitoring is substantial. A payer would have to review cases for each doctor to determine compliance. Moreover, EBP focus on certain conditions. When a condition is relatively rare, a single physician may see few patients with those presenting symptoms. This will make it inefficient to measure improvement in care at the individual physician level (Christianson, Knutson, & Mazze, 2006).

Offering incentives to organizations that employ individual providers may be much more efficient for the payers. Patients across individual doctors in an organization can be pooled, providing many more patients with the targeted condition. However, providing incentives at the organizational level may not provide the same leverage for changing physician behavior. In some cases, the organization has discretion in deciding how to use the bonus or reward (Roski et al., 2003). It is possible that when the organization does not choose to pass it directly to the providers who use the EBP, the physicians are less motivated to change their behavior. Whether and how to pass along incentives to providers will reflect other economic considerations. Organizations may want to pass along the incentives in instances where monitoring specific providers is difficult. They may chose to keep the incentives in cases where they can guarantee provider compliance.

In extreme cases, it may also create a free-rider problem. Some physicians may ignore management’s call for the use of EBP to save their time and resources needed for additional training or other costs. Yet, they may benefit from increased remuneration or other perks if incentives are not shared exclusively with those who comply but rather are spread across the organization. Another unintended consequence is that incentives to organizations could foster unhealthy competition among physicians (Ferguson & Lim, 2001). If the incentive is viewed as
a finite sum that is divided among physicians based on performance, then perverse incentives could influence providers to forego collaboration and avoid peer consultation, a cornerstone of medical practice. In the end, hospitals and medical groups need participating physicians to share the same quality goals if the organization is to succeed in earning the financial incentive (Shaman, 2008).

Much of the current practice generally describes health payers giving incentives to organizations, with the assumption that the employers pass the money to individual physicians based on performance (Shaman, 2008). As such, the scenarios described above may be unfounded. However, this economic approach suggests that more research is needed on potential latent the effects of how the organization uses its incentives.

Type of Incentives

Incentives generally fall into two categories: monetary and nonmonetary. The type selected typically depends on the target group. For health care providers, the literature largely focuses on monetary incentives. Pay for performance, often abbreviated as P4P, is an emerging tool in quality management practice. The Institute of Medicine Crossing the Quality Chasm report of 2001 precipitated this movement (Christianson et al., 2006; Gilmore et al., 2007; Grossbart, 2006; Shaman, 2008; Shortell et al., 2001). The report stated that physician incentives needed to be more closely linked with their performance (Grossbart, 2006). Some even dub pay for performance as a “quality incentive program,” actively linking the financial incentive to quality management practices (Gilmore et al., 2007). Financial disincentives for providers, such as docked pay for not meeting performance standards are also described (Ferguson & Lim, 2001). However, the majority of the attention is on positive reinforcement or rewards rather than penalties (Shaman, 2008).

The Centers for Medicare and Medicaid Services (CMS) led the way with pay for performance. In the mid 2000’s, CMS issued a new reimbursement policy for hospitals and
physicians. Future increases in payment would depend on improvements in clinical care.

Private sector health insurers followed suit. They have begun to implement pay for performance as well. Some even issue scorecards for hospitals and physicians that consumers may use in selecting a provider (Shaman, 2008). Now over half of the private sector HMO's have a P4P program, covering over 80% of consumers enrolled in HMO’s (Epstein, 2007).

To a lesser degree, health care payers also use non-monetary incentives for physicians and provider organizations. Those who meet quality targets may receive the designation as a preferred provider or other public recognition of their high quality practices (Shaman, 2008). National accreditation and state licensure may also bestow prestige on an organization.

Shortell invokes institutional theory, stating that providers will act in a way that either maintains or increases their credibility with key constituents (Shortell, 2004). Moreover, hospitals may also benefit from improved efficiencies. Use of the most appropriate care for patients would lead to saving money and time on unnecessary procedures. This would conceivably free up hospital beds earlier, allowing them to be filled by other patients (Shaman, 2008).

Evidence on Effectiveness of Incentives

While some studies find that physicians can be influenced by incentives (Gilmore et al., 2007; Shortell et al., 2001), research on the effectiveness of provider incentives is rather limited (Grossbart, 2006; Shortell, 2004) (Epstein, 2007) (Lindenauer et al., 2007). Little research is published on the use and effectiveness of financial incentives in mental health care, particularly for children. A few studies have considered incentives for other types of patient care. Although these studies vary in methodology, most find a surprising small effect size for incentives.

A number of studies have used observational data to assess the effectiveness of pay for performance. In an often-cited study, Lindenauer et al assessed reported quality milestones of 613 hospitals over a two-year period. A third of the sample participated in the CMS pay for performance program. The other two thirds voluntarily reported their progress through a national initiative, but did not receive incentives. They found that the pay for performance
hospitals improved across all areas of quality, significantly more so than the comparison hospitals. Hospitals that were performing the lowest at baseline made the greatest improvements. However, after controlling for baseline differences, the researchers found that pay for performance fostered more modest gains, ranging from 2.6% to 4.1% over the two years compared to the hospitals with no incentives (Lindenauer et al., 2007).

Another large-scale observational study assessed change over time in mortality rates for patients diagnosed with key conditions. Werner and Barlow assessed results from 3657 hospitals using data from the Center for Medicaid and Medicare Services website. They focused on myocardial infarction, pneumonia, heart failure, and pneumonia. For each of these conditions, there were only very small differences in risk-adjusted mortality rates between hospitals scoring in the top 25% in quality compared to those in the bottom quartile. Myocardial infarction had the largest, with only a .005 decrease in risk-adjusted mortality rates between the highest and the lowest performing hospitals. They suggest that quality performance measures should be reassessed to be more closely related to patient outcomes (Werner & Bradlow, 2006).

Smaller reviews also find preliminary evidence supporting the effectiveness of incentives. In a review of ten hospitals located within one health system, Grossbart found that the hospitals that were provided incentives earned higher quality scores than those without incentives (Grossbart, 2006). However, hospitals chose whether or not to participate in the incentive process, suggesting the possibility of selection bias. Collier’s study offered a financial incentive contract to a group representing 12 hospitalists working in a health system with two hospitals. The hospitalists improved in timely completion of medical records, maintaining 24 hour coverage and a lower target patient-physician ratio, as well as in many quality standards of the Joint Commission on Accreditation of Health Care Organizations (JCAHO) (Collier, 2007). This hospitalist group was favorably compared to another group that did not receive a contract for the incentive program. The comparison group, however, was not initially awarded a contract
due to its insufficient number of physicians. Number of physicians is a key factor in being able to provide 24/7 coverage and a lower patient physician ratio. Comparing the unequal groups may confound the role of incentives in motivating physician behavior.

Most randomized studies have been small in scope. They do provide examples of a topic more closely related to mental health and psychosocial factors – smoking cessation. An et al. (2008) conducted a randomized experiment with clinics referring smokers to a hotline for tobacco cessation. These “quitlines” are considered to be a method to link smokers with evidence-based practices for quitting smoking. The study involved 49 clinics, half randomly assigned to receive incentives for making referrals to the quitline. Clinics receiving the incentive referred 11% of patients who smoked to the quitline, compared to 4% of the control clinics (An et al., 2008). While this difference is statistically significant, it still represents a small percentage of smokers referred for assistance.

Similarly, in a randomized study of smoking screening in adults, a medical group offered incentives to a portion of its clinics for identifying smokers and providing advice on quitting to a target number of patients. Clinics in the incentives group were significantly more likely to identify tobacco users than the control clinics. The researchers conclude, though, that the incentives did not produce an effect that could significantly sustain the change in the physicians’ behavior compared to the control group (Roski et al., 2003). This suggests that incentives may play a role in modifying physician and organizational behavior, but it should be viewed as one among several responses needed to change how clinical work is performed to better illicit quality results.

Challenges

As we discussed, evidence of the effectiveness of incentives is mixed. Do these modest findings suggest that the rational actor model does not apply to health care providers? It is difficult to draw this conclusion; perhaps the incentive is simply not configured correctly to
induce the desired behavior. In a review of ten large pay for performance programs, Price Waterhouse found that incentives accounted for a range of 1% to 8% of physician pay. Health care payers such as the participating insurance companies agreed that the amount should be at least 10% of salary to motivate physicians (Shaman, 2008). Other studies find that the current incentives are even lower, ranging from 1% to 2% of physician pay (Shortell, 2004).

Similarly, it may also be rational for providers to opt out of the financial incentive program. Each health payer determines its own set of quality criteria. One review of ten major health payers found that together they had 60 quality indicators. None of the measures, however, were shared by all ten plans (Shaman, 2008). Participating physicians and organizations must track all of these indicators. Resources are needed to collect the data, enter it into a tracking system, and report the results. Some progressive institutions may already engage in data tracking for program monitoring and internal continuous quality improvement purposes. Many others, though, will note the burden required to meet the requirements of each payer. Finite resources may mean that the hospital takes money out of the direct care line item to cover increased administrative costs. Organizations as well as individuals must decide if the expected benefits outweigh the costs.

In addition to the provider’s perspective, the payer must consider other challenges before embarking on a pay for performance program. Certain conditions must be evident before incentives are warranted, including:

Costs. Offering incentives could affect positive consumer outcomes. Managing the programs, however, can create significant costs. In most cases, payers must provide new funding to pay for the incentives themselves (Christianson et al., 2006). Additional costs include resources for monitoring quality compliance including data collection and even computerized tracking systems. Costs are to be expected, but so are increased benefits. Incentives make sense when expected benefits related to improved patient outcomes, productivity, cost savings, and so on outweigh the anticipated costs.
Ample Resources. On both the supply side and the demand side, desired behaviors may involve referrals to resources. When the targeted service is scarce, it is not reasonable to offer incentives for using these resources. For instance, encouraging child protective services to place youth in therapeutic foster care would be misguided if the care was not widely available in the community. In this case, resources would be better spent trying to increase the availability of the service.

Ethical Considerations. The use of incentives may be inappropriate for people in certain positions. This could be especially true of public officials. Incentives clearly should not be used if there is a possibility they could be construed as a bribe. In these cases, education focused interventions that appeal to common interests may be more appropriate.

Latent Consequences. Incentives inherently elevate the importance of the behaviors for which they are awarded. When people shift their priorities toward these activities, they may decrease the amount of time they spend doing other necessary practices that do not have an incentive (Christianson et al., 2006). Before instituting incentives, it is imperative to consider how they may affect people’s other behaviors. Anticipated latent consequences may indicate that incentives may cause more harm than good.

Measurement Error. Ultimately, the quality indicators linked to incentives must be measured. Sometimes the best measures of key behaviors are not necessarily the easiest to collect. Pay for performance indicators typically include those that are easiest and cheapest to monitor. As a result, behavior indicators related to incentives may not necessarily be closely related to the longer term patient outcomes of true importance (Christianson et al., 2006). Incentives would be appropriate when measures are most closely linked to the targeted health outcomes.

Applications to Mental Health EBP

At some point, the trend toward use of provider incentives, even with relatively little
supporting evidence, will likely come to mental health. While there is little research on provider incentives in the mental health system, we can anticipate issues with incentives unique to mental health.

For instance, most EBPs are related to specific conditions. Mental health providers can spend much time determining a diagnosis. Conditions are often based on symptomology, which may vary naturally over time. For example, most depression scales have cut off points representing clinical depression. At the same time, the latent condition of depression is continuous, ebbing and flowing. Time of measurement and assessment tools will become very important in determining whether or not the child meets the condition and therefore warrants an EBP. Moreover, incentives are only appropriate for conditions that have an established EBP. EBPs do not exist for some children’s mental health issues. Acting rationally, it is possible that providers may (even subconsciously) give a diagnosis for borderline conditions that have an incentive tied to them. Clearly, much thought will need to be given to the range of conditions with EBPs before incentives are introduced to mental health.

Another issue to consider is the tracking of patient progress. Often the person who diagnoses the condition is the same one who implements the EBP and tracks changes over time in the client. Many organizations provide clinical supervision. The enhanced role of the supervisor, offering an objective view on the work done, will need to be explored within each agency. Review mechanisms will also need to be developed for solo practitioners if health payers decide to offer direct incentives to them as well.

**Step 3. Consumers need to consume**

Incentives for the demand side also have a place in the discussion of evidence-based practice. While physicians must prescribe the EBP, it is often up to the patient to carry out some element of the treatment. Parents, for example, may need to practice skills taught in the parenting program. The literature contains examples of programs that offer incentives for
patients, typically related to treatment for specific conditions. These conditions often include traditional health problems such as diabetes (Taggart, Wan, Harris, & Powell Davies, 2008), but some are also related to mental health and substance use issues like adolescent substance abuse (Godley, Godley, Wright, Funk, & Petry, 2008) and smoking during pregnancy (Heil et al., 2008) among others.

Types of Incentives

Improving consumer health behaviors and outcomes is the ultimate goal of evidence-based practice. Physicians and other health care providers play an important role in educating patients and prescribing clinical recommendations. Incentives for providers, however, are not necessarily closely aligned with patient outcomes (Long, Helweg-Larsen, & Volpp, 2008; Werner & Bradlow, 2006). Patient adherence to their physician’s recommendations is a central component of achieving optimal results. The consumer side of the supply and demand model also must be considered.

What motivates patients and consumers to comply with physician recommendations? Researchers have developed health and behavioral change theories to understand patient motivation. Interventions to improve patient adherence often involve education. More recently, tools such as motivational interviewing are receiving much attention. This approach involves exploring with the patient reasons for their resistance to compliance and facilitating their own discovery of mechanisms that can help them adhere to physician recommendations (Butterworth, 2008; Joy, 2008). Given the economic perspective that patients are rational actors, incentives may have a role in affecting patient adherence. Thus far, incentives are only a small piece of the patient motivation and compliance literature.

Incentives that have been described in the literature for patients and consumers include both monetary and nonmonetary rewards. Employers, insurance payers, and other health supporting programs are beginning to use consumer incentives. Employers, for instance, are increasingly
realizing the cost factors in having workers with a variety of taxing health conditions. Some have developed programs to encourage their employees to lose weight, exercise, and stop smoking among other behaviors (Long et al., 2008). Others have offered payment to workers for completing programs in disease management (Wilhide, Hayes, & Farah, 2008). Disincentives also exist to encourage employee compliance with clinical recommendations, such as higher health care premiums for persistent smokers or even the threat of termination (Long et al., 2008). National survey results indicate that 9 out of 10 employers with 50 or more workers offer some type of health promotion program. However, these tend to be small in scope, with only an estimated 7% offering comprehensive programs (Taitel, Haufle, Heck, Loeppke, & Fetterolf, 2008). Nonetheless, most organizations perceive that having a healthier workforce actually lowers their own costs of missed days of work and health care premiums while ultimately increasing general productivity.

Some health payers are also beginning to explore patient incentives. One private company has implemented medical savings accounts for certain plan beneficiaries with chronic conditions. The payer deposits money into the client account for those who adhere to prescribed treatment. Disincentives are also being utilized. Most notable is the West Virginia Medicaid program’s recent movement to reduce coverage for those who do not follow clinical recommendations (Long et al., 2008).

A small number of community-based health promotion programs has also begun to use incentives. For example, an adolescent substance abuse recovery program notes the use of drawings for prizes (ranging from candy to televisions) (Godley et al., 2008). Retail store vouchers also have been employed in a university hospital setting to encourage pregnant women to stop smoking (Heil et al., 2008).

Evidence

As use of incentives for consumers is evolving, so is the research on its effectiveness.
Evidence generally falls into two groups. Employer-based incentives are relatively new and as such, limited evidence exists on their effectiveness. Much more research is available on contingency management, a common incentive based system for treating substance abuse. Both will be discussed below.

Preliminary evidence suggests that work-based incentives have positive effects on patient/employer health outcomes. Wilhide and colleagues used data from 87 employers whom each had at least 75 employees with a qualifying condition requiring disease management. Each employer decided whether or not to offer incentives to individuals for participating in a disease management program. Just over half provided incentives, most commonly gift cards and cash. The researchers found that incentives valued at least $50 at intake and again at completion of the disease management program were most effective in affecting employee participation (Wilhide et al., 2008). Taitel et al. (2008) studied the effect of incentives on employee participation on health risk assessments. Using data on 124 employers, they found that incentives did encourage participation. The necessary size of the incentive, however, depended on organizational characteristics. Those featuring high organizational support for employees could actually offer smaller incentives to inspire participation in the health assessment (Taitel et al., 2008). While preliminary studies such as these are promising, some in the field suggest that more evidence is needed before companies continue the move toward work place incentives (Draper, Tynan, & Christianson, 2008).

Much more of the literature on demand-side incentives involves contingency management. This approach operationalizes the psychological theory of operant conditioning in which environmental factors can shape behavior through reinforcing rewards or negative consequences. Contingency management was developed specifically to address substance abuse. It uses incentives to induce behavior modification (Godley et al., 2008). The approach was first used with cocaine users. Using random assignment, Silverman et al found that cocaine users were more likely to comply with treatment and submit clean urine tests when
vouchers were offered as incentives (Silverman et al., 1998). While this study was small (n=59), it inspired others to test contingency management for other substances including marijuana and alcohol dependence. Positive effects were found for these groups as well (Godley et al., 2008).

Since the earlier studies, contingency management has taken on the name voucher-based reinforcement therapy (Heil et al., 2008). Vouchers are offered to people for compliance with treatment including maintaining sobriety. A meta-analysis of 30 studies using experimental designs found an average effect size of .32 when vouchers were used as incentives. Studies which offered incentives earlier on and which provided larger voucher amounts yielded the greatest results (Lussier, Heil, Mongeon, Badger, & Higgins, 2006). More recently, Heil and colleagues implemented a randomized control trial of 82 pregnant smokers. Both groups were encouraged to quit smoking. The treatment group was offered a voucher to use for retail items if they abstained from smoking. The comparison group was provided a voucher of similar amount for study participation. The study found that those in the treatment group were significantly more likely to have stopped smoking by the end of pregnancy (41% vs. 10%) and 12 weeks post partum (24% vs. 3%) (Heil, Higgins, Bernstein, Solomon, Rogers, Thomas, et al., 2008).

Evidence also suggests that contingency management can be effective for adolescent substance abusers. Most involves very small sample sizes. Corby and colleagues were among the first to assess the effects of contingency management for youth. They found that voucher interventions yielded positive results for young smokers. However, the study was framed as a feasibility study, likely due to the small sample size (n=8) (Corby, Roll, Ledgerwood, & Schuster, 2000).

Kamon et al. studied the use of vouchers in decreasing marijuana use among 19 adolescents. Teens with a history of marijuana use earned vouchers for clean drug tests. Vouchers were for socially acceptable services such as restaurants, clothing stores, and movie
theaters. Values of the incentives increased with each clean screen and reverted to the initial amount when marijuana use was detected. Parents earned chances for prize drawings by supporting their children in the program as well. By the end of the 14 week intervention, 74% of youth tested free of marijuana, compared to only 37% at baseline. Just over half were clean one month following the program (Kamon, Budney, & Stanger, 2005).

More recently, Godley et al. (2008) conducted a descriptive contingency management study of 86 adolescents. They assessed the impact of prize drawing incentives on program compliance. Youth coming out of substance abuse residential treatment were encouraged to set goals related to developing socially acceptable activities. Participants set an average of 20 goals related to areas such as education, family, recreational activities, etc. The more steps a youth took to participate in activities that supported their chosen goals, the more opportunities they earned for participating in drawings. Youth completed 13 goals on average. Godley and colleagues suggest that prize drawing is a viable alternative to vouchers (Godley, Godley, Wright, Funk, & Petry et al., 2008).

**Barriers**

Most of the barriers related to measuring the effects of incentives in children’s mental health involve observational data and small sample sizes. It is possible that additional research using larger scale randomized experiments will substantiate the current findings from smaller studies.

Most studies to date have not viewed incentives from the perspective of health behavior theory. This may elucidate additional approaches to incentives for consumers that have not been tested. Health behavior theory suggests that it is necessary to understand reasons why people have not already complied with the desired behavior before offering incentives. The PRECEDE–PROCEED model holds that interventions should address the target group’s knowledge and attitudes, available resources for implementing the activity, and the opinions of
others around them (Grol & Wensing, 2004). These can all serve as facilitators or barriers to implementing EBP. Incentives will be most effective when they help people overcome the barriers to participation. This may include being linked to activities that increase their knowledge (such as incentives for attending training), or perhaps provide increased resources that lower the costs of their participation such as patient transportation assistance.

Applications to Mental Health EBP

The possibility of offering incentives to children with mental health conditions and/or their families requires significant discussion. One consideration is whether or not people will respond as predicted to incentives. Are children considered to be rational actors? Similarly, can we expect people with mental health conditions to respond rationally to an incentive? Depression itself can have great effects on a person’s utility basket, perhaps driving it to zero. The answer to this may depend on the condition itself. Another possibility is to offer the incentive to the parents. Parents play a key role in assuring their children comply with provider recommendations. For instance, parents provide the transportation to appointments, administer medications and so on. They essentially manage the illness on a daily basis.

Discussion

In sum, economics has much to contribute to our understanding of evidence-based practice. One area where more research is needed, especially in mental health, involves pay for performance. Much of that literature to date finds small effects, however, conceptual discussions of the issues suggest that the “devil is in the details”. Much like the term, managed care, simply labeling a program “pay for performance” does little to illumine the incentives and likely effects. If the evidence to date reveals anything, it reveals that the effects of incentives are not so overwhelming than any form of incentives targeted in any way generates effects. Efforts to change provider practice will need to be embedded in a thoughtful discussion of the motives, knowledge and incentives shaping “treatment as usual”.

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References


