The recent passage of federal legislation mandating mental health parity has triggered anxiety among employers regarding its potential impact on healthcare costs.

Some actuarial estimates are projecting cost increases in the range of 0.4 - 0.6 percent as a result of the law, a sum, which while not insignificant, pales in comparison with expected increases in other health-related expenditures. (The increase in costs for managed behavioral health organizations is expected to be considerably higher.) Complicating matters further, there are ambiguities in the way the parity law was written, leading to uncertainty about how it will be interpreted and enforced by regulatory agencies.

A recent survey by the American Psychiatric Foundation found that around seven percent of employers were considering the radical step of dropping coverage for mental health or substance abuse treatment in response to the legislation, while over 14 percent indicated they may exclude coverage for specific disorders.

To their credit, however, the majority of employers surveyed were not considering such draconian measures as a result of the parity law. Instead of reducing the scope of conditions covered or the kinds of care available, many employers were planning modest adjustments in their benefit structure, which now must be equivalent for medical and mental health disorders. For example, nearly 37 percent of the employers planned to increase co-pays for medical and mental health services (under parity, co-pays need to be equalized across all covered services), while 28 percent were considering increasing deductibles.

While some of the employers surveyed were focusing on utilization management or other strategies designed to rein in treatment costs, others envisioned a different approach, geared toward individuals at risk or at the lower end of the acuity spectrum. More than a third of the employers planned to promote greater use of employee-assistance plans or wellness programs. As discussed later, such measures could extend the reach of mental health services, embracing those who may not yet be highly symptomatic.

Looking at the total economic burden associated with mental health disorders, we have to conclude that parity is not the most urgent problem employers need to address. What ought to concern them the most is continuing their current approach to mental health problems, because they simply are not reaching enough of those who need help.

Mental health parity legislation may help to ensure that those who receive treatment will have sufficient insurance coverage to get the help they need. Unfortunately, it does nothing to address the millions of employees who suffer these problems silently, and never come forward for any form of treatment. In the meantime, their productivity will suffer and their health will be compromised, particularly if they have other medical conditions.

Since there is evidence that even workers with mild or “sub-threshold” problems begin to show productivity problems early on – perhaps long before they experience other
health consequences – employers may be in a unique position to effect significant change in the way services are delivered.

Parity legislation will benefit society even more if, in addition to closing gaps in treatment, it brings home the realization that we need a broader vision to guide our approach to mental health. Reducing healthcare costs and restoring lost productivity associated with mental health problems will require innovative solutions: if parity legislation opens our eyes to the bigger mental health picture, it can serve as a catalyst to developing them.

Who gets help for mental health problems? Only a chosen few ...
Research shows that treatment for mental health disorders, including both medication and psychotherapy, typically works. If treatment is effective, then the problem must be access.

The following factors limit both access to, and efficacy of, treatment:
• while both psychotherapy and medication have been shown to be effective, nearly two-thirds of people with mental health problems will never seek treatment of any kind;\(^3\)
• less than 10 percent will obtain specialty care (e.g., medication consultation with a psychiatrist, psychotherapy with a mental health professional);\(^3\)
• the bulk of those who come forward for treatment will be seen in primary care, where they are typically prescribed medication;\(^4\)
• primary care providers already are being asked to do too much. Saddling them with the responsibility for medicating large numbers of patients with mental health issues only adds to their burden, and might not be the best course of action. Indeed, research indicates that medication in primary care seldom proceeds according to established clinical guidelines, with an estimated 80 percent of cases failing to meet standards of care.\(^5\)

Mental Health Disorders and Healthcare Costs: More Than Meets the Eye
Despite the gaps in access to services, mental health disorders do generate substantial treatment costs, for medication and psychotherapy. Moreover, these costs were rising steadily even before mental health parity.

But there’s more to the story than meets the eye. To evaluate the impact of mental health disorders on healthcare, we need to look beyond the expenses associated with treatment. Mental health problems, particularly depression, are far more prevalent among those with other chronic medical problems. For example, while the prevalence of mood disorders in the general population has been estimated at around 9.5 percent, depression affects about 25 percent of adult-onset diabetic patients.\(^5\)

When mental health problems are comorbid with other medical conditions, they increase the risk of all the elements that raise costs, including complications, hospitalization, disability, and mortality. Conversely, successful treatment of mental health disorders is associated with improved patient outcomes and lower costs.\(^1\)

Among patients with chronic conditions, those with behavioral health issues stand out as the most costly and complicated. Just two examples among many:
• about one in four diabetic patients experiences depression. Diabetic patients with major depression are significantly less likely to adhere to medication treatment. They also show poor dietary habits, are much less likely to exercise, and are more than twice as likely to smoke as other diabetic patients;\(^5\)
• binge eating, the most common eating disorder, is far more prevalent among the obese – 25 percent of severely obese patients are binge eaters, and are at significantly greater risk for medical and psychological problems than obese patients who do not binge eat. They also have higher rates of obesity-related functional disability,\(^9\) and show a greater degree of psychological distress evidenced by higher rates of depression and anxiety, and more frequent suicide attempts.\(^7,8,9\) They report earlier onsets of obesity and experience greater weight fluctuations, and, not surprisingly, show poorer outcomes from weight loss treatment\(^10\) and weight loss surgery.\(^11\)

Mental Health Problems and Lost Productivity
The total economic burden of behavioral health problems consists more of workplace-related costs than healthcare costs. For example, the total annual cost of depression in the U.S. for 2000 was estimated at $83 billion,\(^12\) more than 62 percent of which ($51.5 billion) was attributed to workplace-related
costs. Workplace costs associated with mental health problems include short- and long-term disability, absenteeism, and presenteeism (performance impairment while at work).

Figure 1 is drawn from data on more than 1.3 million participants in the HealthMedia® Succeed™ online health risk appraisal, and illustrates the close relationship between depressed mood and absenteeism.

The more frequently people felt depressed, the more often they missed work. In addition, those experiencing depressed mood only one to two days per week, who probably would not have qualified for a formal diagnosis of depression, still reported a 50 percent higher rate of absenteeism. Additional data on this "sub-threshold" group are presented in Figure 2.

Several valid and reliable self-report scales are used to measure an employee’s productivity impairment, the combined level of presenteeism and absenteeism. One such scale is the Work Productivity Activity Impairment questionnaire (WPAI). The WPAI employs a validated algorithm to generate an estimate of productivity impairment, expressed as a percentage of lost work performance. Scores on the WPAI can be used to establish a monetary value for lost productivity. Figure 3 displays results from participants in Succeed, showing the degree of work impairment associated with levels of depression, with monetary estimates of yearly lost productivity based on an average of $50,000 in annual salary and benefits.

Just as with absenteeism, the more frequently depression occurs, the higher the degree of productivity impairment. It’s also noteworthy that those who experienced “sub-threshold” depression (depressed one to two days per week) were already showing twice the productivity impairment – and twice the annual cost – of those who said they rarely felt depressed.

Employers who suffer from depression along with another chronic condition show an even larger differential in productivity impairment when compared with peers who rarely feel depressed. Across a broad range of chronic conditions such as hypertension, asthma, diabetes, and congestive heart failure, the presence of depression three or more days a week is associated with significantly higher levels of productivity impairment, resulting in an additional productivity loss of up to $10,000 per employee per year.

The productivity data on “sub-threshold” depression suggest that for some individuals with mental health problems, difficulties at work may appear early on, often before other symptoms and related health problems start to surface. Consequently, the employer may begin to pay a price from the very first indications of a mental health problem, long before the distressed employee seeks help from a healthcare provider.

In conclusion: Employees with sub-threshold problems such as mild depression constitute a sizable, but largely invisible, group that ought to draw more attention from employers. Evidence indicates that, in addition to being at risk for developing more severe symptoms, these individuals are already showing productivity problems.

**Parity Legislation: Not a Silver Bullet**

If it works as intended, mental health parity should help remove gaps in insurance coverage and improve access to treatment for those who most need it. It should offer an additional safety net for those who suffer from severe mental illness, and for their families. However, mental health parity will not solve many of the problems with treatment access and quality described above.
While mental health parity may go a long way toward reducing disparities in coverage between physical disorders and mental health problems, it will not affect the millions of employees who suffer these problems silently, and never come forward for any form of treatment. Likewise, it is unlikely to have an impact on those employees at the lower end of the severity continuum, specifically those who have “sub-threshold” symptoms or those who are not yet symptomatic but are at risk for developing problems in the future.

Population Management of Mental Health Problems

An employer looking toward the future in the wake of parity should use a wide-angle lens, and think in terms of population health management instead of disease management. Disease management as traditionally practiced focuses on those with the most severe or chronic difficulties. Population management, in contrast, aims to reach those with problems at all acuity levels, including “sub-threshold” individuals and those who are at risk for future difficulties.

Population management requires broad, multi-modal mental health initiatives, combining a range of interventions including wellness, prevention, behavioral health, and disease management. Not all interventions should necessarily take place in traditional, face-to-face healthcare settings, where services typically focus on the most serious or costly cases. As discussed below, employers have a significant role to play in the process.

Many health plans and the managed behavioral health organizations who partner with them are already taking important steps to improve the quality of services offered to those with mental health problems. Such measures need to be implemented aggressively across the entire system of care. Examples include:

- encouraging more screening for other mental health problems in primary care, and more effective management of patients receiving medication there. To achieve this goal, it is essential to better compensate primary care clinicians for the additional time spent screening and treating mental health problems;
- offering additional tools to help patients who are receiving medication without other coaching or treatment. Feeling better is important, and medication can be very effective in effecting this. But if patients learn more effective self-management skills, in addition to experiencing symptomatic relief they might also be able to take greater control of their health in the future. Research indicates that cognitive therapy (CT) is superior to medication in preventing relapse among depressed patients, and the skill-building component of CT is arguably responsible for its superiority;
- including screening and treatment for mental health problems as basic components of disease management of chronic conditions. The best way to mitigate the impact of mental health comorbidity on chronic illness is to make integrated medical and mental health treatments a basic standard of care for all comorbid chronic conditions;
- becoming more proactive in identifying and reaching out to patients who are noncompliant with medication treatment in primary care, and promoting better follow-through among those who are referred to mental health specialists;
- offering confidential alternatives to face-to-face treatment and telephonic coaching, to reach those who, for reasons of shame or stigmatization, are not comfortable coming forward for other forms of help (this is discussed further in a later section).

Mental Health Population Management: Strategies for Employers

The high prevalence of mental health problems (especially if “sub-threshold cases are counted), and the fact that so many
people with difficulties never come forward for help, mean that the task of population management cannot be left solely in the hands of health plans, or “carved out” and delegated to managed behavioral health organizations.

Employers have a unique and vital role to play. Employer-based initiatives can reach large numbers of people, particularly those at lower severity/acuity levels, who may never come to the attention of the healthcare system until their conditions become demonstrably worse. Additionally, large, geographically dispersed employers may be served by different health vendors, so that a particular health plan’s initiatives may reach only a small segment of employees. Employers can facilitate population management by taking the following steps:

- educating employees on their Employee Assistance Program (EAP) benefits, and encouraging use of those services;
- encouraging employees to participate in health risk appraisals and wellness/prevention programs. Whether using the “carrot” (incentives) or “stick” (making insurance coverage contingent on participation), data show that an employer is well positioned to drive high participation rates. More research is needed to identify the most effective strategies for building participation;
- including a mental health component in all company-wide health promotions. Employers must insist that health risk appraisals (HRAs) screen for mental health problems, and wellness programs include help for issues such as stress, insomnia, and depression;
- using HRA data to identify populations at risk and design effective recruitment messages. There is a large body of research indicating that individually tailored messaging is much more effective than static content in changing health-related behaviors. “Intelligent” recruiting messages can leverage data drawn from HRA results (or other sources, such as claims data), to send an individual a highly tailored invitation – typically by e-mail – to participate in specific self-management programs. As with other health messaging, such “intelligent recruitment” e-mails are most effective in driving program participation if they are tailored to the individual’s demographic characteristics, health issues, and psychological makeup;
- offering confidential, scalable alternatives to “high touch” services, such as Web-based digital coaching programs, to reach the widest segment of the population – including those at risk or with “sub-threshold” difficulties, and those who may never come forward for any other help.

Outcomes: Measuring Efficacy and Return on Investment
When evaluating the efficacy and cost effectiveness of any mental health initiatives, employers must take the following variables into account:

1. Improvements in target symptoms (e.g., lower scores on depression rating scales, increased sleep time, reductions in number of binge eating episodes, etc.). Unlike other areas of health, in mental health treatment research self-report scales of symptoms are considered appropriate methods for measuring outcomes (assuming their reliability and validity have been established). As psychology has evolved over the past century, the scientific methodology underlying test construction has evolved along with it. As a result, researchers have developed many statistically reliable and valid self-report instruments to measure symptom severity, functional impairment, loss of well-being, and other variables associated with mental health problems.

2. Improvements in chronic conditions that are comorbid with mental health problems. For example, does depression treatment result in improved self-care, reduced complications, or more stable A1C readings among diabetics? When mental health treatment results in improved medical outcomes, it’s cost-effective.

3. Medical cost offsets. While mental health treatments will generate direct costs themselves, it is important to examine the overall pattern of healthcare utilization following interventions. Do patients who improve their mental health show overall reductions in costs (or reduced rates of cost increases) as a result of fewer office visits, emergency room visits, or nights in the hospital? Since mental health initiatives might increase treatment costs in the near term (e.g., by increasing treatment utilization or improving medication adherence), it is important to use a relatively long follow-up period (one to three years) in examining the impact of mental health interventions on overall healthcare costs.

4. Productivity gains. As noted above, productivity impairment can be an early warning sign of mental health difficulties, particularly among individuals with “sub-threshold” conditions. While employees at risk or at low severity levels might not yet be generating high medical costs, they may be missing work or performing less effectively when they do come in. Individuals with more significant symptoms may create even more expenses, particularly if they are generating disability or Workers’ Compensation claims. Unlike medical cost offsets, which may take longer to emerge downstream, improvements in productivity can provide an immediate return on investment for the employer.

Revolutionizing Healthcare: The Role of Emerging Technologies in Population Management
During the past 10-15 years the Internet has “democratized” healthcare, providing consumers nearly unlimited access to medical information. Searching for health-related information is second only to the use of e-mail as the most common online activity for adults in the U.S. Active participation in one’s own healthcare decisions is becoming the norm, gradually transcending barriers of age, race, ethnicity and social
The majority of those with mental health problems will go untreated. Consequently, there is a great need for interventions that can reach more individuals who are not receiving services.

class. Moreover, the increasing use of Web-enabled mobile communications devices should only accelerate this trend.

These developments have set the stage for an even more important transition among consumers – assuming an unparalleled degree of responsibility for one’s own well-being by developing more effective self-management skills. Digital coaching and other emerging technologies can be powerful tools in facilitating this transition, especially with respect to mental health problems.

“Digital coaching” uses automated behavior-change interventions delivered via the Internet or mobile communication networks. Unlike static content on the Web or multi-media learning programs, digital coaching provides a behavior-change plan highly tailored to each user’s unique demographic and psychological profile, thereby increasing personal relevance and efficacy.

A large body of research has demonstrated the superiority of tailored messaging in changing health-related behaviors.\cite{17,18} When compared with static content, tailored messaging results in greater mobilization of basic attention processes, measured by eye movements and functional MRI patterns.\cite{21}

Just as ATMs do not take the place of bank tellers or other “live” services inside the bank, digital coaching does not and will not take the place of more intensive mental health interventions (e.g., psychotherapy, telephonic coaching). But technology-based automated services will play an increasingly vital role because they successfully address several barriers encountered in population management of mental health issues:

**Scalability and cost.** Compared with more “high-touch” services, digital coaching can be deployed to unlimited numbers of users with little or no increase in cost. In fact, as participation rises, the cost per user drops steadily. The low cost and high scalability of digital coaching enables employers and health plans to provide help for those at lower acuity levels (or just at risk), without reducing services to individuals with more serious difficulties.

**Participation.** The majority of those with mental health problems will go untreated. Consequently, there is a great need for interventions that can reach more individuals who are not receiving services. Table 1 summarizes data on over 43,000 participants in three digital coaching programs addressing behavioral health issues.\cite{22} The programs were deployed by both health plans and employers. The vast majority of participants were not currently in treatment, suggesting that the programs were able to reach significant numbers of people who otherwise might not have been identified as having difficulties or were not receiving other services.

<table>
<thead>
<tr>
<th>Program</th>
<th>In Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>34%</td>
</tr>
<tr>
<td>Insomnia</td>
<td>24%</td>
</tr>
<tr>
<td>Binge Eating</td>
<td>13%</td>
</tr>
</tbody>
</table>

As noted earlier, digital coaching can be coupled with “intelligent recruitment” as well as incentives to drive high levels of participation. Even “targeted recruitment,” sending e-mails encouraging those at risk to use digital coaching programs, can result in large numbers of participants. A large health plan used health risk appraisal data for recruiting its members into digital coaching programs – Table 2 shows program enrollments just 35 days post-launch.\cite{22}

<table>
<thead>
<tr>
<th>Program</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight Management</td>
<td>3,119</td>
</tr>
<tr>
<td>Smoking Cessation</td>
<td>283</td>
</tr>
<tr>
<td>Nutrition</td>
<td>2,758</td>
</tr>
<tr>
<td>Stress</td>
<td>1,072</td>
</tr>
<tr>
<td>Depression</td>
<td>1,232</td>
</tr>
<tr>
<td>Insomnia</td>
<td>883</td>
</tr>
</tbody>
</table>

**Total: All Programs 9,347**

**Confidentiality.** The anonymity and confidentiality of digital coaching programs have an intrinsic appeal for those with mental health problems who are unwilling to come forward due to issues of shame or stigma. A series of studies has
indicated that people give more candid answers about potentially stigmatizing behaviors (e.g., substance abuse, unsafe sexual behavior) to computer-based assessments compared with “live” interviewing.\(^{2,24}\)

**Ownership.** Self-help approaches typically ask consumers to take primary responsibility for their own health and well-being. Digital coaching programs enable consumers to practice better self-management skills. Just as importantly, they also help those who have problems with motivation or self-efficacy (confidence in their ability to change) to identify and overcome the barriers that prevent them from changing behavior.

**Efficacy.** A growing body of research has shown that self-help resources, starting with bibliotherapy and moving on to computer- and Internet-based approaches, produce positive outcomes for various mental health problems, particularly for those with mild to moderate levels of symptomatology. Similarly, evidence is growing for the efficacy of digital coaching: such programs for insomnia,\(^ {25}\) depression,\(^ {26}\) stress,\(^ {27}\) and binge eating disorder\(^ {28}\) have yielded significant positive results in symptom reduction, reduced medical utilization, and improvements in productivity.

**Return on investment.** Return on investment comes from improved medical outcomes and gains in productivity. Because technology-based solutions offer high scalability at low cost, they have the potential to show an enormous return on investment, illustrated by recently reported data on various behavioral health interventions.\(^ {25-26,27-28}\) While those with sub-threshold difficulties (e.g., one to two days of depression per week) may show lower healthcare costs and less productivity impairment compared to those with more severe problems, there are typically more of them in any given population. As a result, even modestly successful interventions among low-acuity cases can result in impressive ROI numbers, particularly by showing an immediate impact on productivity.

**In Summary**

While mental health parity will improve coverage for those receiving treatment from specialists, the legislation will not affect the majority of people with mental health problems, many of whom will never come forward for treatment. Reaching more of these individuals will require innovative solutions that go beyond traditional “high touch” services. Digital coaching is a highly scalable and cost-effective way of addressing this population, offering them a confidential, non-stigmatizing, and efficacious alternative to traditional methods of care.\(^ {22}\)

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**References**

13. Source: HealthMedia® Succeed™ HRA data analytics.
22. HealthMedia® data analytics.