I am pleased to introduce the first edition of our new quarterly publication, *Vitality Atlas*.

In every issue you will find informative articles to help you achieve your business objectives while supporting a healthier, safer workforce. We are providing this educational tool because we believe our employer-partners can cultivate employee buy-in by becoming a trusted source of information.

For example, in this issue of *Vitality Atlas* you will learn how behavior is a major determinant of health status.

We all benefit from a commitment to preventing injuries and illnesses with the potential to become chronic, disabling conditions. However, it is difficult to measure results.

Data show the greatest returns for employers come from an investment in targeted interventions for workers who already have chronic and/or disabling conditions that result in high medical and pharmacy costs, litigation and extended absence. Studies show these conditions directly impact company profitability, brand and image, sustainability, employee retention and productivity.

According to the Centers for Disease Control and Prevention, 75 percent of U.S. health care costs are linked to chronic conditions largely caused by unhealthy behaviors. Consequently, many believe a multi-disciplinary, coordinated approach to behavior change is needed to overcome lifestyle risks (stress, obesity, lack of physical activity) that are a contributing cause of work-related injuries and illnesses.

Experts who study behavior agree that enduring change is most likely to occur when it's self-motivated and rooted in positive thinking, not driven by disincentives. People just seem to do better when health improvement goals are clearly defined and considered achievable rather than vague and unrealistic.

Let us know what works best for you and your organization.

Peter P. Greaney, M.D.  
CEO/Chief Medical Officer
Companies that offer influenza vaccinations to employees at minimal or no cost do so for good reasons.

In combination with other prevention methods, public health officials consider vaccination the first line of defense against the flu. Without prevention, the flu presents a costly and serious health threat.

In addition to annual flu vaccination, employers are advised to implement prevention methods including:

- Reminders to practice good personal hygiene such as hand washing, covering one’s mouth when coughing or sneezing, and tissue disposal
- Frequently disinfecting surfaces such as countertops, phones and door handles
- Encouraging employees to stay home when ill

Routine annual influenza vaccination is recommended by the Advisory Committee on Immunization Practices for children over six months old and adults who do not have contraindications.

According to the Centers for Disease Control and Prevention (CDC), Partnership for Prevention and other sources, flu in the U.S. is annually associated with:

- 200 million days of diminished productivity (presenteeism)
- 22 million days of work absence
- $6.2 billion in lost-time costs
- At least $10.4 billion in direct medical costs
- A total estimated economic burden exceeding $87 billion

Preparing for flu season

While annual workplace flu vaccination campaigns are a routine occurrence, they can become fraught with complexity if not well managed.

Challenges employers may encounter include providing high volumes of vaccinations in a relatively short period of time; managing declinations for religious, medical or other reasons; determining whether vaccination should be voluntary or mandatory; providing education and correcting employees’ misconceptions about side effects; and complying with recordkeeping requirements.

(Related article on Page 5.)

Employers may also need to address conditions that have been shown to contribute to turning the workplace into a germ factory, including:

- Lack of management oversight
- Working in close quarters
- Ineffective air filtration systems, personal protective equipment and other controls
- Inadequate cleaning techniques
- Production demands
- Policies or attitudes that discourage employees from staying home when they are sick

This year, National Influenza Vaccination Week is Dec. 7-13, but experts recommended starting workplace flu campaigns earlier in the fall.

Researchers from the University of Pittsburgh who developed an economic model using historic influenza data from the CDC and wage data from the U.S. Department of Labor found an employee immunized in November instead of December could save an employer between $63 and $95 per person. In the study year (2010), they found vaccinating 150 employees earlier in the season could save a business from $9,450 to $14,250.

“Employers have huge incentives to solve this widespread public health problem with timely vaccination,” said Rachel Bailey, M.P.H., lead researcher of the study. “Even though sponsoring workplace vaccination may appear expensive, the cost savings provided by preventing influenza-associated absenteeism with vaccination programs early in the influenza season more than compensates.”
Campaign strategies

Fixed-site clinics, flu shot “fairs,” mobile medical units and roving vaccination carts are among preferred delivery methods in all types of industries. Best practices for increasing participation in onsite flu immunization programs emphasize the importance of convenience, education, communication and buy-in.

More specifically, according to the Partnership for Prevention:

Convenience: Successful vaccination programs take into account the importance of making access to flu vaccine convenient in accordance with varying schedules and preferences. Studies show flexibility improves compliance rates.

Education: In a study, companies that followed a prescribed advertising campaign featuring one poster per 20 employees, three e-mail reminders, and if possible, one flyer per employee, experienced an 11 percent increase in compliance.

Leadership: Senior managers can be effective advocates by being vaccinated themselves and directly involved in developing educational campaigns.

Champions: An onsite champion might administer injections and also help with logistics, such as finding a room to hold a flu clinic and distributing educational materials.

In addition to the CDC and Partnership for Prevention, there are many local, state and national resources available online and in communities for employers seeking help with flu campaigns and promotional strategies. (Please refer to the resources section at the end of this article.)

Reducing the cost burden

With vaccination alone, physician encounters and lost workdays can be decreased by about 45 percent, the CDC reports. Using these percentages, a company with 100 employees would have an average of 40 fewer employee lost workdays annually if the entire workforce was vaccinated.

Vaccination also has the potential to reduce hospitalizations, even when the vaccine is less effective than average.

For example, in a recent study, CDC and Battelle Memorial Institute researchers used statistical modeling to estimate vaccine effectiveness in 2011-12, considered a mild flu season, and 2012-13, a moderate-to-severe season. During the 2012-13 flu season, they found a flu vaccine with 10 percent effectiveness and 66 percent coverage would avert about 13,000 hospitalizations while a vaccine with 40 percent effectiveness would prevent about 60,000 hospitalizations among people older than 65. During the milder 2011-12 season, a flu vaccine with the same two effectiveness estimates would prevent about 2,000 and 11,000 hospitalizations, respectively.

The nation’s Healthy People 2020 flu vaccination target is 70 percent of working-age adults and 80 percent of the population as a whole. The Partnership for
Prevention reports 70 percent of the nation’s major employers offer flu shots, but only about 15 percent of the total U.S. population is immunized each year—far short of the Healthy People 2020 target.

Options this season

Flu vaccines are designed to protect against viruses experts believe will be the most common during the upcoming season. Some years the vaccine is more effective than others, depending on which flu strains predominate.

The vaccine has traditionally offered protection against three flu viruses (trivalent). With the introduction of vaccine containing a fourth antigen (quadrivalent) in the U.S. a few years ago, some manufacturers are phasing out production of trivalent vaccine. Consequently, a growing number of employers—following the lead of many health care organizations—are expected to offer employees quadrivalent vaccine this season. The CDC does not recommend one over the other.

With the exceptions of trivalent recombinant influenza vaccine ( FluBlok, Protein Sciences) and cell culture-based inactivated influenza vaccine ( Flucelvax, Novartis), this season’s influenza vaccines are prepared by virus propagation in embryonated chicken eggs.

One consideration for employers is the price difference between quadrivalent and trivalent vaccine. The CDC’s online vaccine price comparison lists all vaccines on the market.

In a cost-effectiveness analysis published in March 2014, researchers determined quadrivalent vaccination should be cost-effective at “conventional willingness-to-pay thresholds.” On average per influenza season, inactivated quadrivalent vaccine was predicted to result in 30,251 fewer influenza cases, 3,512 fewer hospitalizations, 722 fewer deaths, 4,812 fewer life-years lost and 3,596 fewer quality-adjusted life years lost in comparison to trivalent vaccine.

Most people who are vaccinated get a shot in the arm. For those who don’t tolerate shots, nasal mist is available for healthy children who are at least 2 years old and non-pregnant adults up to 49 years old. Anyone with severe allergic reactions to any component of the vaccine, including egg protein, or a life-threatening reaction to previous administration are advised to seek medical advice before vaccination.

Mandatory or voluntary?

A growing number of organizations have adopted flu vaccination policies, with health care organizations at the fulcrum of a national debate about mandatory versus voluntary programs. Before implementing any type of vaccination policy, attorneys recommend consulting with legal counsel and contacting state or local public health officials for guidance. Attorneys with DrinkerBiddle, a national business law firm, advise employers to consider the following when implementing a policy:

- Be prepared to demonstrate “reasonable business interest” whether vaccination is mandatory for selected employee groups or only strongly encouraged.
- Consider applicable provisions in collective bargaining agreements.
- Identify employees who may be exempt from mandatory vaccination under the Americans with Disabilities Act or a “sincerely held religious belief, practice or observance.”
- When requested, work with an employee to identify a reasonable accommodation such as full exemption, temporary transfer during flu season or wearing a mask over nose and mouth.
- Do not terminate an employee who refuses a flu shot without first engaging in an interactive process.
- Uniformly implement and
apply any policy, including disciplinary measures such as issuing a warning letter for an initial failure to show proof of a flu shot or not wearing a mask.

Personal privacy is another concern. When collecting health care-related information, employers are advised to be cognizant of how the Health Insurance Portability and Accountability Act (HIPAA), state laws and organizational policies may apply.

The Occupational Health and Safety Administration’s long-standing position for employers has been for influenza vaccination to be part of a comprehensive, multi-layered infection control program, not a stand-alone initiative. Prevention of the flu in the workplace is a way for employers to take an active role in promoting the health of their workforce and showing they care about the communities in which they operate, says the Partnership for Prevention.

FLU VACCINATION REPORTING AN ADDED RESPONSIBILITY

Occupational health professionals who are responsible for workplace flu campaigns find it saves time and money to automate processes and procedures. This may include the use of mobile apps, forms that can be completed in advance, electronic signatures that can be obtained onsite using hand-held devices and recordkeeping software.

Hospitals are required to report influenza vaccination rates among health care personnel to the Centers for Disease Control and Prevention through the National Healthcare Safety Network, a surveillance system managed by the Division of Healthcare Quality Promotion. Data collected on vaccination rates and other safety-related initiatives are used for the development of practices that help minimize exposure risks in health care facilities and enable hospital quality and performance comparisons.

The Joint Commission, which audits and accredits health care organizations, requires accredited facilities to establish an annual influenza vaccination program for licensed independent practitioners and staff. The standard requires hospitals and other accredited organizations to set incremental goals for meeting a 90 percent health care personnel coverage rate by 2020. The standard does not mandate influenza vaccination for staff as a condition of accreditation. However, the Joint Commission requires hospitals to “annually evaluate vaccination rates and the reasons given for declining the influenza vaccination” (Standard IC.02.04.01).

References

1. Early Employer-Based Flu Vaccinations Can Protect Health and Improve Company’s Bottom Line; American Public Health Association news release, Nov. 9, 2010.

Additional Resources

1. Make it Your Business to Fight the Flu: Promoting the Seasonal Flu Vaccine, CDC toolkit.
2. Give Productivity a Shot in the Arm: How Influenza Immunization Can Enhance Your Bottom Line; Partnership for Prevention presents the business case for worksite flu immunization.
3. Myths and Facts About Flu and how program leaders can educate consumers, a chapter in Your Flu Immunization Toolkit. Partnership for Prevention.
We can blame our upbringing or thank our ancestors, but when it comes to health status, we also have to acknowledge our own behavior.

Behavior is a major determinant of health, having as much effect as genetics, environment and access to care combined. Manning & Napier report in a white paper on Why Wellness Matters: The Real Cost to Employers of Unhealthy Employee Behaviors.

The Centers for Disease Control and Prevention (CDC) attributes more than 75 percent of health care costs in the U.S. to chronic conditions that could largely be prevented by making healthy choices such as consuming more nutritious food, getting regular exercise and adequate sleep, consciously reducing stress and avoiding addictive substances.

While a company’s locus of control is limited by employee attitudes toward personal well-being, employers can still have a positive influence on workers’ personal health behaviors. Organizations that promote wellness report lower health care costs, insurance premiums and workers’ compensation claim rates when compared to companies that have not made the same commitment.

There is a choice: a workplace can be motivating or de-motivating. Employers can offer positive reinforcement, establish reasonable job demands and provide access to wellness services and health care coverage, or they can allow unrealistic production quotas, stress and poor environmental conditions to prevail.

Changing behavior

Under any circumstances, when considering what types of workplace wellness programs to offer, one of the key challenges for employers is finding effective ways to encourage resistant individuals to exchange unhealthy behaviors for healthier ones.

According to the American Psychological Association, understanding how people change is the first step.

Similar to the five stages of grief that were originally proposed by Elisabeth Kübler-Ross in her 1969 book On Death and Dying, there are five stages of change:

- pre-contemplation
- contemplation
- preparation
- action
- maintenance

Psychologists Carlo DiClemente and James O. Prochaska identified these five stages during a study involving 872 people who were trying to quit smoking. The stages became the foundation for the Transtheoretical Model of Change. A detailed overview of the transtheoretical model suggests people in the preparation stage are prime candidates for action-oriented programs such as smoking cessation and weight loss because they have already taken initial steps toward making a change, such as doing research or seeking professional advice.
Workplace health promotion programs are often based on this model, which is driven by individual decision-making capabilities and reliance on self-reporting. By comparison, alternative approaches to health promotion have primarily focused on social or biological influences on behavior.

Social determinants are the circumstances in which people are raised, work and age, the systems that are in place to deal with illness, and broad influences including economics, social policies and politics, according to the World Health Organization.

Experts who study behavior agree that long-lasting change is most likely to occur when it’s self-motivated and rooted in positive thinking. Harvard Health Publications reports that when a person is motivated to change by a sense of guilt, fear or regret, positive change is less likely to occur. Studies also shown that goals are easier to reach if they’re specific (“I’ll walk 20 minutes a day,” rather than “I’ll get more exercise”) and not too numerous or difficult to access.

Pocketbook power

The Patient Protection and Affordable Care Act (ACA) places a strong emphasis on prevention, which gets to the core of occupational medicine, a preventive specialty, and creates workplace linkages.

Wellness provisions in the ACA allow companies to offer incentives equal to up to 30 percent of the total cost of health insurance coverage. If an employer reduces the amount they charge wellness program participants for coverage, the maximum reward level may be increased by an additional 20 percent for initiatives aimed at preventing and reducing tobacco use. Under the ACA, workplace wellness programs must be reasonably designed, not “overly burdensome” and offer alternative incentives to employees with medical conditions that make it difficult to reach baseline health standards.

Inquiring minds

The ACA wellness provisions and the heavy burden unhealthy employees place on companies have generated research initiatives on the effectiveness of prevention programs by academic institutions; independent research centers; consulting, insurance and benefit management companies; and governmental entities.

One initiative, the National Healthy Worksite Program sponsored by the CDC, is designed to assist employers in implementing health protection and promotion strategies that will lead to specific, measureable health outcomes to reduce chronic disease rates.

Participating companies have established a combination of

Continued on page 11
MRI triggers cascading effect in work-related low back pain cases, study shows

Non-specific low back pain is one of the most commonly reported work-related complaints.

When a patient suffers persistent radicular pain after a trial of conservative care, a magnetic resonance imaging study (MRI) is often recommended to further evaluate the condition. Even though medical practice guidelines advise against the use of MRI for acute, uncomplicated low back pain, it often is performed in these “non-adherent” cases.

MRI for work-related low back pain has a cascading effect that leads to additional unnecessary tests, surgical procedures, higher costs and poorer outcomes, according to a newly published study. Cascading in medical care is defined as “a chain of events initiated by an unnecessary test which results in ill-advised tests or treatments that may cause avoidable adverse effects and/or morbidity.” Cascade-enhancing factors include patient demands, over-interpretation, intolerance of ambiguity, economic incentives and referral patterns that lead to overutilization, and unreasonable promises of a “cure.”

In the longitudinal study of 3,022 low back pain claims filed over a one-year period, cases were grouped by timing (early, timely, no MRI) and sub-grouped by severity (“less severe,” “more severe”). In non-adherent cases, researchers found a pattern of expensive and potentially unnecessary services were delivered within six months of MRI: types of services included electromyography, nerve conduction testing, advanced imaging, injections and/or surgery.

The study suggests a need “to promote provider and patient conversations to help patients choose care that is based on evidence, free from harm, less costly and truly necessary,” the authors said. They conclude: “Further research is needed to identify specific pathways and decisions that lead to obtaining non-adherent MRI and a subsequent cascade of services.”

**Citation:** The Cascade of Medical Services and Associated Longitudinal Costs Due to Non-adherent Magnetic Resonance Imaging for Low Back Pain; B Webster, et al.; *Spine, Vol. 39, Issue 17*, August 2014 (open access)

**Workplace interventions linked to improved heart health, increased savings**

Four of the top ten most expensive health conditions for U.S. employers are related to heart disease and stroke (high blood pressure, heart attack, diabetes and chest pain). Well-established risk factors for cardiovascular disease (CVD) include hypertension, lipid abnormalities and smoking. Environmental factors such as exposures to particulates, metals, solvents and pollutant gases in the workplace have also been shown to increase the incidence of CVD [Bhatnagar 2006, Sjogren, et al. 2012].

**ACA incentives**

The Patient Protection and Affordable Care Act (ACA) provides opportunities for employers to increase the availability of cardiovascular health programs, including cardiac rehabilitation (CR), in the workplace, according to an article published recently in the *Journal of Occupational and Environmental Medicine.*

CR is a professionally supervised program to help people recover from heart attacks, heart surgery...
and procedures such as stenting and angioplasty. Cardiac rehab programs typically provide education and counseling services to help heart patients increase physical fitness, reduce cardiac symptoms, improve health and reduce the risk of future heart complaints.

Cardiovascular disease is largely preventable. Cardiovascular programs fit naturally with ACA incentives for preventive interventions and delivering care that achieves measurable health improvements. With an innovative approach, the workplace presents a feasible alternative to cardiac rehab centers, the authors said.

“Fuller integration and widespread implementation of worksite health programs with cardiac rehabilitation should be a priority for both employers and health care providers given the burden of cardiovascular disease and the proven track record of CR,” said author Sherry O. Pinkstaff, Ph.D., P.T., of the University of North Florida, Jacksonville.

Care gaps identified

A recent survey of CR centers found that even if current facilities were able to expand modestly, more than half of patients in need of CR would remain unserved—a care gap that can only be filled through alternative delivery models and significant changes to reimbursement policies, according to a study published in the Journal of Cardiopulmonary Rehabilitation and Prevention.

In a survey of 252 CR programs, most reported they could increase services by 68 percent “if they were given reasonable resources to expand.” Without resources, there would be a gap in availability for about 33 percent of patients. “As currently structured and staffed, center-based CR programs simply do not have the capacity, by themselves, to provide services to all eligible patients—even in the setting of perfect referral and enrollment,” the study authors said.

Barriers to expanded CR program availability include co-pays, low reimbursements and a limited range of conditions insurance companies will cover. One proposed solution is the development of alternative delivery models.

“Our data suggest that alternative models of CR delivery will need to be explored and implemented to substantially increase national CR participation rates,” said the authors, who suggested models such as group-based CR programs in community centers, home-based programs and web-based methods.

Citations:


AEDs are one component of a “chain of survival” that also includes cardiopulmonary resuscitation (CPR).

FOUR STEPS TO ACHIEVE AED PROGRAM EXCELLENCE

Sudden Cardiac Arrest (SCA) strikes more than 1,000 people a day in the United States and causes more than 800 workplace deaths a year, according to the Occupational Safety and Health Administration (OSHA). The only effective treatment for SCA is the fast delivery of an electrical shock (defibrillation) that can restore a normal heartbeat and significantly increase a victim’s chance of survival.

Assuming an average time to defibrillation of five minutes would produce a 40 percent survival rate, OSHA estimates 160 lives a year could be saved with AEDs.

How do AEDs work?

AEDs are medical devices designed for use by non-medically trained bystanders to deliver life-restoring shocks to SCA victims. Public and private entities install AEDs to be better prepared for SCA emergencies. In addition to saving lives, the benefits of workplace AED programs include:

- enhancing an organization’s health and safety infrastructure
- creating an environment in which employees, visitors and customers feel safer and more valued
- supporting positive public relations messaging around AED deployment and SCA saves
- managing liability risks

Achieving excellence

Richard Lazar, president of Readiness Systems, who is an expert on AED program operations, risk management, law and public policy, said program excellence depends on the following four components:

1. **Policy**: Program design and performance expectations must be reflected in written policies and documentation. Topics include access and use, response time and medical direction.

2. **Personnel**: One person should have overall AED program management responsibility. However, company policies should authorize everyone to retrieve and use AEDs.

3. **Equipment**: It is essential to periodically inspect and maintain AEDs to ensure readiness. Monthly visual inspections are a reliable way to augment AED self-tests. An online tracking tool should be used to flag times to re-inspect each device and replace expiring batteries and electrodes.

4. **Compliance**: AED use laws vary by state and may include maintenance, agency notification, medical direction and training requirements. Proper compliance with AED law requirements is essential from a risk management perspective and to preserve the benefits of applicable Good Samaritan immunity protections.

AEDs are one component of a “chain of survival” that also includes cardiopulmonary resuscitation (CPR). When combined and delivered quickly, CPR and AEDs give SCA victims the best chance of survival, Lazar said.
program, policy and environmental interventions to support physical activity, good nutrition and tobacco cessation. The program is expected to produce a series of case studies and recommendations. Related resources include the Worksite Health Scorecard: An Assessment Tool for Employers to Prevent Heart Disease, Stroke and Related Health Conditions.

Another CDC initiative, Total Worker Health,™ a program administered by the National Institute for Occupational Safety and Health, is a strategy for integrating occupational safety and health protection with health promotion to prevent worker injury and illness and to advance health and well-being. The program supports research and best practices on integrative approaches to health risk management from both the work environment (physical and organizational) and individual behavior perspective.

Meanwhile, Healthy People 2020, an initiative of the U.S. Department of Health and Human Services, is exploring determinants of health status by:

- developing objectives that address the relationship between health status and biology, individual behavior, health services, social factors and policies.
- emphasizing an ecological approach that focuses on both individual-level and population-level determinants of health and interventions.

Experts believe interventions that target behavior in combination with other determinants of health are likely to be the most effective.

**DETERMINANTS OF HEALTH**

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Sources: U.S. Centers for Disease Control and Prevention
The farm-to-table movement puts consumers closer to the original source of their food. To improve eating habits, in general, gradually phase out processed foods and replace them with fresh alternatives. Give employees, yourself and family members time to adjust to dietary changes.

Stay well-hydrated by increasing water intake and reducing consumption of caffeinated drinks. Younger workers are particularly vulnerable to dehydration on the job. Keep an eye out for symptoms including thirst, weakness, dizziness, heart palpitations and confusion.

Poor indoor and outdoor air quality has a detrimental effect on health. Outdoor exercise in fresh, clean air enhances aerobic benefits. Indoor workers tend to be more relaxed and think more clearly when they are allowed to step outside to get fresh air. And being in the sun increases absorption of vitamin D, a mood elevator.

When it comes to this element, it’s all about prevention. Many substances found in the workplace can cause fires or explosions, from flammable chemicals to dust from wood, flour and sugar. Everyone needs to be aware of the risks, fire prevention plans and safety measures in the event of a fire. The same rules apply after-hours in households and communities.

Source: www.helpguide.org (Melinda Smith, M.A., and Jeanne Segal, Ph.D.)