

Biometric Health Screening for Employers

Consensus Statement of the Health Enhancement Research Organization, American College of Occupational and Environmental Medicine, and Care Continuum Alliance

Employer wellness programs have grown rapidly in recent years with the interest in making an impact on employees' health. Successful programs are delivered through comprehensive solutions that are linked to an organization's business strategy and championed by senior leadership. Successful employee health management programs vary in the services, yet typically include the core components of health risk identification tools, behavior modification programs, educational programs, as well as changes to the workplace environment and culture. This article focuses on biometric screenings and was intended to provide employers and other stakeholders with information and guidance to help implement a successful screening program as part of an overall employee health management approach. The article is organized into four sections: goals and key success factors; methods and oversight; operations and delivery; and engagement and evaluation.

OVERVIEW

Employer wellness programs have grown rapidly in recent years with the interest in making an impact on employees' health. Successful programs are delivered through customized, integrated, comprehensive solutions that are strongly linked to an organization's business strategy and firmly championed by senior leadership and managers throughout the organization. Successful employee health management programs vary greatly in the services that are delivered, yet they all typically include the following core components:

1. *Health risk identification tools*: health risk assessments (HRAs) and biometric screenings, such as body mass index (BMI), blood pressure, cholesterol, and glucose levels.
2. *Behavior modification programs*: health coaching, tobacco cessation, weight management, nutrition and diet, exercise, stress management, and workplace competitions/contests.
3. *Educational programs*: health fairs and seminars, on-site and on-line health resources.
4. *Changes to workplace environment and culture*: tobacco bans, altering buildings and grounds to encourage walking, healthier foods in workplace cafeterias and vending machines, and wellness-related management training and performance goals.

Experts emphasize the importance of offering a wide variety of health-improving activities to meet a diverse range of needs and preferences among employees. This article focuses on biometric

screenings and was intended to provide employers and other stakeholders with information and guidance to help implement a successful biometric screening program as part of an overall employee health management approach. It is organized into the following four sections.

Section 1: Goals and Overarching Considerations

This section covers the overarching goals and key success factors for employers considering or reevaluating screening programs. It is intended to put screenings in context and to help employers decide whether a screening program is appropriate and what should be the goals of the program.

Section 2: Methods and Oversight

This section is intended to help employers become aware of the various screening methods available and to determine which methods are most appropriate for the success of their program. This section also describes regulations and standards that govern, measure, or attempt to standardize the various screening methodologies.

Section 3: Operations and Delivery

This section is intended to help employers determine the most appropriate options for implementing a screening program. It discusses the major operational considerations that drive success, while identifying the common challenges faced by employers when implementing biometric health screening programs. This section also discusses important factors to consider when exploring biometric screening options or vendors.

Section 4: Engagement and Evaluation

The final section addresses approaches, including incentives, for driving participation and engagement in screenings as well as the major considerations for evaluating the success of a program. It is intended to help employers maximize the value and impact of their programs.

SECTION 1: GOALS AND OVERARCHING CONSIDERATIONS

What is Biometric Screening?

The US Centers for Disease Control and Prevention defines *biometric screening* as the measurement of physical characteristics such as height, weight, BMI, blood pressure, blood cholesterol, blood glucose, and aerobic fitness that can be taken at the worksite and used as part of a workplace health assessment to benchmark and evaluate changes in employee health status over time. Biometric health screenings are increasing in popularity and are being implemented by an increasing number of employers.¹ Screenings should be viewed as part of an overall health management program. As important as what *screenings* are, is what *screenings are not*. Biometric screenings are not a replacement for regular medical examinations or wellness visits with a health care provider. They are also not a mechanism for diagnosing disease.

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Purposes of Screenings

The ultimate goal of implementing biometric screenings as part of an employee health management program is to reduce health risks, improve health status, reduce health care costs, and improve the productivity and performance of the workforce. Companies and other organizations implement screenings to:

1. Identify health risks for both individual employees and across the employee population
2. Stratify a population to identify opportunities to improve health while addressing health care costs
3. Structure benefits plan design to address identified health risks
4. Target health interventions to manage and mitigate identified health risks
5. Establish a baseline from which improvements can be measured (both individual and group)
6. Tailor health management programs to individual employee needs
7. Provide data to help motivate employees to take appropriate actions to improve their health
8. Identify objective measures on which incentive programs can be established
9. Refer individuals to their respective health care providers

Although there is anecdotal evidence that some employees may take actions that improve their health based solely on receiving results from a biometric screening, the value of screenings is more fully realized when they are integrated into an overall health management program that offers various approaches, interventions, incentives, and environmental support to help employees and employers act on the data gathered.

When integrated into a well-designed health management program, screenings can play an important role within the context of primordial, primary, secondary, and tertiary prevention efforts. Primordial prevention is the prevention of risk factors before they happen by implementing changes (eg, changes in the work environment, such as smoke-free policies or healthy food offerings). Primary prevention includes interventions designed to modify adverse levels of risk factors (such as excess body weight, tobacco use, or high blood pressure) once they are present, with the goal of preventing an initial event.² Secondary prevention focuses on screening and early detection, while tertiary prevention is focused on evidence-based disease and disability management to reduce complications, costs, and disabling conditions. Therefore, secondary prevention in the workplace is focused on engaging employees in appropriate wellness and care management initiatives.

Screening Versus Diagnosing

Employer-provided health screenings are not appropriate for diagnosing disease. Only physicians or other appropriately credentialed health care providers responsible for the care of a patient can and should diagnose disease. Screenings are only capable of identifying risks that may signal an existing disease or the potential that a disease may develop. A screening identifies risk factors for disease rather than diagnosing the presence of disease.

Success Factors to Consider

When deciding whether or not to implement a screening program or when examining an existing program, the following items should be taken into consideration:

- Goals of the program—defining what an organization wants to accomplish
- Integration of screenings into overall health management approach
- Overall business culture and makeup
- Location(s) of population
- What screening measures to include
- Whom to screen (employees only, spouses, dependents)

- Operational and implementation considerations
- Privacy considerations
- Regulatory and compliance considerations
- Incentives
- Benefit plan design
- Evaluation measures
- Screening budget

Designing the Right Program

As will be discussed at length in the sections that follow, choosing the right screening approach, blood draw methods, screening tests, and delivery mechanisms is crucial to success. As screenings have become more popular, the number of vendors, options, and methodologies has increased as well. As a result, employers are faced with a multitude of options, choices, and opinions on the best way to conduct screenings. The methods and oversight of health screenings are discussed in Section 2 and the operational considerations and delivery approaches in Section 3.

SECTION 2: METHODS AND OVERSIGHT

Screenings generally have three components: (1) an HRA, which is a questionnaire that gathers self-reported lifestyle data; (2) biometric measurements, such as height, weight, BMI, blood pressure, and aerobic fitness; and (3) blood testing, which commonly includes cholesterol/lipid and glucose levels.

Health Risk Assessments

Although HRAs are not covered in detail in this article, employers should be aware that HRAs are available in various forms, including paper and on-line, and range in complexity from a static list of questions to dynamic tools with tailored questions based on the employee's answers. Some HRAs also work to identify readiness to change behavior, goals, and motivation, as well as barriers to change. Health risk assessments are often available via health plans or third-party administrators. In addition, there are numerous vendors who provide various high-quality HRA tools and even a few employers who have developed their own versions.

Biometric Measurements

Biometric measurements generally refer to the nonblood elements of the screening and may include the following:

- Height
- Weight
- Calculated BMI
- Waist circumference
- Hip circumference
- Body fat and/or body composition
- Blood pressure
- Pulse rate

BMI or Body Fat

Body mass index is a ratio of weight to height. Body fat testing involves estimating the percentage of body mass that is composed of both lean and fat mass. Although BMI provides a standard measurement, it can be misleading, because it does not differentiate between weight composed of fat and lean weight, including muscle weight.³ Combining BMI with waist circumference improves the ability to differentiate body fat from lean weight, but this approach may still lack validity for some segments of the workforce (eg, body builders). Although body fat is generally considered a better measure for determining healthy weight and health risks, it can be difficult to accurately and consistently measure in the workplace. Therefore, BMI (usually combined with waist circumference) is generally an

appropriate way of identifying those at risk of morbidities associated with obesity. The purpose, goals, and incentive structure of the program need to be taken into consideration when choosing between a BMI and a body fat measurement.

Blood Testing Methods

Most employer health screening programs now include some form of blood draw and testing. There are various methods that can be used to draw blood and various tests that can be run on the blood drawn. The panel of tests that can be done is largely based on the drawing and testing methods used.

For on-site screenings, blood can be drawn either via a finger stick and tested immediately with a point-of-care blood testing device or via a venous blood draw (venipuncture) with the blood sent to a laboratory for testing. Some tests can also be done through a finger-stick blood draw, with the blood collected on a card or other collection device and shipped to a laboratory for testing. The finger stick and venipuncture options are more fully reviewed in Table 1.

Despite the varied opinions and points of view, either method can be appropriate for employer screenings.³ Both of these methods have advantages and disadvantages. The decision regarding which method is best should be based solely on how each option fits into and supports the overall goals and execution of the program.

What Blood Tests Can Be Conducted?

The blood tests that can be conducted are largely dependent on the collection and testing methods used. Basic blood testing can be done via either a finger stick or venous blood draw. These basic tests include the following:

- *Non-fasting metabolic panel:* glucose, total cholesterol, and high-density lipoprotein
- *Fasting metabolic panel:* glucose, total cholesterol, high-density lipoprotein, low-density lipoprotein, and triglycerides

Some finger-stick, point-of-care testing machines can conduct additional tests, including hemoglobin A_{1C}, as well as some thyroid markers. Additional testing can be done through a finger-stick blood draw, with the blood collected on a card or other device and shipped to a laboratory. The number of tests that can be conducted using this method is increasing. Tests such as hemoglobin A_{1C}, thyroid-stimulating hormone, and serum cotinine (nicotine in the blood) can currently be conducted this way. A number of tests can be conducted when blood is collected via a venous blood draw with laboratory testing.

TABLE 1. Comparison of Finger Stick and Venipuncture Techniques and Characteristics

Characteristics	Techniques	
	Finger Stick	Venous Blood Draw
Response time	Immediate	Delayed (1–3 days)
Explanation of results	Real-time	Delayed (1–2 weeks)
Comprehensiveness of screening tests	Fewer available	More available
Equipment needs	Additional equipment involved	Less equipment involved
Invasiveness to participant	Perceived as less invasive	Perceived as more invasive
Accuracy of technique	Perceived as less accurate	Perceived as more accurate

Standards, Regulations, and Laws

There are various groups, standards, regulations, and laws that govern or apply to blood testing as part of an employer health screening program. The major standards, regulations, and laws impacting biometric screening programs are discussed hereafter. The information included here is not intended to be a legal opinion or to provide legal advice but is instead intended to provide employers with an overview of the major regulations, standards, and laws that should be taken into consideration when implementing a screening program.

Health Insurance Portability and Accountability Act and the Health Information Technology for Economic and Clinical Health Act

Protecting personal health information (PHI) is one of the most important considerations when implementing a biometric screening program. Both the Health Insurance Portability and Accountability Act and the Health Information Technology for Economic and Clinical Health Act govern how PHI can be shared, by whom and with whom. The basic premise of these regulations is that PHI cannot be shared with any individual or organization without the written consent of the person from whom the PHI was collected. It is crucial that the consent forms an employee (or dependent) signs clearly state whom their PHI can be shared with and how that information will be used, in a way that all participants can understand.

Clinical Laboratory Improvement Amendments (CLIA) or CLIA-Waived Tests

The Centers for Medicare and Medicaid Services regulates all laboratory testing (except research) performed on humans in the United States through the *Clinical Laboratory Improvement Amendments (CLIA)* of 1988. CLIA-waived tests include test systems cleared by the US Food and Drug Administration for home use and those tests approved for waiver under the CLIA criteria. In brief, CLIA-waived tests are tests that do not need to be conducted by a CLIA-approved laboratory and can instead be conducted by any organization that obtains the appropriate CLIA waivers. Most of the on-site, point-of-care tests that are discussed in this article are CLIA-waived tests. It is important that the screening provider who is used has and maintains any and all CLIA waivers necessary to conduct CLIA-waived tests.

State Laws that Supersede CLIA

Some states have laws that supersede CLIA and create requirements or regulations that go beyond what CLIA requires or that govern CLIA-waived tests. These state regulations may limit the tests that can be run, dictate who can run certain tests, require additional physician oversight, or regulate the way results can be provided or reported to employees. It is important that employers and their screening partners be aware of which states have such laws and how these regulations impact employer biometric screenings programs.

Direct Access Testing

Direct access testing (DAT) refers to a patient's ability to receive a laboratory test without a physician's order. Many states are silent on DAT, and the standard practice is to operate as though it is allowed in those states. A few states clearly prohibit DAT and require a physician's order for tests to be run and reported. Generally in these states, the tests must be ordered by a physician and the results reported to the ordering physician. Other states do not prohibit DAT but instead limit the tests that can be accessed directly. Normally, in these states, the standard tests done during an employer biometric screening are allowed to be conducted on a direct access basis.

The Direct Access Testing Association has been formed to establish standards for DAT providers.

Screening Guidelines

There are several organizations that have provided guidance on health screening to health care providers and health plans, including the US Preventive Services Task Force (USPSTF).⁴ The USPSTF is composed of an independent panel of nonfederal experts in prevention and evidence-based medicine and includes primary care physicians specializing in the areas of internal medicine, pediatrics, family practice, gynecology, and obstetrics, as well as nurses and health behavior specialists.

The USPSTF provides recommendations for primary care clinicians and health systems that are published in the form of recommendation statements.⁵ Although the USPSTF does not currently provide recommendations specifically for employers, it suggests that consumers use the myhealthfinder, a health recommendation tool sponsored by the National Health Information Center.⁶ Consumers can use the health screening tool to find USPSTF recommendations based on a person's age, sex, and other characteristics.

SECTION 3: OPERATIONS AND DELIVERY

Neither conducting biometric screenings nor basing incentives on the process or outcomes is easy, but with adequate planning time, staffing, and policies in place, screening can add value to an existing health management program. Although perfection is not a realistic goal in any biometric screening program, and issues will arise, these can be minimized and handled in a professional manner. This section is intended to identify some of the common challenges faced by a biometric screening program and ways in which these challenges can be addressed and problems mitigated.

Scheduling

Scheduling has two components: (1) scheduling of the screening events, and (2) scheduling of the individual participants at those events. It is important for the employer to work with the screening vendor and consider their recommendations for scheduling events. Several things need to be considered to schedule events successfully, including the following:

- Type of screenings being conducted
- Size of the group to be screened
- Space available for screenings

When fasting screenings are being conducted, it is important that these are done at the beginning of the employees' shifts. For example, screening of daytime employees should be scheduled early in the morning and be completed before lunch. Generally, fasting screenings are limited to a 4-hour window to limit the time employees need to fast. It is also recommended that the employer provide refreshments (juice and light snacks) to employees after a fasting screening event.

When scheduling screenings, employers should consider the following:

- Time required to screen the target population
- Space available for screenings
- Size of group
- How many shifts and locations
- Screening vendor recommendations

There are many models for staffing ratios. A general rule of thumb is that four to six people can be screened per staff member per hour. Often, the limiting factor of how many employees can be screened in a day is how much appropriate space is available to conduct the screenings. Screenings need to be conducted in an area where employees can easily attend the event and privacy can be maintained. The scheduling of participants into specific time slots is

important for the overall efficiency of the screening event. Health fair or walk-up events where participants can come to be screened at any time often cause backups and result in some employees not having the opportunity to be screened and lack of privacy being an issue. Participant scheduling is generally done using one or a combination of three methods to include on-line, telephonic, or paper forms.

Execution

Even when events and employees are appropriately scheduled, execution challenges exist. Chief among these are fulfillment of supplies, staffing, privacy, the overall flow of the event, and data processing and reporting.

Supplies

Best practice is for the screening vendor to send supplies to the screening location in advance of the event. Sending supplies to the screeners for them to bring to the site can compound the risk associated with a screener not showing up on time or at all. In addition, some screening vendors will visit the screening site in the days before the event to inventory supplies and make sure they are adequate for the expected population and to confirm that the equipment is functioning properly.

Staffing

Staffing is perhaps the most visible challenge in a biometric screening program. The screening personnel are often the first and sometimes the only people that the employee physically encounters as part of the screening and health management program. As a result, they are the face of the program, and their professionalism and overall quality and consistency in performing the tests are of the utmost importance. Working with the screening vendor is recommended to ensure that the screening staff has the expertise, education, or both that will work best with the target population.

Privacy

Privacy is another aspect of a screening event that must be considered. It is important that the screening space provides adequate privacy and that screening personnel take all precautions to keep screening results private. When screening a small number of people in a location, it is best to conduct screenings in private rooms or offices. When this is not possible and a large number of people are to be screened, large meeting rooms or spaces can be divided to create visual privacy. Screening personnel should refrain from verbalizing results and instead point to results once recorded.

Event Flow

The overall screening flow is also important when planning a successful event. Generally, the flow of the event includes registration, the screening itself, the review of results, and any postscreening activities required.

Stations Versus No Stations

Some vendors conduct screenings in stations, while others prefer for all components of the screening to be done in one setting with one health care professional. When stations are used, generally one or two screeners will complete the biometric measurements (height, weight, blood pressure, etc) and another screener will complete the blood draw. Often, vendors prefer this method because it reduces the number of professionals needed who are capable of drawing blood or the number of blood analyzers required. Other vendors choose to conduct the entire screening with one screener who completes both the biometrics and the blood draw. Vendors who prefer this method often cite participant satisfaction and the desire not to create an assembly-line feeling at the event. When coaching or immunizations are offered, these can either be integrated into the

one-stop screening approach or the station approach. Generally, the approach chosen is based on the vendor’s capabilities, resources, and the type of health care professionals used to complete the screenings.

Data Processing and Reporting

Data processing, reporting, and reconciliation are very important aspects of a screening event. Data are usually provided to three or four constituents:

1. *The Participant:* The participant should receive all of his or her screening data, including HRA results, biometric measurements, and blood testing results. If a point-of-care (finger-stick) blood testing method is used, participants should receive their results at the screening event along with information that explains the results and shows normal and abnormal or at-risk levels for each measurement. This is often referred to as exit counseling. If the blood is tested at a laboratory after the screening, results should be provided to the employee in a timely manner by secure e-mail link or mailed laboratory report.
2. *The Employer:* The employer should receive aggregate, de-identified data that show the risk stratification of their population. This information is either provided by the screening vendor or by another health management company that has been retained to analyze the data or offer additional health management programs.
3. *The Health Management Company:* Often, there is a health management company or companies involved in addition to the screening vendor. With the appropriate consent language in place, participant results can be provided to these groups so that they can stratify the population, target their interventions, and measure improvements in health and reduction of risk factors.
4. *The Physician:* Increasingly, employers and health management companies desire that results of biometric screenings be sent to the participants’ physicians. This can be challenging, because often, there is no consistent electronic method for sharing this information with providers. Often, these results must be mailed or faxed to the physician or taken by the patient to the physician during an office visit. Appropriate participant consent is required for this information to be shared with the physician.

It is desirable for the biometric data to go to the primary care physician, especially in the context of building the patient-centered medical home. Primary care physicians generally want to get the biometric data and HRA information that is commonly available in reasonably designed workplace wellness initiatives. The link between workplace health and community health with the primary care physician and patient-centered medical home strategies can play a beneficial role in helping individuals with their health behaviors and in addressing health risk factors that are detected.

A key to success in data processing and reporting is the use of a unique identifier for each participant that links the participant in various systems and platforms. The unique identifier should be tied to the participant and can be used to anonymously merge laboratory, HRA, and biometric data. Maintaining a consistent unique identifier across constituents and systems also allows year-over-year

reporting. In addition, data should be organized at the location, date, and session level so that participation and stratification is possible across multiple employer sites. Data should only be shared between entities in a secure, Health Insurance Portability and Accountability Act-compliant way.

Serving Dispersed Populations

Perhaps the biggest challenge faced by companies interested in implementing biometric screenings is how to effectively and efficiently screen dispersed or remote employees and locations with a small number of employees. In the early days of screenings, these hard-to-reach employees were often not offered an opportunity to receive a screening. Because screening programs have become more integrated into the overall health management programs of employers and participation- or outcomes-based incentives have increased in popularity, it has become increasingly important that all eligible participants be given an opportunity to be screened. In fact, when specific health plans, premiums, or out-of-pocket contributions are based on participation in or the results of a screening, convenient access to screenings is a requirement.

Most biometric screening vendors have a minimum number of participants they require or a minimum amount they charge to provide an on-site screening event. This can make on-site screenings unrealistic for smaller populations. Additional screening options should be considered as a makeup option for all employers and as a potential stand-alone option for smaller employers. Table 2 compares the following four health-screening options:

1. *Screenings at clinical reference laboratories or urgent care centers.* Most national and regional clinical laboratories or urgent care centers offer walk-in or by-appointment biometric screenings. The services offered at these locations vary. Some only offer venipuncture, and others do not collect biometrics. Other challenges with this option include data aggregation and reporting and the location/availability of laboratories or urgent care centers.
2. *Individual screening at the home or office.* Some vendors provide individual screenings at the participant’s home or office. Generally, these screenings are venipuncture only and are offered at a higher cost. This option allows for easier integration of data and the objective collection of biometric data. If the number of dispersed employees is minimal and there are large locations to offset the price, this may be an appropriate option for some employers.
3. *At-home self-collection test kits.* Many vendors can provide at-home, self-collection tests kits that allow participants to conduct their own finger-stick blood draw and collect the blood sample on a card or in a device, which is then sent to a laboratory for testing. Although often a lower-cost solution, the kits do not allow for the objective collection of biometric data. In addition, participation rates will possibly be affected, because some participants may not be comfortable collecting their own blood sample. Finally, ensuring that the blood is actually the employee’s is a concern with this method when results are tied to an incentive.

TABLE 2. Various Methods of Health Screening With Characteristics Related to Cost, Convenience, and Participation Levels

Screening Method	Blood Draw Method	Biometric Collection	Cost	Convenience	Participation Level
Clinical laboratory	Generally venipuncture	Some collect but not all	Moderate	Moderate	Moderate
Individual	Generally venipuncture	Collected by screener	Higher	Higher	Higher
At-home kits	Finger stick	Self-reported	Lower	Higher	Lower
Physician kits	Venipuncture	Collected by physician	Higher	Lower	Lower

4. *Physician kits.* Some vendors will provide kits that the participant can take to their physician. The kits often include blood draw supplies and the forms necessary to record and report on biometric measurements. The blood is generally sent by the physician to the laboratory supporting the biometric screening program. This option often is costly, because it creates a billable office visit. In addition, it can be less convenient than walk-in solutions. The advantage is that the kit helps engage physicians into the health management of employees.

Choosing a Biometric Screening Vendor

There are several important factors to consider when selecting a biometric screening vendor. These include, but are not limited to, the following:

- Cost of the service
- Geographic reach to service the population
- Solutions for reaching dispersed populations
- Ability to meet regulatory guidelines and laws
- Clinical standards and quality assurance
- Versatility in blood draw methods and availability of desired screening tests
- Staffing process and quality of screening staff
- Support services (scheduling, reporting, and participant support)
- Insurance coverage and indemnification provided
- Availability of service-level guarantees
- Prior experience and references

Once the factors to be included in evaluating screening vendors have been determined, various vendors can be matched against the requirements. When vendors have been identified that match the decided-on criteria, the quality and capabilities of identified vendors can be compared. When comparing vendors, it is important to not only remember the earlier-mentioned factors but also consider capabilities, quality, and cost-effectiveness. In addition, some employers may have their own health services and are able to deliver these programs, screening, and services internally.

The quality of the screening staff provided is perhaps the most visible aspect of the program and a key driver of the program's overall success. The single largest indicator of whether a screener will be successful is how many times he or she has successfully completed similar screening events. Although many vendors have vast numbers of screeners in their network, quality is largely dependent on how many of those screening resources have successfully completed numerous screening events, as well as their educational background, experience working with similar work populations (blue collar, executives, faculty, etc), and training. When selecting a vendor, it is recommended that the employer request references from the vendor for events of similar industry and size as the employer's population.

SECTION 4: ENGAGEMENT AND EVALUATION

Engagement

A program can only be successful if employers and their health management partners can successfully engage employees in the program. It should be noted that participation is not the same as engagement. Participation may be necessary for engagement, but it is not sufficient for engagement.

As a very general rule of thumb, in the first year of on-site screenings with no incentive, an employer should expect approximately 30% participation by employees. With cash or cash-equivalent incentives, this number can climb to 50% or higher. When incentives are built into the overall health management program and tied to health plan designs, many employers have achieved participation rates that exceed 80%.

Participation generally increases each year, because employees become more comfortable with the program and the way data are

used. Participation among spouses and dependents tends to be lower. Participation also tends to be lower at screenings offered at clinical laboratories or when done through at-home or physician kits.

Communication

The health management program must be made a visible priority. Employee participation and buy-in can only be attained when it is made clear that the program is a priority at every level of the organization. Both executive management and mid-level support must be present and visible. Employee communication is a key to success and must do more than just promote the program. Employee communication should answer the following questions:

1. What is the program?
2. Why are we doing it?
3. What are the goals?
4. What is expected of the employee?
5. What are the benefits of participation?
6. What is the financial impact (positive or negative) associated with the program?
7. How will the information gathered be used and by whom?
8. How will the information gathered *not* be used?

When initiating a new health management program that will include biometric screening and/or other methods of collecting PHI, employees are often concerned about the intent of the program, and specifically who is going to receive their PHI and how it is going to be used. Overcoming these concerns is paramount to success and should be done through effective communication with complete transparency into the rationale and operations of the program.

Incentives

Incentives are an important component in driving participation. The topic of incentives has become a large focus in the wellness arena in the last several years. Although incentives will be touched on here, it is recommended that employers read the Joint Consensus Statement from the Health Enhancement Research Organization, American College of Occupational and Environmental Medicine, American Cancer Society and American Cancer Society Cancer Action Network, American Diabetes Association, and American Heart Association, titled *Guidance for a Reasonably Designed, Employer-Sponsored Wellness Program Using Outcomes-Based Incentives* for a more complete overview.⁷

The Joint Consensus Statement outlines key characteristics of well-designed worksite screenings. These characteristics include the following:

- Following consistent protocols for all participants in a target population
- Adhering to industry standards and scientific/clinical guidelines regarding quality, accuracy, privacy, and safety
- Following referral protocols based on established national guidelines for individuals whose results are out of the normal range
- Having an established process for communicating results to the participant's physician

Any individually identifiable medical information obtained through the assessment and screening process is considered protected health information and is subject to the same privacy, storage, and security requirements as any other sensitive medical information. For screening activities associated with outcomes-based incentives, the Joint Consensus Statement recommends that a well-defined appeals, dispute, and retesting process be in place, because some tests vary in their ability to produce reliable and valid results at a single point in time (eg, blood pressure). To optimize confidentiality and credibility, employers should strongly consider having appeals independently adjudicated by a qualified vendor that specializes in this activity.⁷

Incentives generally work in one of two ways. They are either a “carrot” or a “stick.” Carrots are incentives that are intended to reward a desired behavior. Sticks are negative incentives intended to discourage or penalize undesired behavior or lack of action by the employee. Although both types of incentives are currently being used, incentives that reward desired behavior, progress, or outcomes are considered by many to best advance a culture of health. Nevertheless, definitive evidence for and against the use of incentives remains sparse; therefore, practitioners are advised to provide ample communications early and often to mitigate confusion or misunderstandings concerning the use of incentives.

Incentives of either kind can be applied to one or more of three things: (1) participation in a program or activity, (2) progress toward a goal, or (3) the outcomes achieved by the employee. Incentives based on participation generally reward or penalize an employee for taking part or not taking part in a screening event. Progress-based incentives generally are tied to progress, or lack thereof, toward a goal such as lowering of blood pressure or BMI. Outcome-based incentives are generally tied to whether or not the employee has achieved a commonly accepted health standard, such as a specific BMI or blood pressure level. The Joint Consensus Statement provides significant detail and guidance on these types of incentives.⁷

Whether incentives are based on participation, progress, or outcomes, it is crucial that screenings are available and convenient for all employees. Employees should not be penalized or denied the opportunity for rewards because the screening was not convenient or accessible. What is more, for organizations intent on tying incentives to the achievement of health outcomes, legal counsel should be consulted regularly to ensure concordance with the regulations resulting from the incentive-related rules in the Accountable Care Act. For example, health screenings need to be provided annually for those eligible for outcome-based incentives, regardless of whether screening is recommended according to their age or gender.

Similarly, when incentives are connected to achieving a health standard (such as BMI or blood pressure), the Accountable Care Act requires employers to also provide a “reasonable alternative standard.” Some employers have interpreted this that they must institute a clear, easy, and equitable appeals process that allows for necessary and appropriate accommodations to be made.

Whether a “carrot” or a “stick,” incentives are tied to participation, progress, or outcomes, and of themselves can also take various forms. The most basic “carrots” are attainment incentives such as cash or cash-equivalents. These incentives can be in the form of actual dollars, gift cards, or points that can be earned and redeemed for various items, though it should be noted that this approach raises the cost of the screening program. Researchers from the field of behavioral economics have summarized the circumstances in which a “stick” approach may be most effective.⁸ This field of study shows that in some instances, “loss avoidance” has a more powerful effect on behavior than that of seeking to attain an incentive of similar size. Research also suggests that other forms of incentives such as “deposit contracting” or “lotteries” have advantages over attainment incentives, but these vary by the type of intervention and by the socioeconomic status of a population.⁹

Incentives can also be built into the health plan design by adjusting the out-of-pocket expenses paid by the employees. This can be accomplished by either adjusting premiums, deductibles, copayments, or other plan design elements. When incentives are built into the plan design, it is important that these do not result in undue cost shifting. The priority of the incentives and overall health management program should be to engage employees to improve or maintain their health and promote behavior change, not simply to shift costs between employee groups.

Evaluation

There are multiple components to measuring the success of a screening program. In general, these include:

1. *Process*: How effectively and efficiently were the screenings implemented?
2. *Participation*: How many employees (what percentage) were screened?
3. *Satisfaction*: What was the level of satisfaction? Satisfaction can be measured at several levels, including employee, site contact, or site lead.
4. *Impact*: How did the screenings impact the overall health management program?
5. *Outcomes*: Although screenings alone generally do not improve health outcome measures, they can lead to improvements in health and be a foundation for the measurement of those improvements. Success can, therefore, be measured by how effectively screenings drive participation in the health management programs offered.

It should be noted that the concept of return on investment may not be an appropriate measure for evaluating screenings. Although return on investment may be appropriate when evaluating an overall health management program (when measured appropriately and over an appropriate period of time), screenings alone do not create a return on investment. The cost of a screening program is an important consideration, but this should not be viewed in isolation as a method for reducing overall health care costs.

The success of any program is largely dependent on the organization’s commitment to the overall health management program and its goals. Although different constituents may have varying goals and reasons for supporting the overall wellness program, the support must be strong and widespread. The primary goal of any worksite wellness program should be to improve the health and well-being of employees.⁷ Often, the chief financial officer will be most interested in lowering overall health care costs. Human resource departments are often most interested in the quality of the workforce and in the market value associated with creating a culture of health. Operation-level managers are often most concerned with the quality and productivity of their teams. All of these are legitimate and appropriate goals for an overarching and reasonably designed workplace wellness program, but none of them—including measuring health outcomes merely to administer incentives—are alone appropriate goals for a screening program.

Therefore, these goals can only be met when screenings are part of a comprehensive health management program, prioritizing the health and well-being of employees, specifically designed with targeted goals, and evaluated for effectiveness and engagement.¹⁰

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Care Continuum Alliance represents more than 200 corporate and individual stakeholders—wellness and prevention providers; disease and care management organizations; pharmaceutical manufacturers; pharmacy benefits managers; health information technology innovators; biotechnology companies; employers; physicians, nurses, and other health care professionals; and researchers and academics (www.carecontinuumalliance.org).

REFERENCES

- 17th Annual Towers Watson/National Business Group on Health Employer Survey on Purchasing Value in Health Care. *Performance in an Era of Uncertainty*. Washington, DC: Towers Watson; 2012. Available at <http://www.changehealthcare.com/downloads/industry/Towers-Watson-NBGH-2012.pdf>. Accessed June 27, 2013.
- Weintraub WS, Daniels SR, Burke LE, et al. Value of primordial and primary prevention for cardiovascular disease: a policy statement from the American Heart Association. *Circulation*. 2011;124:967–990. Available at <http://circ.ahajournals.org/content/124/8/967.long>. Accessed June 26, 2013.
- National Heart, Lung, and Blood Institute. Assessing your weight and health risk. Available at http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/risk.htm. Published 2013. Accessed June 26, 2013.
- US Preventive Services Task Force. About the USPSTF. Available at <http://www.uspreventiveservicestaskforce.org/about.htm>. Accessed June 27, 2013.
- US Preventive Services Task Force. USPSTF A and B recommendations. Available at <http://www.uspreventiveservicestaskforce.org/uspstf/uspsabrecs.htm>. Accessed June 27, 2013.
- US Department of Health and Human Services. *Myhealthfinder*. At healthfinder.gov. Washington, DC: National Health Information Center; 2013. Available at <http://healthfinder.gov/myhealthfinder>. Accessed June 26, 2013.
- Consensus Statement of the Health Enhancement Research Organization, American College of Occupational and Environmental Medicine, American Cancer Society and American Cancer Society Cancer Action Network, American Diabetes Association, and American Heart Association. Guidance for a reasonably designed, employer-sponsored wellness program using outcomes-based incentives. *J Occup Environ Med*. 2012;54:889–896. Available at http://www.acoem.org/uploadedFiles/Public_Affairs/Policies_And_Position_Statements/JOEM%20Joint%20Consensus%20Statement.pdf. Accessed June 26, 2013.
- Ariely D. *Predictably Irrational: The Hidden Forces That Shape Our Decisions*. New York, NY: Harper Collins; 2008.
- Haisley E, Volpp KG, Pellathy T, Loewenstein G. The impact of alternative incentive schemes on completion of health risk assessments. *Am J Health Promot*. 2012;26:184–188.
- Carnethon M, Whitsel LP, Franklin BA, et al. Worksite wellness programs for cardiovascular disease prevention: a policy statement from the American Heart Association. *Circulation*. 2009;120:1725–1741. Available at <http://circ.ahajournals.org/content/120/17/1725.full>. Accessed June 26, 2013.