SUBJECT

RISK ANALYSIS

SESSION 7 Health Risk Assessment

A **health risk assessment** (also referred to as a health risk appraisal and health & well-being assessment) is one of the most widely used screening tools in the field of health promotion and is often the first step in multi-component health promotion programs.

- 2 History
- 3 Usage
- 4 HRA delivery

- 5 Efficacy
- 6 Benefits
- 7 Limitations

Definition

A health risk assessment (HRA) is a health questionnaire, used to provide individuals with an evaluation of their health risks and quality of life.[4] Commonly a HRA incorporates four key elements – an extended questionnaire, a risk calculation or score, and some form of feedback i.e. face-to-face with a health advisor or an automatic online report.

The Centers for Disease Control and Prevention define a HRA as: "a systematic approach to collecting information from individuals that identifies risk factors, provides individualized feedback, and links the person with at least one intervention to promote health, sustain function and/or prevent disease." [5]

There are a range of different HRAs available, however most capture information relating to:

- Demographic characteristics – age, sex
- Lifestyle – exercise, smoking, alcohol intake, diet
- Personal and family medical history (in the US, due to the current interpretation of the Genetic Information Non-discrimination Act, questions regarding family medical history are not permitted if there is any incentive attached to taking a HRA)
- Physiological data – weight, height, blood pressure, cholesterol

- Attitudes and willingness to change behaviour in order to improve health

The main objectives of a HRA are to:[4]

- Assess health status
- Estimate the level of health risk
- Inform and provide feedback to participants to motivate behaviour change to reduce health risks

History

The original concept of the HRA can be traced back to the decision by the assistant Surgeon General of the United States to conduct a study to determine probable 10-year lifespan of individuals based on lifestyles and predisposed conditions. The project, led by Lewis C. Robbins, MD, [7]of the Public Health Service, was the Framingham study. The study was based on in-depth longitudinal studies of 5,000 families in Framingham, Massachusetts, that continues to this day under funding from the National Institutes of Health. Dr. Robbins left the Public Health Service and joined Methodist Hospital in Indianapolis where, working with Jack Hall, MD, he developed the first set of health hazard tables. This culminated in the publication of How to Practice Prospective Medicine in 1970 – a guide for practising physicians, which outlined the health risk assessment questionnaire, risk computations and patient feedback strategies. It wasn't until 1980, when the Centers for Disease Control and Prevention released a publicly available version, that the HRA became widely used, particularly in workplace settings.[4] Health & Welfare Canada reviewed How to Practice Prospective Medicine and created a mainframe version of the book. The Centers for Disease Control became aware of this product and adapted it to the newly available personal computer. When Prudential Life Insurance also took an interest and asked to fund an update of the program, the CDC, which could not accept private project funding at the time, transferred ownership to the Carter Center at Emory University where it was updated from 1986-7. The transfer and subsequent program were managed by Dr. Ed Hutchins who had worked on the HRA in positions at the University of Pennsylvania and Charlotte-Mecklenberg Hospital. At Charlotte Mecklenberg, he secured a contract with the World Health Organization to create a mainframe product that could be used on an international basis. The HRA was managed as a not-for-profit product. Copies were distributed to every state health department and liaisons were assigned to each to work with their staffs to evaluate related data. Over 2,000 copies of the software were distributed to

users who requested it and approximately 70 copies of the code were provided to for-profit companies that were interested in developing proprietary products. This proliferation coincided with the rapid growth in interest in corporate health promotion programs as awareness developed on health risks and for-profit vendors monetized the programs. The Carter Center's interest shifted to Africa and Dr. Hutchins founded the Healthier People Network (HPN) which in 1991 to continue the work. HPN raised funds to support the HRA but additional funding was not forthcoming from government sources. As a result, the Carter Center and HPN could not underwrite basic supporting activities such as annual conferences and, over time, the State-based liaison network and associated intellectual capital atrophied as programs lost funding and liaisons moved on. The use of HRAs and corporate wellness programs has been most prevalent in the United States, with comparatively slower growth elsewhere.[6][8] However there has been recent strong growth in corporate wellness outside the US, particularly in Europe and Asia.

Usage

Once an individual completes a HRA, they usually receive a report, detailing their health rating or score, often broken down into specific sub scores and areas such as stress, nutrition and fitness. The report can also provide recommendations on how individuals can reduce their health risks by changing their lifestyle.

In addition to individual feedback, HRAs are also used to provide aggregated data reporting for employers and organizations. These reports include demographic data of participants, highlight health risk areas and often include cost projections and savings in terms of increased healthcare, absence and productivity.[6] Organization-level reports can then be used to provide a first step by which organizations can target and monitor appropriate health interventions within their workforce.[8]

HRA delivery

The delivery of HRAs has changed over the years in conjunction with advances in technology. Initially distributed as paper-based, self-scoring questionnaires through on-site workplace health promotion sessions, HRAs are now most commonly implemented online.[4] Other delivery methods include telephone, mail and face-to-face.

The advantages of online HRAs include:[4]

- Tailoring – online HRAs can adapt content based on an individual's answers to the HRA questionnaire to provide a personalised, relevant and interactive user experience.
- Improved data management
- Reduced administrative costs
- Instant feedback

Efficacy

Extensive research has shown that HRAs can be used effectively to:

- Identify health risk factors.
- Predict health-related costs
- Measure absenteeism and presenteeism
- Evaluate the efficacy and return on investment of health promotion strategies [15][16]

There is also recent evidence to suggest that taking a HRA alone can have a positive effect on health behavior change and health status.[17][18]

However, it is generally accepted that HRAs are most effective at promoting behavior change when they form part of an integrated, multi-component health promotion program.[3][6][19] Applied in this way, the HRA is used primarily as a tool to identify health risks within a population and then target health interventions and behavior change programs to address these areas.[4]

Benefits

The Wellness Councils of America (WELCOA) outlines 10 key benefits of conducting personal health risk assessments. Health risk assessments:[20]

- Provide employees with a snapshot of their current health status.
- Enable individuals to monitor their health status over time.
- Provide employees with concrete information thus preparing them for lifestyle change.
- Help individuals get involved with health coaching.
- Provide important information concerning employees' readiness to change.
- Help employers measure and monitor population health status.
- Provide employers with important information that can help them build results-oriented health promotion programmes.
- Can provide employers with important information on productivity.

- Allow employers to evaluate changes in health behaviour and health risks over time.
- Engage both employers and employees in the health management process.

Limitations

The limitations of a HRA are largely related to its usage and it is important to recognise that a HRA highlights health risks but does not diagnose disease and should not replace consultation with a medical or health practitioner.[3]

Providers

There are reportedly over 50 different HRA providers in the market, offering a variety of different versions and formats.[3] Major vendors with National Committee of Quality Assurance (NCQA) Health Information Products Certification include Wellsource, HealthFitness, Health Media, vielife, Healthways, HealthCheck360, OptumHealth andWebMD.[21] A global health risk assessment provided by InfoTech's Wellness Checkpoint adapts to the language, culture and regional evidence based guidelines to provide global key performance indicators aligning health with business risk management.

What is meant by *Health Risk Appraisal*?

The Health Care Financing Administration (formerly HCFA, now Centers for Medicare and Medicaid or CMS) describes HRA as follows: "Health risk appraisal is a systematic approach to collecting information from individuals that identifies risk factors, provides individualized feedback, and links the person with at least one intervention to promote health, sustain function and/or prevent disease. A typical HRA instrument obtains information on demographic characteristics (e.g., sex, age), lifestyle (e.g., smoking, exercise, alcohol consumption, diet), personal medical history, and family medical history. In some cases, physiological data (e.g., height, weight, blood pressure, cholesterol levels) are also obtained."3 The term health risk assessment is sometimes used interchangeably with health risk appraisal. However, Anderson and Staufacker differentiate the two: "…HRA formally refers only to the instrument whereas health risk assessment refers to the overall process (e.g., orientation, screening, interpretation, counseling) in which the HRA instrument is used."1

What does your workplace want from an HRA?

Before selecting an HRA tool and implementing the appraisal among your employees, it is important to define objectives for doing so. Clearly-defined objectives can guide selection of an appropriate tool from the many

commercially available HRAs, and help assure proper data collection and use. For example, an HRA specific to diabetes might be used as part of a health education or counseling program on lowering risks for diabetes, whereas a broader HRA tool would be required if an objective for implementing the HRA is to supply population data to guide the design of a comprehensive workforce health promotion program.

Why use an HRA?

Below are various reasons that employers might implement an HRA. It is possible that more than one of the following are relevant to your company's goals.

Strategic Planning/Design of Workforce Health Promotion Program — Assessing collective risk factors of the population and segmenting the population by certain risk factors and conditions can help program planners target often limited resources. Programs and incentives can be designed to address the modifiable health risks factors that are most prominent in their workforce and to achieve goals specific to employees at various risk levels (e.g., maintenance for those with low-risk, helping those at higher risk move into lower risk categories). HRAs can be part of the baseline data to inform program design and can be repeated periodically to measure progress.

Cardiovascular Screening for Physical Activity Program Participation — For safety and company risk-management purposes, employers with on-site fitness facilitates sometimes require employees to participate in an HRA or health screening prior to exercising at the fitness center.

Individual Health Awareness, Education and Intervention — An HRA might be used to increase employee awareness of personal health risk factors for making appropriate lifestyle changes on their own or with the support of a workforce health promotion program or more intensive counseling services. Repeated HRAs allow the employee to monitor their risk factors.

Identifying of Individuals for Disease Management Services — The American College of Sports Medicine (ACSM) points out that, while the primary objectives of workforce HRAs include identifying the health risks of the population, "A more recent development in HRA programs is an emphasis on individuals with chronic conditions or who are at risk for becoming high medical care utilizers."4 Through wellness programs and health benefit plans, some companies offer personalized disease management services to assist these employees in reducing health risks.

Guidance for Refining Health Plan Services — Population data resulting from an

HRA can be used in combination with other data, such as health plan use, to help identify the need for targeted health plan services for preventive benefits, disease management, or other key services that an employer might choose to negotiate as strategies to decrease morbidity and sick care costs.

Are there other important considerations for HRA implementation?

Yes, in addition to selecting the right HRA tool to meet your company's objectives, HRA planners should be aware of the following:

Ethics — Examples of ethical aspects of HRA are data security, confidentiality, and proper employee communications to explain individual results and the concept of risk. For more, see Ethics Guidelines for the Development and Use of Health Assessments by the Society for Prospective Medicine.

Technical Features — Ask questions of the vendor to determine if the HRA has technology and content that meet your specifications as defined by your objectives. Examples include basis of and date of last risk protocol update, report options for group data and participant reports, option for sending reports to employees' physicians, inclusion of biometrics and blood test data, features such as Stages of Change measurement, inclusion of individualized health education materials with participant reports, data that include tracking of HRA results over time, level of customization available, on-line capability, methods for preventing confidentiality breech, and features included in the base price and those that cost extra.

Mode of Administration — Choices include personal interview, telephone interview, paper-and-pencil tools (on-site completion/submission, mailing for completion and submission from home), and online completion. Implementation might be done by internal workforce health promotion staff, an HRA vendor, or the employees' health plan.

Incentives for HRA Participation — Employers that can and want to provide incentives must determine what type and level of incentives are appropriate to motivate HRA participation among their employees. Incentives can range from one-time items such as water bottles or tee-shirts to ongoing rewards that are integrated into benefit plan design. For the later, employers might consult human resources and legal professionals who are well-versed in Health Insurance Portability and Accountability Act (HIPAA) regulations. Business health

councils and coalitions can often be a resource for guidance on incentives, HIPAA, and other health promotion topics for their members.

Type of Feedback — HRA products vary in the design of the feedback format and method (written reports, online reports, and instant kiosk-produced reports) so it is up to the planners to select the one most appropriate for their workforce. Feedback may be provided immediately or might require processing time. The information could be provided by mail or online delivery to the employee at home or work, personal interpretation through meetings with each employee at work or at a physician's office, or group feedback sessions with employees following along in their individualized reports.

Who Provides Participant Feedback — Deciding who will present HRA results to employees depends on the level of follow-up being provided. Options include health professionals, heath educators, or specially-trained staff members. These individuals might be in-house, provided by the vendor or contractor, or be health plan employees.

Level of Follow-up — This will vary based on the stated HRA objectives: feedback only, feedback plus counseling, feedback plus health promotion programs, or referral for individual counseling of high-risk employees or those with existing chronic conditions.