

What's new with health risk assessments?

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Abstract

After briefly reviewing the historical background of health risk assessments (HRAs) and showing their recent renewed interest, the article discusses conditions for their effectiveness and exemplifies the return on investment they can yield. Finally, it outlines some future trends in the possible place of HRAs in preventive medicine at the individual and collective levels.

INTRODUCTION

Health risk assessments (HRAs) have been used for many years as a means to evaluate disease risks linked to lifestyle. With the de novo interest in preventive medicine in the U.S. an update on their use, value and perspectives seems timely.

BACKGROUND

The first mention of the interaction between lifestyle and disease prevention goes back to the Greek civilization. Hippocrates, the great physician of the 5th century B.C., classified causes of disease and identified behavior-related and therefore actionable factors such as irregular food intake, exercise and habits.

Much more recently, in 1978 the Alma –Ata declaration¹, emphasized the importance of prevention to improve global health. Over the past forty years, there has been a growing awareness of the link between lifestyle and many major diseases, particularly in developed countries. Concomitantly, the exponential growth in costs associated with medical care has revived the interest in health risk appraisals in the United States.

HRAs were developed by Dr. Lewis Robbins² and first used in conjunction with the Framingham study. Their original purpose was to assess mortality risk. Then, this instrument evolved and led to the Geller Tables³ which were designed for primary care physicians with the same intent. The LaLonde report⁴ issued by the Canadian government in 1974 gave impetus to the perceived value of prospective medicine and stimulated interest by the Centers for Diseases Control, which developed its own HRA⁵. It included information on demographics, medical history and lifestyle behavior. Some other HRAs also incorporated clinical and biological data such as BMI, cholesterol and blood pressure

to compute a health score. In the past thirty years HRSSs had been in limbo. However, in the past three years approximately, a new focus has been found in HRAs' potential as a tool for education and behavior change.

In 2006, 19% of employers with 500 or more employees offered incentives for HRAs compared to 7% in 2004⁶. In 2007, 91% of employers believed they could reduce health costs by influencing healthier lifestyles⁷. In the same year, 66% of insurers said they were somewhat or very likely to provide incentives for health-enhancing behaviors⁶. Nevertheless, the vast majority of the economic literature concludes that preventive medicine is not cost-effective⁸. This evidence was drawn from macro-economic analyses showing that the cost of healthcare is driven essentially by technology. As a matter of fact, many employers still consider wellness programs as benefits. Hence the value of preventive medicine which directly results in the reduction of use of all diagnostic devices.

This rekindled interest in HRAs and wellness programs is understandable since lifestyle accounts for about 50% of mortality overall in the U.S. Furthermore, according to the MacArthur Foundation Select Panel on Healthy Aging, 80% of health is determined by lifestyle in adults.

DISCUSSION

In 2008, HRAs are used in isolation or followed up with different interventions: Health risk and reduction sessions, group coaching, one on one coaching, wellness programs, health education plans, preventive medicine actions (e.g., immunization, screening, etc). These take place in a worksite, through a health plan, in a community clinic or in a general community-based program. HRAs are given with or without incentives. It is important to note that the failure of

many wellness programs is due to the lack of a crucial step, which is the participant's motivation assessment. As an example, the Stanford science-based six-step method for behavior change⁹ has been proven effective. It includes the following, with a variety of assessments and steps:

- * Identifying the problem and assessing your current behaviors (healthy lifestyle behaviors vs. risks)
- * Building confidence and commitment, assessing readiness for change and motivational assets (motivational assets available vs. those which need to be strengthened) and building a support network (who can help/what type of support they can provide /what is not needed from them)
- * Increasing awareness of the behavior and keeping track of the behavior change progress

Developing and implementing an action plan, setting a long term goal (which must be sustainable and realistic), anticipating barriers and designing strategies to overcome them, maintaining motivation (through benefits from the wellness plan and extrinsic rewards) and setting the first short-term goal (it has to be specific in time and part of a gradual progress)

- * Evaluating the action plan and assessing motivation on a scale from 1 to 5 (if the score is less than 4, the goal must be re-visited)

Maintaining the behavior change and preventing relapse by becoming an opinion leader and/or mentor, for example

High participation to HRAs and health promotion programs is essential to yield a good return on investment. The conditions for high participation include: Good program (capturing interests, educating, encouraging behavior change), good communication plan starting from the top (e.g., CEO blast e-mails), easy navigation and understandability, easy accessibility (intranet, website), easy and fast completion (less than 15 minutes), adequate financial incentives and prizes, privacy, quality of output (in particular, quality of the aggregate report), quality of customer service (reputable and trusted provider).

Participation has been proven much lower without financial incentives. On average, with a \$100 incentive a 66% participation can be achieved. Other material incentives include, for example: gift cards, merchandise, health club membership, health account contribution¹⁰, sport items (bicycles, tennis rackets, running shoes), etc.

The main issues of concern to potential participants in HRAs encompass legal matters¹¹ (in particular, privacy and Health Insurance Portability and Accountability Act or HIPAA).

In summary:

HRAs are more commonly used than ever in 2008

Their quality varies greatly. Good ones are science-based

Participation is much higher with financial incentives¹⁰

Best results are achieved when HRAs are followed by health promotion/wellness programs⁷

Good return on investment is achieved with the right program design and implementation

There is (a) Cumulative effect and (b) Dose response^{12,13,14}

The cumulative effect means that the result produced by two different health promotion interventions is greater than the sum of them considered separately. This is due in part to the fact that health awareness in these two domains reverberates onto other healthy behaviors by osmosis. The dose response implies that the higher the number of participants the better the results^{15,16}. Several studies have demonstrated significant return on investment (on average \$5.75 for \$1.00) after using HRAs as the basis for health promotion interventions, such as:

Figure 1

<i>Source</i>	<i>Health Costs ROI (for \$1.00)</i>
Review of 72 Articles ¹⁷	\$4.00
Health Care Setting ¹⁸	\$6.52
Blue Shield, CA ¹⁹	\$6.00
Bank of America, CA ²⁰	\$5.96
Procter & Gamble, OH ²¹	\$6.75
Chevron, CA ²²	\$6.42
Citibank ²³	\$4.64

Another 5-year study conducted among employees of Chrysler Daimler Benz in 14 sites in Michigan showed an average \$212.00 return on each \$1.00 invested²⁴. In his review, Pelletier found that from 2000 to 2004, the vast majority of more than 122 research studies to date indicated positive clinical and cost outcomes²⁵. Moreover, often this return on investment happens within the first year of intervention²⁶.

FUTURE TRENDS OF HRAS

In the near future, HRAs have a great potential in advancing the agenda of preventive medicine. For example:

a- Medical conditions

Currently, health promotion interventions are focusing on lifestyle modification to stop smoking, decrease weight, exercise sufficiently, reduce stress, eat in a healthy way, screen for cancer or update immunizations. However, going forward new fields may be included such as early detection of medical conditions and preventive therapy such as, for example:

- AORTIC ABDOMINAL ANEURISM

SAVINGS

\$14,000 to \$20,000 per Quality Adjusted Life Year²⁷.

Quality-Adjusted Life Year (or QALY) is a way of measuring disease burden, including both the quality and the

quantity of life lived, as a means of quantifying in benefit of a medical intervention. The QALY model requires utility, independence, risk neutrality and behavior. It is based on the number of years of life that would be added by the intervention.

INTERVENTION

One time screening by abdominal ultrasound for men 65-75 who have ever smoked (average cost: \$45-60 per person)

- ASPIRIN THERAPY

SAVINGS

\$11,000 per QALY gained

INTERVENTION

Discussing aspirin prevention with adults at increased risk for coronary heart disease (cost: 81mg/day, which amount to less than 50 cents/week)²⁸

b- Bridging the health care gaps

Combining the HRA information with health data stemming from health plans, pharmacy drug use pattern, benefit/human resources department and medical parameters stored in electronic data bases such as Microsoft Vault or Google Health, it will be possible to:

Improve care management by creating real time care gap alerts

Determine a population health profile more accurately and comprehensively

Establish health priority needs and design tailored health promotion interventions

c- Consultation Tool

* For physicians, the major obstacle to physician following up more actively on HRAs and health promotion programs is financial. Preventive medicine at the medical office level is not time-efficient, some may even say counter productive. Another crucial issue is the assessment of a physician's preventive work. If a patient is given the knowledge and tools to adopt a healthy behavior, it is impossible to prove that, for example, a heart attack has been prevented. Therefore, how can physicians be remunerated fairly for their preventive medicine services? If medical practitioners are to play a more integrated and important role in the future in relation to HRAs a compensation or incentive mechanism must be created in order to get their buy in. Increased use of

HRAs would be an additional asset to them. For example, the summary report can serve as a data gathering tool by the physician.

* For patients, the HRA can serve as a communication tool as follows:

- The introduction of a patient to a doctor
- The basis of the doctor-patient relationship. For example, for requesting a wellness appointment
- Being an instrument for teaching the patient how to become a better consumer

CONCLUSION

HRAs have been around for a long time and have evolved progressively. Recently, there has been a surge in their interest. This phenomenon is interesting for preventive medicine as a whole because when they are used adequately as the port of entry to health promotion programs they produce good return on investment and contribute significantly to health improvement. Furthermore, HRAs can be efficient tools for physicians and patients for improving the quality of medical services.

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