

INTEGRATING EMPLOYEE HEALTH: A MODEL PROGRAM FOR NASA

The American workforce is changing, creating new challenges for employers to provide occupational health services to meet the needs of employees. A shift from manufacturing to services, knowledge-centered, and mobile work has changed the focus of occupational health. In addition, the impact of non-occupational illnesses and injuries on performance, productivity, and health care costs is increasing.

The National Aeronautics and Space Administration (NASA) serves as a prototype for the 21st century organization with its increasing demands and a changing American workforce. NASA employs a highly skilled workforce accustomed to working under high pressure, short deadlines, and limited budgets, and despite these challenges, it has turned the vision of space exploration into a reality in fewer than 50 years.

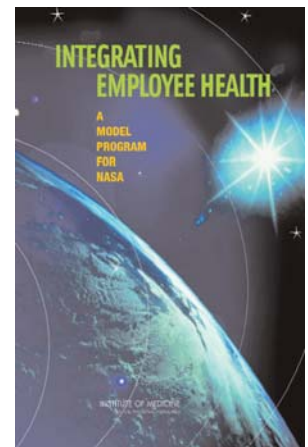
NASA has a cultural tradition of believing that its workers can overcome complex technical challenges and these are reflected in its core values: safety, people, excellence, and integrity. The success of NASA's programs is largely the result of a highly motivated and resourceful workforce that embraces enormous challenges. However, the very same cultural traits and organizational practices that have fostered mission success can also affect employee well-being.

Therefore, in 2003, NASA's Office of the Chief Health and Medical Officer requested that the Institute of Medicine form a committee to review existing preventive health programs, assess employee awareness of and attitudes toward occupational health programs, and determine whether there are any special risks unique to NASA work environments. In the resulting report, titled *Integrating Employee Health: A Model Program for NASA*, the committee found that NASA has a history of being forward-looking in designing programs aimed at improving the health and wellness of its employees.

THE CASE FOR CHANGE

According to the World Health Organization's definition of health, a healthy workforce is characterized by four key attributes to achieve optimal performance. Both individuals and organizations must be:

- 1. Healthy:** demonstrating optimal health status as defined by positive health behaviors, minimal modifiable risk factors, and minimal illnesses, diseases, and injuries;
- 2. Productive:** functioning to produce the maximum contribution to achievement of personal goals and the organizational mission;



NASA serves as an excellent prototype for the 21st century organization, challenged with increasing demands and a changing American workforce.



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The success and sustainability of an integrated health process must first and foremost begin with a clear understanding of the organization's mission.

TABLE 1. Current Trends in America for a Healthy and Productive Workforce

Perspective	Current	Desired State
Function	Absenteeism	Performance
Cost metrics	Medical costs	Economic outcomes
Care model	Treatment-focused	Prevention and behavior change-focused
Medical model	Individual	Population
Health metrics	Disease status	Health status
Interventions	Single-risk focused	Multiple-risk focused
Health framework	Employer-, condition-, and program-centric	Employee-centric
Management systems	Segregated programs	Integrated systems

3. Ready: possessing an ability to respond to changing demands given the increasing pace and unpredictable nature of work; and

4. Resilient: adjusting to setbacks, increased demands, or unusual challenges and returning to optimal “well-being” and performance without severe functional decrement.

Interest in worksite initiatives integrating occupational health and safety with health promotion and disease prevention efforts is increasing among the business community, labor groups, and the research community. The National Institute for Occupational Safety and Health (NIOSH) has introduced *Steps to a Healthier US Workforce*—developed from the initiative from the U.S. Department of Health and Human Services, *Steps to a Healthier US*. The vision of the Steps initiative is to integrate occupational safety and health protections with health promotion activities into integrated health management programs.

Employers have demonstrated that multifactor determinants of health and productivity must be addressed using new perspectives, metrics, and models. Table 1 outlines current trends toward achieving a healthy and productive workforce by looking at determinants of health and productivity.

ACHIEVING A NEW VISION

The success and sustainability of an integrated health process must first and foremost begin with a clear understanding of the organization’s mission. Senior leadership must communicate the critical importance of policies, programs, and practices designed to optimize health and productivity and promote an organizational culture that values worker well-being. A mission-driven vision for health should articulate why investment in employee-integrated health helps NASA achieve its core mission on time, under budget, and better than expected. Figure 1 shows an employee-centric integrated Total Health Management System.

UNDERSTANDING INTEGRATED HEALTH PROGRAMS

An integrated approach to improving health involves going beyond traditional medical or occupational health to include a variety of fitness and wellness programs as integral components to a comprehensive well-being approach. Such a strategy can be targeted on multiple levels, according to a social ecological approach.

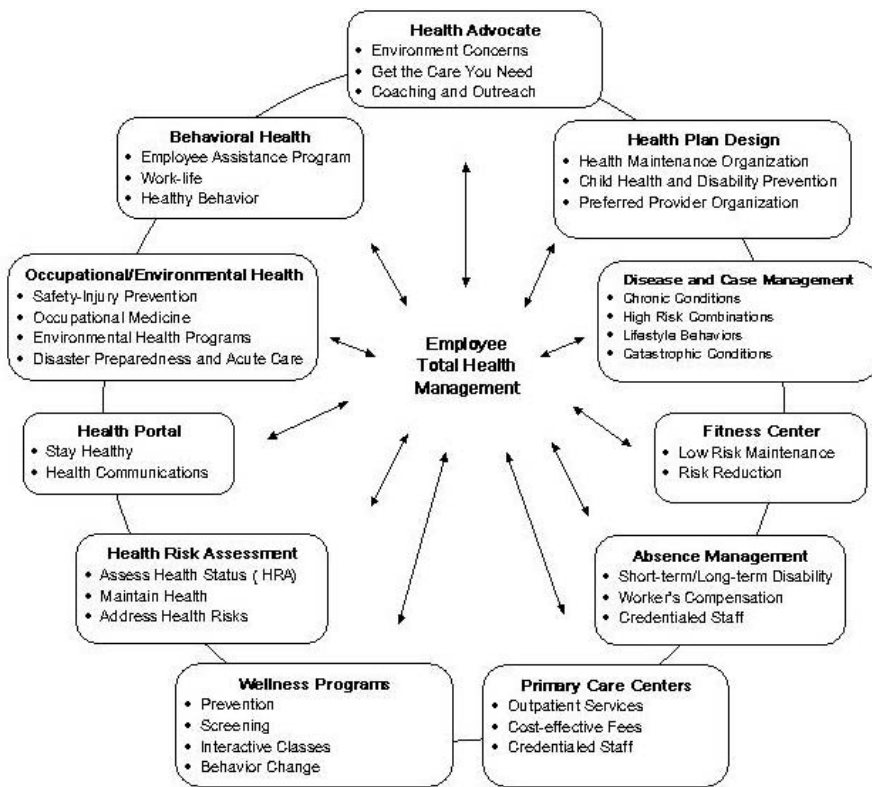


FIGURE 1. An integrated and sustainable approach for Total Health Management

DATA INTEGRATION AND MANAGEMENT FOR BETTER HEALTH

In an organization like NASA, where measurement and evaluation is a cultural norm, a data-driven, decision-making system is a prerequisite for success. An effective data management and measurement system can support organizational objectives such as decision making, accountability, improvement, surveillance and longitudinal analyses, and knowledge discovery. The success of each health programmatic component requires that the data systems reflect an employee-centric rather than a program-centric focus.

PRIMARY FINDINGS AND RECOMMENDATIONS

Finding 1: The occupational health mission statement at NASA is designed and directed to meet the health care needs of NASA employees; however, there is a need to bring this mission statement into alignment with a mission-driven vision for the NASA organization.

Recommendation: The committee recommends that the administrator of NASA adopt a new vision for worker health, readiness, and resilience that directly links to NASA’s mission and includes health as a core NASA value that is implemented through an integrated health and systems approach. To achieve an integrated health program, grounded in a management systems approach to health and safety, NASA should:

- Recast its employee health vision to improve linkage and support for NASA’s core mission and goals;
- Integrate workplace safety with the occupational health function;

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- Establish specific interfaces or linkages between health benefits design and administration in Human Resources and Occupational Health for analytic, intervention, and outcome assessment purposes; and
- Adopt a management systems approach to actualize, sustain, and improve NASA's commitment and performance in employee health, safety, and well-being.

Finding 2: Most organizations, public and private, follow a traditional model for providing health care to employees in which the focus is on disease status rather than health status, treatment rather than prevention, an individual medical model rather than a population-based health model, and single- rather than multiple-risk interventions, with segregated rather than integrated management systems. NASA is similar in its current approach to occupational and preventive health care. Although there is a collection of information on employee health and program use, the data collected lack uniformity and consistency within and between NASA centers. In addition, there is a need to strengthen communication lines between NASA's headquarters and centers.

Recommendation: To the extent possible, NASA headquarters should encourage consistency between core occupational health programs, health data collection, impact assessment, and program evaluation.

Finding 3: The traditional approach to occupational health care leads to segregated rather than integrated health programs. The needs of the modern knowledge-based workforce in a high-performance organization require an approach beyond those traditionally used in occupational health. Such an approach, as currently implemented at NASA, is not conducive to meeting the health care needs of employees in a large, decentralized organization.

Recommendation: NASA should provide education and training to first-line managers and supervisors that focus on the relationship between health and productivity. To achieve integration, NASA should incorporate components of an integrated system most appropriate to its organizational needs, including:

- Develop a data-based approach to policy, planning, programming, budgeting, implementation, operations, evaluation, and management;
- Create a standardized "health and performance" full-cost accounting framework to define, standardize, prioritize, fund, and evaluate resource allocation for human-related mission performance and workplace safety, health, and productivity; and
- Incorporate mission-essential elements of integrated health programs in contracting requirements.

Finding 4: There is a need for more effective, coordinated, and data-driven health program policy development to support the agency's mission and goals.

Recommendation: To achieve program policies that support the agency's mission and goals, the committee recommends that NASA:

An effective data management and measurement system can support organizational objectives such as decision making, accountability, improvement, surveillance and longitudinal analyses, and knowledge discovery.

- Obtain health care cost and utilization data for its civil service employees enrolled in the Federal Employee Health Benefit Program to inform, target, and optimize agency benefits, policies, and workplace interventions as private-sector employers do;
- Select a basic health assessment tool such as a Health Risk Appraisal from those available in the marketplace and offer it to all NASA workers;
- Offer coordinated and integrated individual- and environmental-level health promotion policies and programs that promote worker health across content areas including diet, exercise, job stress, and control of worksite hazardous exposures to meet the needs of a diverse workforce;
- Re-examine the allocation of resources at the center level for periodic health examinations and evaluate the data requirements, periodicity, and effectiveness of existing occupationally-related medical screening examinations; and
- Conduct program-specific evaluations to ensure the effectiveness and appropriate use of available resources.

To meet its data management needs NASA should:

- Implement a systems-based approach to data management that includes:
 - Data collection, management, and reporting according to agreed-on standards,
 - Consistent data practices across all NASA centers, and
 - Longitudinal tracking of data across all centers and the agency as a whole;
- Adopt a framework for measurement that will allow direct access to data collected for the purposes of decision making, accountability, improvement, surveillance, longitudinal analyses, and knowledge discovery;
- Create and initiate a data-management collaborative that includes representatives from all centers, as well as headquarters, that are trained and well-informed about measurement and evaluation;
- Establish agency-wide data architecture and technology to support its operational goals that may or may not include a comprehensive electronic medical record; and
- NASA should use the opportunity of building such programmatic endeavors to contribute knowledge about program effectiveness, cost benefits arising from, and factors that can contribute to the success of these programs.

CONCLUSION

Well-being programs can reach large numbers of employees with information, activities, and services that enhance occupational health and encourage the adoption of healthy dietary and physical behaviors. Moreover, these programs may reduce health care costs, including employer costs for insurance, disability, medical expenses, and sick leave. Implementation and ongoing evaluations of effective programs at NASA may provide significant improvements in employee's physical and psychological well-being, benefiting the agency with a more productive workforce, and be more cost-effective than the current traditional program.

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FOR MORE INFORMATION...

Copies of *Integrating Employee Health: A Model Program for NASA* are available from the National Academies Press, 500 Fifth Street, N.W., Lockbox 285, Washington, DC 20055; (800) 624-6242 or (202) 334-3313 (in the Washington metropolitan area); Internet, <http://www.nap.edu>. The full text of this report is available at <http://www.nap.edu>.

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