

2023



# C. Everett Koop National Health Award Application



Dear Board of Advisors:

I am writing to endorse and support this application of Idaho National Laboratory's (INL) Well-Being program for the prestigious C. Everett Koop National Health Award. I, along with all members of INL's Senior Management Team, am fully committed to the safety, health, and well-being of every INL employee and their family members. INL is a preeminent research laboratory, committed to meeting the nation's future energy needs. But, just as importantly, we are committed to our greatest asset - our employees.

INL's Occupational Health Services programs successfully provide effective health and wellness services to our employees, as well as integrating those services with safety, benefits, absence, and disability. We developed INL's Well-Being Program steadily over decades and it has positively impacted every employee, promoting healthier lifestyles, reducing health care costs, and significantly changing the culture of INL to one that reflects the values that we promote. This cultural shift has been profound in recent years as the program has provided health information, screenings, engagement software, and activities that motivate our employees to live happier and healthier lives.

INL's values drive our clean energy and national security missions. Excellence, inclusivity, ownership, safety, teamwork, and integrity are key to everything we do. Our well-being program supports these values and has had a positive impact on our mission outcomes and in helping our employees live their best lives – at home, at work, and into retirement. Our goal is a well-being program that engages our employees and enriches their lives. This application outlines our efforts to achieve this goal.

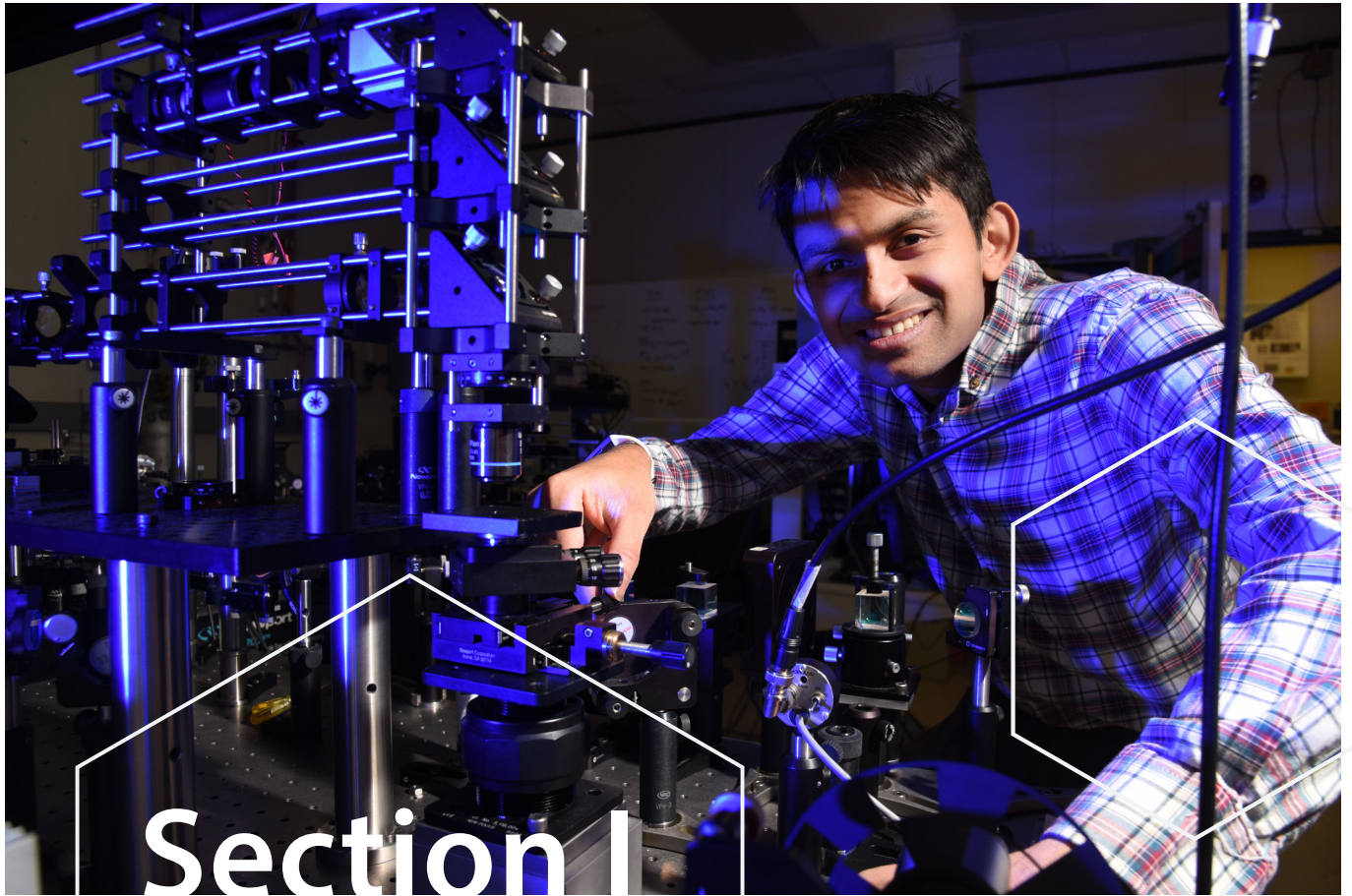
INL's Well-Being Program has been the benchmark standard within the U.S. Department of Energy for years. It would benefit others to gain a better understanding of how companies can create life-changing and life-saving programs for their employees. It is difficult to articulate the impact and changes in health and lifestyles seen by our employees each day, but they are real, and I hear about them all the time. I feel it is important that your advisory board knows that as the Laboratory Director of INL, I am absolutely committed to supporting the well-being of every INL employee, today and into the future.

Sincerely,

John C. Wagner, Ph.D.  
Director, Idaho National Laboratory  
and President, Battelle Energy Alliance, LLC

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# Section I

## Executive Summary of Program





Idaho National Laboratory (INL) is the Department of Energy (DOE) laboratory for basic and applied nuclear and radiological science research and fuel fabrication. INL's daily operational management is contracted to Battelle Energy Alliance. The INL wellness program began in 1992 and was based on the best practices in the wellness industry at the time. Its charge was to measure, identify and manage the principal preventable causes of premature morbidity and mortality affecting worker health and productivity and provide cost-effective programs to mitigate the causes. The unique aspects of INL's wellness program have been its longevity, documented success and innovations. INL has a highly skilled workforce that is at increased risk of chronic diseases associated with sedentary lifestyles and poor eating habits, including heart disease, hypertension, weight/obesity, and diabetes. The program has documented successes in changing health behaviors and outcomes, using periodic biometric screening and health risk assessments, skill building activities focusing on heart disease, diabetes, hypertension, tobacco cessation, alcohol use, stress, anxiety, increasing physical activity, and improving poor eating habits, to name a few.

### Engagement

The INL wellness program has maintained an outstanding engagement in all programs with over 89% of employees engaging in the biometric screenings and 82% in the wellness programs. More importantly, 62% of our employees are engaged daily in those activities.

### Health Improvement/Savings

This application will review the documented outcomes associated with changes in employee health behaviors, health risks, health care costs, presenteeism and absenteeism savings, overall savings as well as the associated company metrics directly associated with the wellness program's overall strategy. The wellness program has significantly increased physical activity, nutrition and sleep quality,

reduced work-related injuries and illnesses, and impacted workers' compensation and health claims and costs. Along with these achievements is our documented return-on-investment ratio for our integrated wellness program strategy of \$3.1:1. Highlights include a 42% decrease in our recordable injury case rate, which is the lowest in the company's 18-year history, along with a 9% reduction in employee attrition rate attributed to the wellness program. Our daily employee engagement rate is 23% higher than the industry averages and increases by 8% each year. Activity rates are 25% above industry averages, with the most inactive employees adding more than 2,800 daily steps. In addition, body mass index values have significantly decreased in the highest risk groups, and we have documented a significant migration in multiple risks factors of employees assessed at the high and medium health risk categories to lower-risk categories. The current analysis reveals that in the last three years our new health engagement platform along with changes in our in-house medical clinics procedures have significantly decreased presenteeism, absenteeism, short-term disability, and musculoskeletal injuries and associated claims.

DEMOGRAPHICS	2023
Eligible Employees	5,972
Enrolled in Engagement Platform	4,125
Average Age	47.2
Employee Participation Rate	82%
HRA/Biometric Screening Rate	89%
Office Employees	3,871
Hybrid Employees	1,251
Virtual Workers	592
Off-Site Employees	258



# Section II

## Narrative Description of Program and Evaluation Results



## The Worksite

Idaho National Laboratory spans an area larger than the state of Rhode Island and has 5,972 employees with 258 of those employees working outside of Idaho, 511 summer interns, and 476 subcontractors spread between 385 buildings. INL operates four nuclear reactors, five medical clinics, a large armed security force, four fire stations, a large bus operation overseeing 95 buses, power line and road crews, water treatment plants, landfills, and test ranges. The lab employs laborers, nuclear operators, fissile material handlers, heavy equipment operators, physicists, researchers and myriad office and field workers. The site demands more resources and coordination than an average-sized municipality creating a unique logistical challenge in communicating, coordinating and providing cohesive wellness services. Responsibility for the health of INL employees resides with the Occupational Health Services (OHS) department that manages oversight of all occupational health policies, medical surveillance, protection of research subjects, quality assurance, public health, professional health education and development as well as providing cost-effective wellness services. The wellness program was recognized early on with the Association for Worksite Health Promotion's Business and Industry Award, the Federal Office of Personnel Management Director's Award for Health Programs as well as several awards from the state of Idaho for health innovations. Changes in behavioral habits and morbidity and mortality issues are tracked and documented through our medical electronic and wellness databases. The program improvements presented in employee health outcomes, productivity measures and work-life balance merits examination, recognition and replication.

## Health Management Strategies/Programs

Many wellness program strategies focus on medical treatment rather than preventive care, addressing disease status rather than health status, tackling individual risk factors rather than multiple-risk interventions, and incorporating individual medical models rather than population-based health models. We built our wellness strategies on the AMSO and RE-AIM health promotion intervention frameworks and have progressed to a comprehensive model that fully integrates our health and safety constructs and addresses not only the health concerns of our workers but the productivity goals and metrics of the company. The overall strategy is not only on worker health but also on business health. INL's integrated health approach connects programs into a single process emphasizing outcome, coordination, synergy and measurement tying together health promotion initiatives, medical benefits design, incentives, short- and long-term disability, worker compensation, injury prevention, presenteeism and absenteeism measures, lifestyle, and disease management. Evidence shows that this integrated collaborative approach is the most effective path to improved safety, health and well-being outcomes.

In short, the INL wellness program is focused on the intentional integration of wellness, safety, occupational medicine, mental health services, diversity, quality and benefits while working to eliminate the "silos" that protect each department and to engage employees in multiple programs which are important for long-term cost savings. To achieve that, the wellness program modified its vision and goals 10 years ago to improve linkages between departments and support INL's core mission, weaving together safety, health and organizational goals. This approach has



## Virgin Pulse Mobile App

*Wellbeing in the palm of your hands*



1 Complete cards, track healthy habits, view challenges, and more.



2 View stats including steps, workouts, and active minutes.



3 Detailed program progress, points, and rewards.

improved company performance, created a safer workplace, increased worker satisfaction, reduced presenteeism and absenteeism, increased employee participation, and improved health-related outcomes. We are proving the principle that a healthier workforce is a safer workforce and that a safer workforce is a healthier workforce. INL's wellness program has successfully merged these internal programs, demonstrating the effectiveness of the American College of Occupational and Environmental Medicine (ACOEM) approach to workplace health protection and health promotion<sup>1</sup>. The INL Occupational Medical Program received the ACOEM Corporate Health Achievement Award in 2016 in recognition of these achievements.

Four years ago, building on an already robust wellness culture and based on employee and management feedback, we engaged INL employees in daily wellness activities by implementing the most advanced and established AI-driven engagement platform on the market. The platform facilitates behavior change using apps that every employee can access on their desktop computer, tablet or smartphone. The software utilizes social media, videos, daily reminders, in-apps pop-ups, competitions, wearable devices, text messaging, push notifications, and checklists to promote healthy daily behaviors. It provides multiple

vendor add-ons to promote healthy eating and eLearning. The key features track daily activity step counts, and provide nutrition and sleep guides, video libraries, and individual and company-wide challenges that can be customized to almost any health interest. The engagement software was released two months prior to the COVID-19 shutdown. With safety and health promotion programs deployed strategically within this engagement platform the whole became greater than the sum of its parts in promoting healthier behaviors and preventing work-related injuries and illnesses. The timing and implementation of the software two months before the pandemic was providential since we had put in place an effective communication platform providing an excellent interface with employees working virtually from home and on-site. This engagement portal was essential for maintaining contact and program momentum in keeping virtual employees engaged and healthy.

### Leadership Commitment

Senior leadership has been engaged in all levels of the wellness program and has set a positive tone for our program by motivating managers, committing resources and creating a supportive environment that has increased participation and overall program satisfaction. INL leadership embraced the new wellness initiatives by funding an expensive incentive program as well as the ongoing operating budget for the wellness office, which is staffed with three full-time specialists. Senior management participates in the program as wellness champions.

### Incentive Structure

A cash incentive program is available to all full- and part-time employees who choose to track their progress using the wellness portal. The incentive structure is a participation-focused program tiered to the lab's medical

1 Pamela. A Hymel. Ronald R. Loeppke, Catherine M. Basses, et al. ACOEM Guidance Statement: Workplace Health and Protection and Promotion, A New Pathway for a Healthier and Safer Workforce. JOEM 52(6), 695-702.



<b>EARNING POTENTIAL BREAKDOWN</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Total</b>
Points per quarter	1,000	5,000	12,000	20,000	20,000 (per quarter)
HRA	\$10	\$20	\$40	\$55	\$125 (\$500 yearly)
HSA	\$20	\$40	\$60	\$80	\$200 (\$800 yearly)

plans. Participants through the portal are rewarded points for myriad wellness activities each day. A total of 80,000 points spread over four quarters is required for participants to earn the full incentive amount. Depending on which of the three medical plans they are enrolled in, employees can earn \$500 into a health reimbursement account (HRA) or \$800 into a health savings account (HSA). Employees who are not in any lab medical plan may still earn the \$500 incentive. This method of reimbursement allows employees to receive the full reward in a pre-tax status, and since these accounts are used primarily to reimburse medical expenses it encourages greater health care consumerism. Employees who don't earn the full incentive amount still earn a pro-rated amount based on their level of participation. Currently, 4,125 employees are enrolled, with an average payout of \$274 per employee. Additional small recognition items and gift cards are used as instant rewards for challenge winners, wellness champions, health fairs, recognitions and promotions. We offer access to the engagement portal, promote challenges and provide incentive items to more than 500 summer interns who do not work long enough to earn the yearly incentive. Spouses and domestic partners have access to the portal but do not earn the incentive. Having proven the costs savings over the last three years we are now in the process to include spouses and domestic partners in the incentive program.

### Communication Strategy

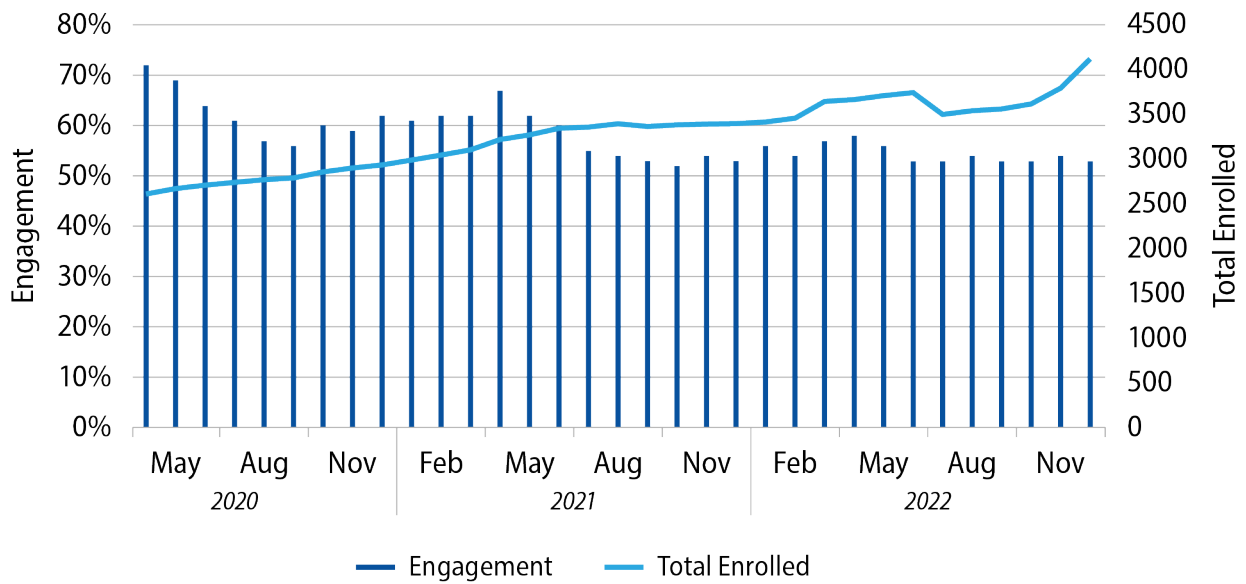
Our communication strategy clearly delineates the benefits of participation to employees and works to communicate regularly in meaningful ways. The communication strategy is reviewed quarterly by the wellness team in conjunction with the communications department, safety, engagement account representatives and union liaisons. Enrollment efforts begin the first day at new hire orientation and again during the benefits sign-up period in November. Since different messages and mediums appeal to different employees, we utilize multiple communication channels such as social media, dedicated intranet webpages and resources pages outlining available programs, wellness champions engage and promote events, and the app pings users with updates. The messages are simple and encourage down-to-earth behavioral changes such as promoting walks, taking the stairs, riding bikes to work, or attending a new presentation. The engagement platform consolidates messaging and allows information to be distilled through push notifications, daily updates, emails, posters, texts, on-site meetings, video calendaring and promotions. Individual, group and company successes are communicated through the company's daily iNotes system along with the company's main intranet page. Targeted email notifications are used for select work groups and facilities. Since COVID-19, remote interfacing through digital meetings has become commonplace and is one more avenue that is scalable and flexible.

## Individual and Organizational Program Components Overview

Program	Description
Health Risk Assessment	Employees fill out an HRA prior to receiving the periodic biometric screening and the results are compiled into a comprehensive report. The assessments provide one of the main databases for statistical analysis.
Annual Biometric Screenings	A yearly biometric screening is offered through OHS to each employee. The screening includes height, weight, blood pressure, ECG, hearing, vision, a full panel blood draw with CBC, PSA and TSH panels.
Disease Management	Employees identified with high cholesterol, high blood pressure, diabetes, asthma, and back and shoulder problems are offered targeted on-site coaching. The employee can participate in more frequent testing if recommended.
AI-driven Engagement Portal	The engagement software program is designed to engage employees in holistic wellness daily activities.
Mobile Apps and Trackers	The engagement software can sync to any mobile device and is compatible with an Apple Watch, FitBit, Garmin, Samsung, and most other wearable technologies. If the employee does not own or cannot afford a wearable device, they are provided with one.
Tobacco Cessation	The smoking cessation program is offered to every employee through group or individual counseling. The wellness staff members are certified facilitators by the American Lung Association.
BeWell Cafeteria Program	The BeWell cafeteria program provides heart-healthy meals. Employees are incentivized to eat healthy and participation is tracked.
FoodSmart Nutritional Program	An nutritional software program is interfaced with our engagement portal which provides education and recipes, generates shopping lists and motivates healthier eating.
Cloud-Based Health Screening Stations	iPad-driven Health Stations in multiple locations linked to cloud-based servers measure blood pressures or weight providing more frequent and accurate tracking of weight and BP changes rather than relying on self-reported data.
Web-based eLearning Tools	The wellness portal provides employees access to RethinkCare, a web-based eLearning provider that has a library of over 30,000 videos with topics ranging from mindfulness, situational awareness, resiliency, meditation, parenting, boosting physical health, managing stress and a host of other topics.
iMove	iMove provides biweekly sessions to counteract the effects of decreased movement. Our resident physical therapists provide 10-minute broadcast sessions address poor posture and functional movements, increase daily activity, and various areas of pain management.
Back and Shoulder School	Employees with pre-existing back or shoulder injuries or who are at high-risk of injury are offered an eight-week course taught by our physical therapists addressing body movements, physiology, lifting mechanics and exercise.
Workstation Ergonomics	To decrease cumulative trauma disorders, WorkPace software is installed on all employees' desktop computers to pace computer work in accordance with established OSHA recommendations. The software tracks keystrokes and clicks and prompts micropauses and stretch breaks outlined by the wellness program at set intervals of continuous keyboarding.
Safety/Voluntary Protection Program	INL was the first Department of Energy national laboratory to be distinguished as a VPP Star Site in 2001, and it has been recertified seven times. Safety is one of INL's six core values. Each of the nine employee safety teams has a trained wellness champion as a liaison.

<b>Post-Offer Employment Testing (POET)</b>	POET testing is the mainstay of safe job placement and decreasing risk by providing objective data pertaining to an individual's ability to perform job tasks. The wellness team conducts job task analyses and conducts fit-for-duty testing as needed. During the hiring process, POET testing validates a worker's ability to meet essential job functions.
<b>Telehealth/OHS Clinical Services</b>	Sixty percent of our male population lack a personal physician and rely on emergency rooms or community health centers for acute care. Our employees have access to INL occupational medicine providers or Telehealth for acute medical care.
<b>Employee Assistance Program</b>	Seven EAP counselors provide on-site therapy for work-related and personal problems that impact workplace performance, safety and morale.
<b>On-site Fitness Centers</b>	Six large on-site fitness centers provide a convenient location to initiate or maintain a healthy physical activity program and rehabilitation from injury. The facilities can be accessed by any employee 24/7.
<b>Financial Wellness</b>	Provide quarterly financial management courses as a resource for investing in the company's 401(k) programs and planning for future retirees.
<b>Cardiac Stress Testing</b>	The wellness staff conducts 12-lead exercise cardiac stress testing required by federal regulations or ordered by a medical provider.
<b>Immunizations/Flu Shots</b>	Provide routine immunization including pneumovax, shingles and boosters along with flu shots, COVID-19 shots and boosters, and any international travel related immunizations at no cost through the medical clinics. Allergy injections are administered on-site to reduce time away from work.
<b>Health Coaching</b>	Individual coaching is available from a health professional or wellness staff member to review biometric and health assessment results and discuss an intervention plan
<b>Incentives</b>	
<b>HSA/HRA Incentivized Participation</b>	Financial incentives are available to all full- or part-time employees who choose to participate in the engagement program, allowing them can earn up to \$500 or \$800 a year into an HSA or HRA flex payment account.
<b>Promotional Incentives</b>	Utilize small incentive items to promote health fairs, challenges, reward wellness champions and as recognition gifts.
<b>Campaigns/Challenges</b>	
<b>Battelle National Challenge</b>	Employees form teams of five to compete against other Battelle companies across the country to see which company can engage the most employees for two weeks.
<b>Company Wide Challenges</b>	Create six two-week companywide challenges annually in addition to separate challenges promoted by each wellness champion specific to their areas and interests. In 2022, 3,353 employees participated in the company-sponsored habit challenges.
<b>Individual Challenges</b>	Employees can set up their own activity or health challenge that can include any co-worker, family member or friend who is invited on to the platform. 3,197 individual challenges were created in 2022
<b>Intern Challenges</b>	Interns are invited to participate in separate incentivized challenges during their time with the company

### Engagement v Enrollment



### Participation

The INL wellness program overall participation rates have remained greater than 82%. Enrollment in the online engagement portal is currently at 70% and the average engagement rate is 59%, which is 11% above benchmarked national averages and 22% above our comparable industry benchmark averages. In 2020 we had 4 million interactions through the engagement portal and those interactions increased to 4.2 and 4.3 million in the subsequent two years. 89% of our employees have completed the health risk assessment and biometric screening while 86% of the enrolled employees in the incentive program earned some level of the offered incentive with the yearly reward earned increasing 6% each year.

### Employee Assistance

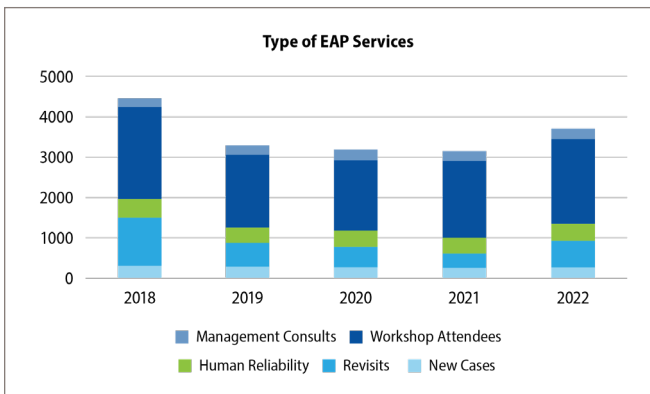
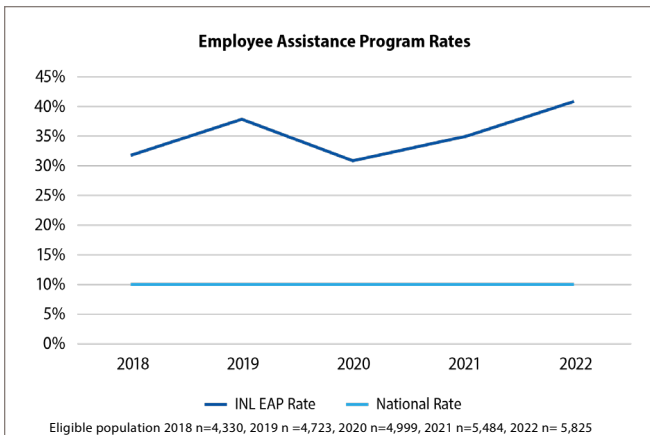
Where many companies rely on a telephonic helpline to address mental health issues, our Employee Assistance Program has seven in-house therapists who provide management consults, employee seminars, human reliability interviews, crisis debriefing and individual therapy for employees and their families at

no cost. The program targets resiliency issues, employee morale, productivity and employee engagement. The employee assistance program has maintained a penetration of over 30% for the last five years, compared to a national effective rate of between 8 to 10 percent. The following graphs show the level of penetration and types of services provided. In the last three years the employee attrition rates have been 4%, 9% and 6% lower, respectively, due specifically to employee’s engagement using the new platform and utilizing EAP services.

### Disparities

Disparities in health risks are not evenly distributed and exist between occupational groups, racial or ethnic groups, exempt versus non-exempt as well as represented employees. Radiological and hazard exposures as well as high-risk-related behaviors are concentrated among working-class occupations, service roles or in low supervisory routine occupations. Blue-collar occupations and lower educational





levels are also associated with negative health behaviors such as tobacco use, overweight status, poor nutrition and low levels of physical activity. These employees are generally less likely to participate in wellness programs on a regular basis. INL programs are designed to attend to the cultural norms and priorities of ethnically diverse populations, implications of acculturation, potential for discrimination and related social contextual issues. No employee has been denied access to a program or an incentive due to a disability. Accommodations have always been made. Care is taken to ensure that all programs are voluntary and perceived as such while ensuring that employees choosing to opt in or out of any program can do so without any job consequences or financial impact. We chose not to impose any penalty for failing to meet a particular health standard or outcome but based the financial incentives strictly on participation.

## Employee Satisfaction

Employee satisfaction is assessed through the engagement platform and with company surveys. Direct feedback from team champions, manager reviews and structured interviews are equally weighted. We also use the Net Promoter Score to monitor overall satisfaction. This measure estimates how connected and engaged employees feel to their work and the strength of the company culture. Our current overall program satisfaction rating is 86% and the NPS score that ranges from -100 to 100 is 37, which puts us on par with Starbucks and Costco but below Apple and Google to add some perspective.

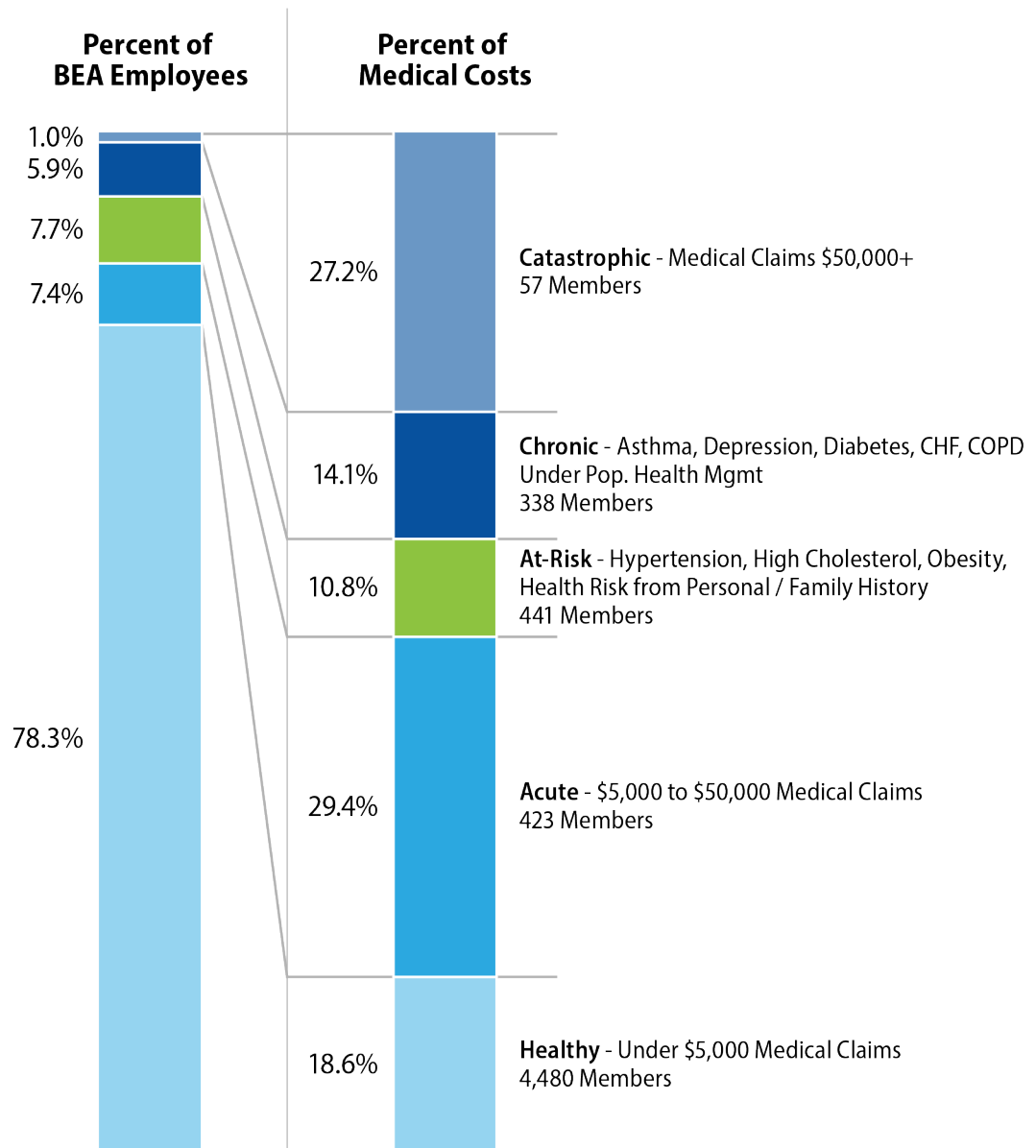
## Evaluation Methodology and Results

INL’s ability to develop a comprehensive evaluation plan that trends abnormalities in the employee population and establishes the efficacy of each program is enhanced by having access to electronic medical records and health promotion databases. Longitudinal data collected over almost three decades lends power to our analyses. These systems are relational databases that permit serial data trend analysis and parsing of data into myriad ad hoc queries for any range of years. Participation and health risk assessment data, lifestyle factors, blood chemistries data and changes in health status are summarized from these databases. Differences in reported data are due to the nature of the information collected for each database. When individual claim data is either protected or unavailable, especially from third-party health care providers, we rely on prevalence and incidence-based changes for evaluations. The data presented covers primarily three timeframes of the program, where some analyses are longitudinal results of programs such as tobacco cessation, cumulative trauma disorders and the use of biometric screening physicals where the data spans more than two decades. Other analyses examine the effects on individual behavioral changes and organizational changes that occurred since

our integration realignment of the program 10 years ago. And lastly, the impacts on health outcomes based on the implementation of the new high tech engagement portal are shown. The evaluations presented examine the overall effect on health care costs, productivity, job satisfaction, absenteeism and presenteeism, return on investment, and value on investment using ANOVA (F statistic), t-tests, Chi-Square and repeat measure designs, prevalence and incidence-based analyses, and cost- benefit statistical analyses.

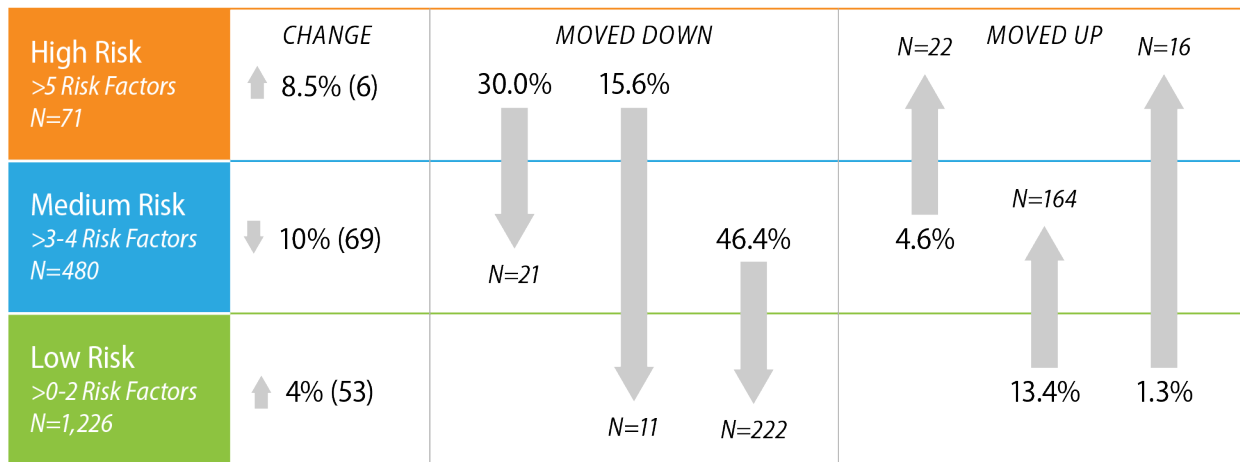
### Health Costs and Low Risk Maintenance

In analyzing our medical benefit costs, our claim's costs are broken into five health- care utilization categories: catastrophic, chronic, at- risk, acute and healthy. When individual risks are grouped according to their overall health risk level category, employees with higher multiple risks were more costly to the company. The chart below shows that 1% of our employees' medical cases fell into the highest catastrophic category, which typically include diseases such as cancers, Multiple



Medical Plan Eligible Employees (2022) n= 5,722

### Employee Health Risk Reduction (3 Years)



2019-2022 cohort of 1,777 employees with data to assess all 15 defined Edington risk factors

sclerosis, autoimmune and genetic disorders but represent 27.2% of the total health care claims costs. Our pharmacy utilization data follows the same trends. The lowest cost group (healthy) includes almost 80 percent of our employees but incur only 18.6 percent of the total medical costs. Our strategy is to keep this healthy group of employees in this category. It is interesting to note that this data reinforces the concept that 80 percent of any effect typically comes from 20 percent of the causes. As it relates to our utilization profile, 80 percent of the clinical and health issues arise from 20 percent of our employees who fell into the top four risk categories. It is the chronic, at-risk and acute categories where we target our disease management and lifestyle intervention programs. By maintaining a higher percentage of our employees in the lower risk healthy category we avoid the cost increases associated with the higher risk categories. Only 11% of our adults report having no single risk factor, whereas one, two, three and four risk factors were noted among 32 percent, 34 percent, 19 percent and 4 percent of the population, respectively. Hyperlipidemia, musculoskeletal disorders, hypertension, depression, anxiety, unhealthy diet, physical

inactivity, overweight and obesity remain the leading health concerns among our employees. Employing Edington’s Natural Flow model, we tracked the risk profiles of a cohort of 1,777 Battelle Energy Alliance employees who had completed a baseline HRA and biometric screening with blood testing over a three-year period where we documented each of the 15 risk factors in the Edington Natural Flow model.

The cohort studies showed that in the last three years there was a net movement from high and medium risk levels to lower risk levels. By engaging our employees in the new engagement platform along with our intervention programs, we saw 30% of employees classified as high-risk employees move to a medium-risk category, 15.6% of the high risk to a low-risk category and 46.4% from medium risk to the low-risk category. We saw movement in this model from 4.6%, 1.3% and 13.4% to the higher risk categories.

Overall, there was a net movement of 10% (233 employees) from the moderate risk categories to the low risk and an increase of

KEY RISK FACTORS (YEAR 3)	# of employees at risk (year 1)	Current # at risk	Reduction	% Reduction	p Value
Cholesterol	1,681	1,125	556	-33.4	p<0.01
Gender Adjusted Cholesterol*	1,407	803	604	-42.8	p<0.01
HDL Cholesterol	1,454	799	655	-45.0	p<0.01
Stroke	533	230	303	-56.4	p<0.01
Glucose	445	374	71	-16.0	p<0.01
Inactivity	2,281	1,911	370	-16.2	p<0.01
Nutrition	2,751	2,222	529	-19.2	p<0.01
Obesity (BMI>30)	1,399	1,343	56	-4.0	p<0.89
Systolic BP	533	303	230	-43.2	p<0.01
Diastolic BP	541	366	175	-32.0	p<0.01

\*This parameter removes HDL-cholesterol from the calculation because women were disproportionately represented at risk in the cholesterol category because of elevated HDLs. Health Risk Assessment Biometric Screening Cohort n= 3,978 (69.5% of eligible population)

the lower risk category of 4%, resulting in an increase in the number in the lower risk categories from 1,226 to 1,279. However, there was no reduction in our high-risk group even though 33 employees' risk profiles improved enough to move them to a moderate and low risk category, those gains were offset by 38 employees moving to the highest risk profile. The area of greatest concern was the group that moved from the low to moderate risk categories.

### Biometric Screenings with Blood Tests

One specific measurement of efficacy inquiry was whether or not the biometric screening with blood tests in conjunction with an HRA is an effective intervention tool at mitigating the causes of morbidity and mortality. We concluded that the process does facilitate employees modifying their unhealthy risk factors. This program saves our medical benefits plan \$194,000 a year with our ability to contract the blood work at significantly lower rates.

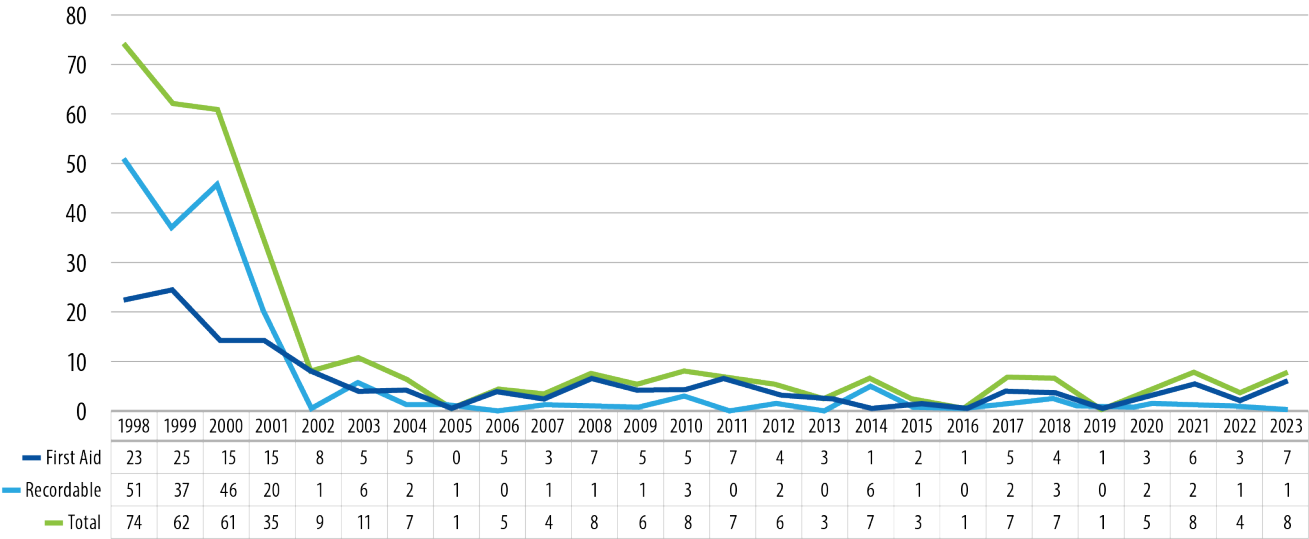
What we did not expect to find in our analysis in addition to the initial cost savings was that there was a dose effect to risk factor changes. There was a statistically significant reduction in unhealthy risk factors in our employees who have repeated this process at least three times. We have had employees that have engaged in the periodic wellness physical procedure yearly for over twenty-five years and others just one year. This is the first time this dose effect has been demonstrated and an article in collaboration with a local university health faculty has been submitted for publication. The following graph shows several of the prominent changes that were seen in the most prominent risk factors.

### CTD Cases

We examined whether cumulative trauma disorders (CTD) injuries and related first aid cases can be reduced by implementing a procedure to track computer keyboard usage



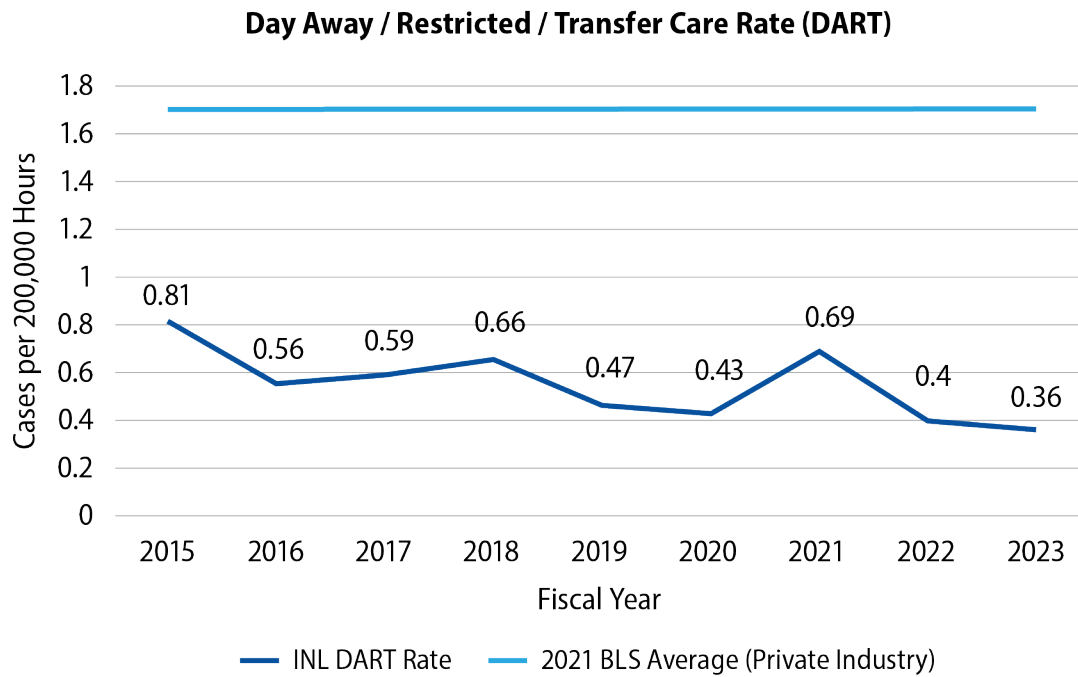
### INL Computer Related CTD Cases



rates and to pace work more appropriately over time. We have documented a statistically significant reduction of over 96% in recordable CTD cases (from 51 to 1) and a 70% decrease in first aid cases with an accompanying 89% reduction in total case rate following implementation of the Workplace software program. That reduced rate has been sustained for over two decades, which translates into a reduction in our CTD workers' compensation claims costs from a high of \$2.9 million a year to less than the current annual cost of \$31,000.

First aid cases have decreased by **70%**





#### Daily Away and Restricted/ Transfer Rate (DART)

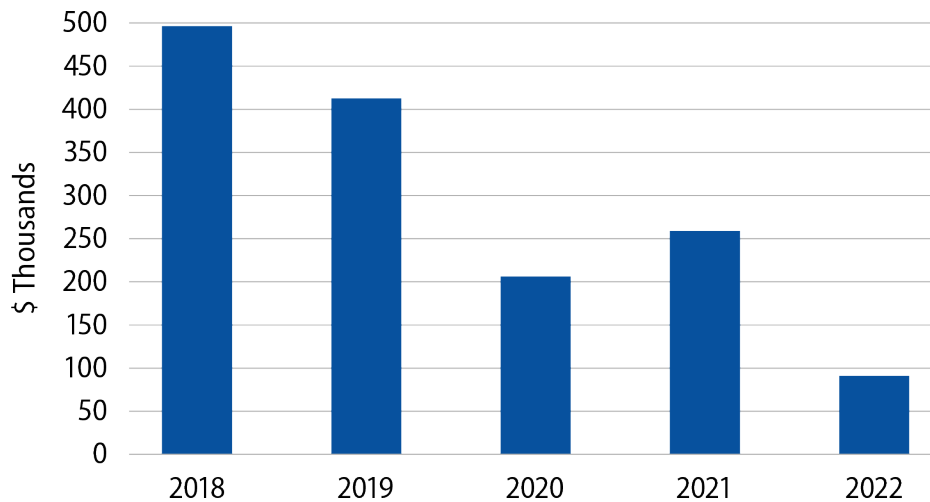
Integrating safety, physical therapy and wellness services has significantly impacted our OSHA daily away/restricted/transfer case rate. This DART rate reflects the number of recordable nonfatal injuries and illnesses resulting in days away from work and/or restricted work activity in each time frame. An injury or illness is classified as work-related if an event or exposure in the work environment caused or contributed to an injury or aggravated a preexisting condition. We reduced our DART rate by 56% from a high of 0.81 in 2015 to 0.36 in 2023, attributed primarily to our targeted musculoskeletal programs. There was a spike in the DART rate in 2021 due to OSHA COVID-19 recordable reporting requirements, but the rate is now at the lowest in our

company’s 18-year history and is more than four times below the Bureau of Labor statistics for our industry level of 1.7 per 200,000 hours.

#### Musculoskeletal Disorders

Our five-year injury prevention strategy of providing in-house physical therapy has proven successful, focusing on data- driven actions reinforcing employee safety and identifying underlying personal and organizational weaknesses. A medical record review of our workers’ compensation injuries over a 10-year period revealed that 70% of the recordable employee injuries were due to preexisting back and shoulder injuries that occurred prior to INL employment. Based on this finding we implemented an eight-week back and shoulder school targeting employees who had similar pre-existing conditions as well as employees

### Total Workers' Compensation Costs

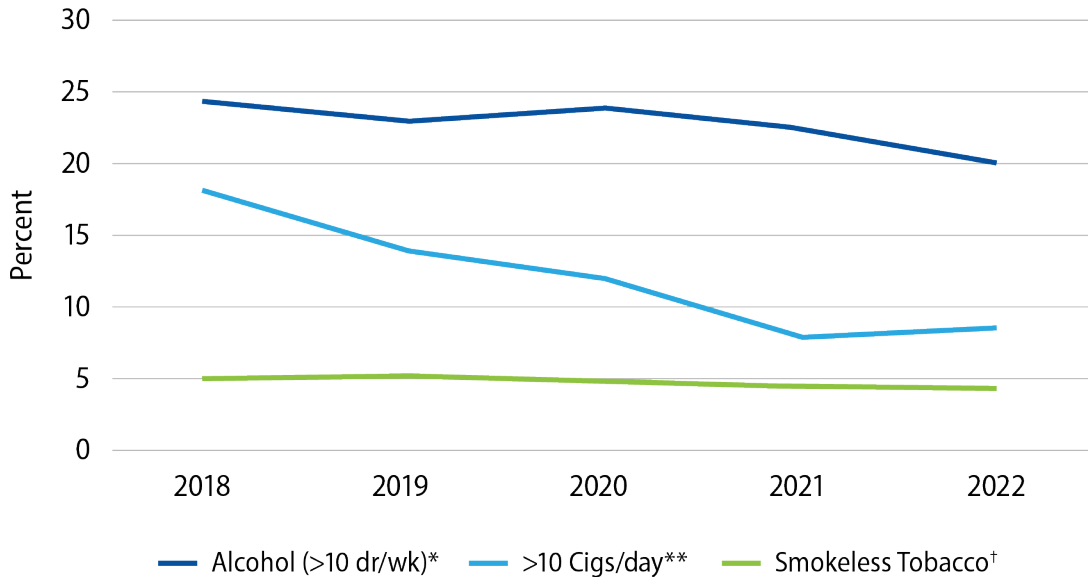


who were in work groups that were at greater risk of developing musculoskeletal injuries. In all, 2,700 employees completed one or both courses. During the initial two years the DART case rate dropped by 31%. We have since hired full-time physical therapists and made them the primary provider for rehabilitation and work hardening for all workers' compensation cases. This has significantly reduced the number of rehabilitation therapy visits from eighteen to nine. In addition we provide virtual 10-minute bi-weekly educational iMove sessions to address ongoing posture and functional movement issues. The return-on investment for reducing health care claims and cost avoidance for the physical therapy program was \$774,000 for 2022.

### Workers' Compensation

Beginning in 2018, administration of the workers' compensation program was moved from the office of general counsel to the occupation medical program. This was done to develop a strategic plan to assess risk within work groups and to embed safety and health more fully in to the workplace culture. We implemented a targeted functional capacity program and eliminated the "whole person" philosophy of returning an employee to work only when they had fully recovered. Our five-year emphasis on targeting musculoskeletal disorders, returning employees to partial duty based on the functional testing and providing rehabilitation care in-house reduced our annual workers' compensation costs as shown.

### Changes in SA Lifestyle Behaviors



\*Includes only those who reported heavy alcohol consumption n=991 (2022)

\*\*Includes only those who reported smoking n=282 (2022)

†Includes only those who reported using smokeless tobacco n=123 (2022)

INL adult smoking rate has dropped

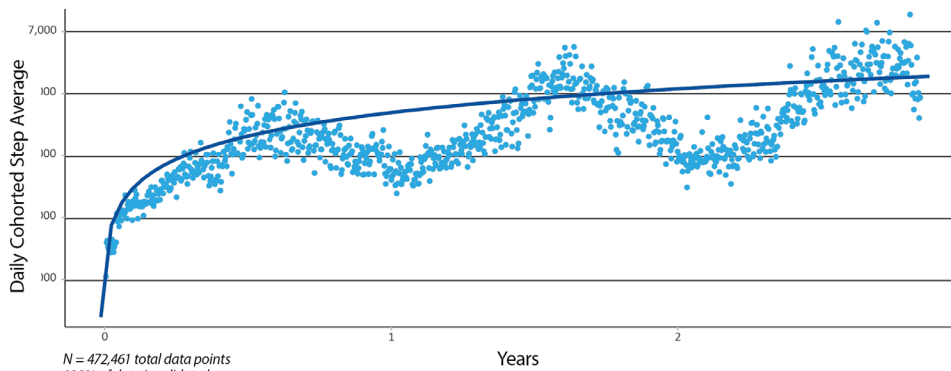
**78%**



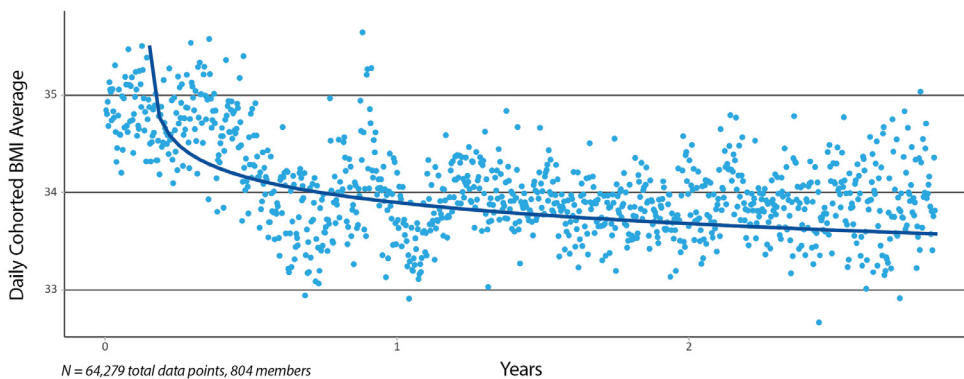
#### Tobacco/Alcohol

When the tobacco cessation program began the adult smoking rate at INL was 20.1%, compared to the Idaho adult rate of 20.4%. Company policies were changed to eliminate the use of tobacco in company buildings and vehicles. The benefits and prescription formulary were altered to eliminate all financial barriers so that physician visits and all over-the-counter/prescription tobacco cessation drugs are covered 100% with no deductible. Vaping has since been added to the company tobacco policy. Group and individual counseling are provided by certified American Heart Association facilitators. A cold winter during the first year of the program helped motivate 206 employees to quit. As one of the longest running intervention programs (now at three decades), the INL adult smoking rate has dropped 78% to its current rate of 4.9%, statistically lower than the current Idaho adult smoking rate of 13.4 %.





***Average Inactive  
(Starting <4,000)  
Step Shift (3 year)***



***Average High-Risk BMI  
(>30) Shift (3 years)***

### Impact on Inactivity

The daily cohorted step graph above illustrates the changes seen over the last three years in our most inactive employees who reported 3,150 daily steps prior to enrolling in the engagement program. The data was validated through pedometers synced to the engagement software. The step count prior to the program was 3,150, which increased to 6,080 at the end of the third year. For 2023, the total annual actual step count for all participating employees was 3,640,279,540, which is an average of 7,148 daily steps or approximately 4.1 miles a day.

### Impact on Body Mass Index

The body mass index graph shows the shift in body mass index of 609 at-risk employees who were classified as having BMI indexes in excess of 30 in 2020 and who were tracked over three years through our the health stations. The decrease averaged a little under 2.0 BMI points, which is an impactful when dealing with an obese population. As with any wellness program, facilitating changes in weight and changing nutritional habits are the the most difficult lifestyle risk factors to influence. The BMI rate is decreasing for employees using the FoodSmart and MyFitnessPal app within the engagement portal and those increasing their physical activity.

	% Diagnosed 2019	% Treated 2019	% Treated 2022	% Change	Significance
Hyperlipidemia	21.3	2.3	6.2	170%	p<0.01
Musculoskeletal Disorders	30.2	8.1	15.1	86%	p<0.01
Hypertension	34.1	5.3	9.4	77%	p<0.01
Sleep	19.3	5.5	9.1	65%	p<0.01
Arthritis	18.5	8.7	9.4	12%	NS
Fatigue	17.0	3.9	6.1	56%	p<0.01
Depression	16.2	1.8	5.4	200%	p<0.01
Anxiety	15.8	5.2	5.9	13%	NS
Diabetes	11.2	3.9	9.4	141%	p<0.01
Thyroid Diseases	6.1	5.9	6.0	<1%	NS

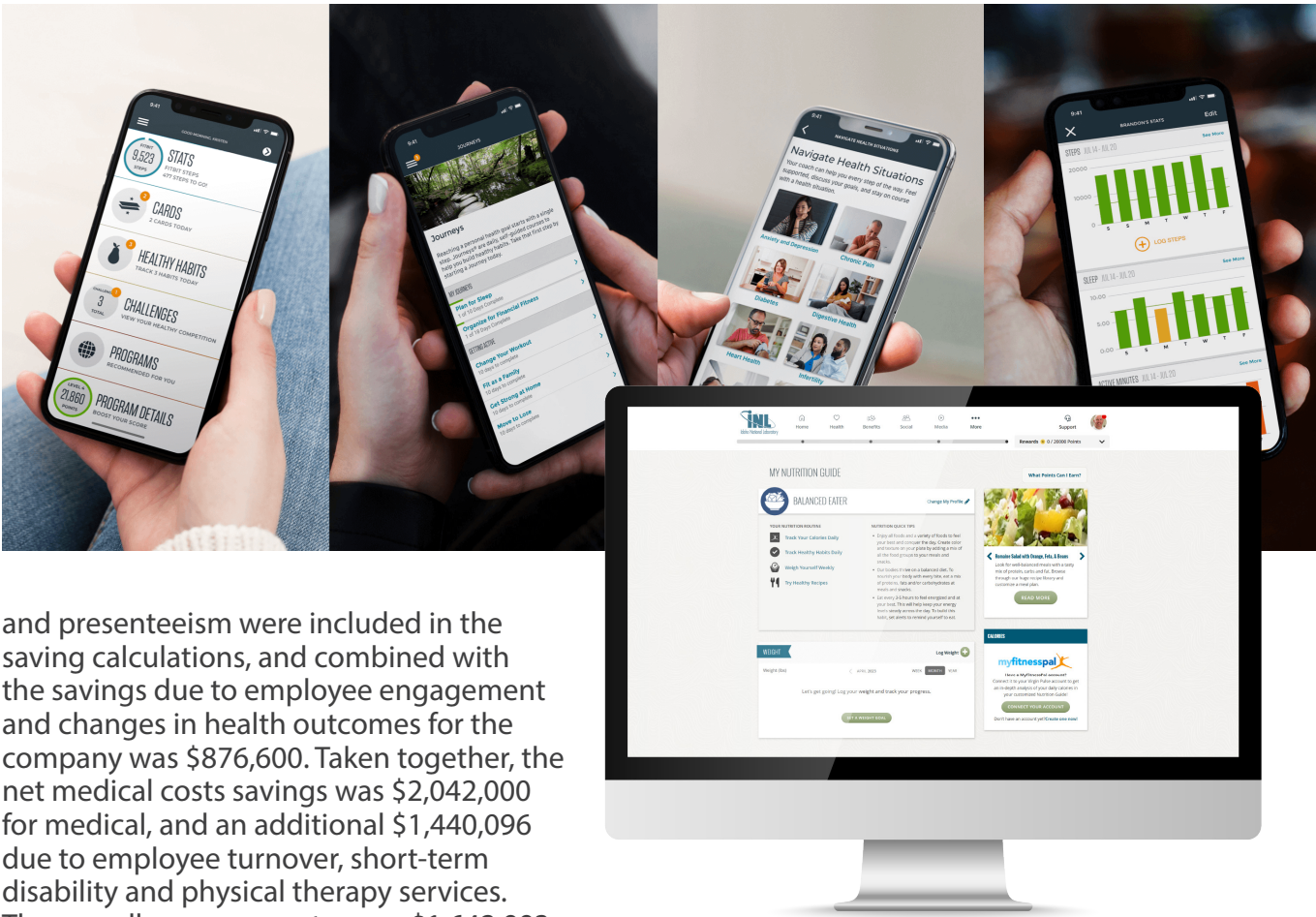
Eligible employees diagnosed were identified through biometric screening or by a medical provider in 2019 (eligible population=5,228); 2022 (eligible population n=5,722)  
Cases treated validated through Blue Cross of Idaho annual data

## Treatment Gaps

Our mission is to measure, identify and manage the principal preventable causes of premature morbidity and mortality. Each year we examine the top 10 prevalent diseases from our health care provider database to quantify changes in prevalence rates of those diagnosed with a specific disease to those receiving treatment. Lifestyle changes can mitigate and reduce the impact of many of these risk factors, but in many cases a combined medical treatment is warranted. Gaps between diagnosis and seeking medical treatment or mitigating the risk through lifestyle interventions is presented in the table above as well as the progress made over the last three years. For example, we identified that 11.2% of our employees were diabetic and have seen an 141% change in members of this group managing their risk with proper treatments and lifestyle changes. We are also closing the gap on musculoskeletal disorder: now half of the cases are now being addressed. To ensure the accuracy of our data we use thyroid disease as a control variable since those who are diagnosed with this disease almost always are being treated.

## Return/Value on Investment

The financial impact study design compares the behavioral change programs participants with a comparison group between the program baseline and follow-up periods over time. Cost savings were documented for employee health care savings including reducing the costs of existing cases, new case avoidance as well as lower employee turnover, in-house physical therapy costs short-term disability combined with administrative costs, the company saved \$4.2 million last year. Longitudinal studies such as tobacco usage and CTDs due to the length of the program were not included in our return-on-investment calculations nor were the programs not quantifiable. Calculating the ROI annually ensures that our program is meeting its goals, allows the team to adjust strategies and offerings, and helps receive buy-in from senior management for future wellness initiatives. The 2022 financial impact study of the INL integrated wellness program included not only the savings but presenteeism, absenteeism, short-term disability savings along with in-house physical therapy and employee turnover savings. Direct and indirect measures of absenteeism



and presenteeism were included in the savings calculations, and combined with the savings due to employee engagement and changes in health outcomes for the company was \$876,600. Taken together, the net medical costs savings was \$2,042,000 for medical, and an additional \$1,440,096 due to employee turnover, short-term disability and physical therapy services. The overall program costs were \$1,642,993, which includes the financial cash incentives, additional operational expenses including the administrative costs for the wellness staff and physical therapists. The net cost savings was \$5,088,750, which converts into a return of investment ratio of \$3.1 to 1.

## Conclusions

The strength of INL's Well-Being Program is its nearly 30-year history of sustained achievement and its ability to exhibit and document cost impacts through rigorous study designs. But no one measure of success represents the program's strong performance. To impact large-scale, population-based changes in health behaviors with such diverse health profiles requires a multipronged, integrated approach that links health, safety, mental health and benefit professionals to reduce health care costs and

INL is harnessing the power of the internet, mobile phones and technology to move its workforce toward

## HEALTHY BEHAVIORS

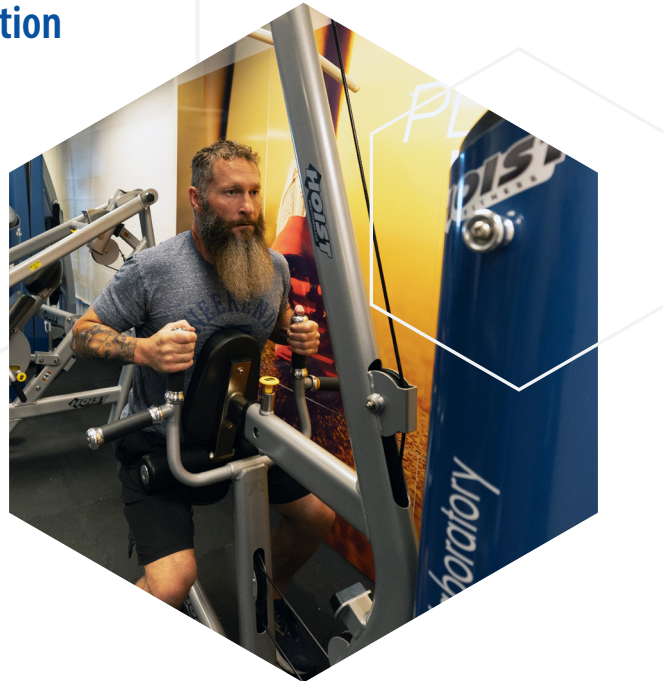
increase productivity. The INL program is a well-designed, effective and comprehensive program reinforcing sound lifestyle behaviors and promoting daily engagement that harnesses the power of the internet, mobile phone technology, social media, and AI technology to reach and move our workforce toward healthier behaviors and work-life balance. These changes translate into a compelling story of success for our company that exceeds best-practice benchmarks and expectations.





# Section III

Supplemental Documentation



## Health Management Scorecard Data

The INL wellness program has strived to promote the best practices in the wellness field by benchmarking with other programs and implementing new components to the program. Based on validation research conducted by Goetzel<sup>2</sup>, companies that are high scorers on the HERO Scorecard typically experience significantly lower health care

costs, showing the scorecard to be a valuable benchmarking tool. INL's score of 175 out of 200 places the program high on the scorecard scale for strategic planning, organizational support, participation strategies, as well in special best practices. INL also scored 270 on the 294-point scale on the CDC Worksite Health Scorecard.

<b>HERO HEALTH AND WELL-BEING BEST PRACTICES SCORECARD</b>	<i>INL Score</i>	<i>National Average</i>	<i>Max # of Points</i>
Section 1: Strategic Planning	47	29	50
Section 2: Organization & Cultural Support	52	27	60
Section 3: Programs	20	11	20
Section 4: Program Integration	13	8	20
Section 5: Participation Strategies	25	14	30
Section 6: Measurement & Evaluation	18	12	20
<b>Total Score</b>	<b>175</b>	<b>101</b>	<b>200</b>
<b>SPECIAL BEST PRACTICE SCORES</b>			
Mental Health and Well-being	90	44	100
Social Determinants of Health	76	38	100
Diversity, Equity and Inclusion	82	37	100

## Honors/Recognition

American College of  
Occupational and  
Environmental Medicine  
(ACOEM) Corporate Health  
Achievement Award

Federal Office of Personnel  
Management (OPM)  
Director's Award for  
Outstanding Employee  
Health Services Programs

Association for Worksite  
Health Promotion Business  
and Industry Award  
(Corporate Based Programs)

State of Idaho  
Innovations in Health  
Award  
(2 time recipient)

Region X  
VPPPA  
Innovation in  
Health Award

<sup>2</sup> Goetzel, R.Z., Henke, R.M., Benevent, R., et al. The predictive validity of the HERO Scorecard in determining future health care cost and risk trends. J Occup Environ Med 2014 Feb;56(2):136-44



## Institutional Review Board (IRB) Statement

According to federal statutes: "Studies using current workers or former workers as subjects become research when the intent of the study is to acquire health or exposure information that is to be used for purposes beyond monitoring the direct health and welfare of that individual worker." A study becomes "research" when the intent of the project is to gather data and contribute to generalizable knowledge, to improve health and business practices, and extend benefits of the project beyond the individual study participants. Since workers are classified as vulnerable population the data presented in this application is not considered operational improvements or observations. Since all the studies and research presented is extracted from databases that contain personally protected information (PII), all statistical calculations were conducted with prior INL IRB approval and in compliance with all state and federal regulations protecting the rights of our employees.

## Research

### MEASURING THE RELEVANCE OF EVALUATION CRITERIA AMONG HEALTH INFORMATION SEEKERS ON THE INTERNET

**Variables:** content, design and aesthetics, disclosure of authors, sponsors or developers; currency of information, authority of source, ease of use, accessibility and availability, links, attribution, and documentation, intended audience, contact addresses or feedback, and user support

**Study Design:** Cohort Experimental (n=578)

**Data Source:** Web-based survey of INL employees

**Abstract:** This study identified the criteria that are valued among Internet users when rating and accessing health information on the World Wide Web. Web survey participants (n=578) successfully completed a web-based survey by ranking the value of 12 criteria for evaluating health information. Then, by applying those same evaluation criteria, participants rated the quality of three preselected health-related websites and indicated their preference for one of the three sites. Using binary logistic regression, six criteria including content, design and aesthetics, currency of information, and contact addresses were found to be significant predictors for selecting high-quality health information on the Internet. However, the participants' perceptions about quality

health information on the Internet are not consistent with their actions in selecting (rating) quality websites. This study identified the implications and utilization of evaluation criteria for Internet users, health professionals, and future website developers.

**Statistics:**  $P > 0.05$

**Publication:** *Measuring the Relevance of Evaluation Criteria among Health Information Seekers on the Internet.* Michael D Barnes 1, Christy Penrod, Brad L Neiger, Ray M Merrill, Rosemary Thackeray, Dennis L Eggett, Evan Thomas *J Health Psychol.* 2003 Jan;8(1):71-82.

### EFFECTIVENESS OF POST-OFFER EMPLOYMENT TESTING OF SECURITY OFFICERS IN REDUCING WORK RELATED INJURIES

**Variables:** OSHA recordable injuries and first aid cases

**Study Design:** Retrospective and Cohort Experimental (n=278)

**Data Source:** OSHA 300 log and medical records, Chi Square

**Abstract:** The purpose of this study is to examine the effectiveness of post-offer employment testing protocols for all security personnel hired at Idaho National Laboratory in reducing work-related injuries. POET testing is the mainstay of safe job placement and risk diminution by providing objective data pertaining to an individual's ability to safely perform job tasks. The premise of POET testing is that a worker's performance during a POET test can predict whether he or she can safely perform the essential job functions. As a corollary, it is presumed that if these predictions are accurate and the worker has sufficient physical capabilities to perform his or her prospective job, the risk of injury while performing the job will be decreased. The prognostic values of POET testing as it relates to future injury rate has received little attention in the published literature. Most studies investigating functional capacity testing has been to predict safe return to work of injured workers and those studies show a low to moderate relationship. The American Disabilities Act requirements has made the pre-employment testing more specific limiting functional testing only after a conditional job offer has been made. INL has made a significant investment in training and equipment to implement a POET testing program in high risk injury job categories. Security managers have anecdotally noted that there appears to be fewer injury problems with the employees in groups that were POET screened. Their observations are subjective and have not been investigated. The few studies that have examined predictive validity of POET testing have noted a 30% increase in injury rates for workers who were hired without POET testing to demonstrate physical capacity commensurate with job requirements. There is a dearth of studies examining the effectiveness of the types of pre-employment programs implemented at INL.

*Significant decrease in recordable and first aid cases in POET group in the first two years on security force versus control group (non-Poet tested)*

**Statistics:** *Pearson Chi Square  $P > 0.023$*

**Publication:** *Publication in preparation for submittal*

**BIOMETRIC HEALTH SCREENINGS, PARTICIPATION  
AND SELECTED HEALTH RISKS AND LIFESTYLE HABITS:  
A DOSE RESPONSE**

**Variables:** *Cholesterol, HDL Cholesterol, Stroke risk, Glucose, Inactivity, Smoking, Nutrition, Weight, BMI, Systolic BP, Diastolic BP*

**Study Design:** *Longitudinal (n=65,791 screenings)*

**Data Source:** *Health Promotion and electronic medical records from 1995 to 2020*

**Abstract:** *The purpose of this study was to examine how effective physician counseling is at facilitating patients to change at-risk health behaviors. The wellness program has completed a study documenting the efficacy of the health risk assessment process given to INL employees not subject to a mandatory full physical exam. The study showed that more times employees were exposed to the health risk assessment intervention greater improvements in their health were observed.. The data from this populaton was extracted from the OMSS database and analyzed to see if a dose effect exists. Every parameter except changes in Body mass index were statistically significant at a threshold of three to four exposures. There was no statistical difference beyond that threshold.*

**Statistics:** *ANOVA  $p < 0.01$  ( $F = 10.88$ )*

**Publication:** *Evan Thomas PhD., M.P.H., and Stewart Curtis, D.O., MPH. are with the INL Occupational Medical Health Promotion Program, Idaho Falls, ID. Ray Merrill, PhD., M./P.H. and Michael Barnes, PhD. are at the Department of Health Sciences, Brigham Young University, Provo, UT. Submitted for Review*

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