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WORKER HEALTH AND well-being is a global issue that should be managed by all organizations. It is directly relevant to all drilling companies and has the potential to significantly impact operational and financial performance.

Data from the World Health Organization (WHO) clearly demonstrate that the global population is becoming progressively less healthy. Incidences of chronic disease are increasing, directly linked to obesity as a result of poor diet and lack of exercise. As a consequence, medical insurance and health care costs are increasing and worker productivity is decreasing, with potentially significant business impacts.

Early in 2006, the rig manager of the Grand Banks, operating offshore Newfoundland, Canada, sought to introduce a health and wellness programme onboard the rig. The aim was two-fold: to provide the opportunity for workers to adopt a healthier lifestyle while at work and to improve morale onboard the rig.

Following an overview of why worker health has become a global issue, this article describes what was done on the Grand Banks, the results that were achieved and its value to the company.

A GLOBAL ISSUE
There is demonstrable evidence to show that as someone becomes overweight and then obese (defined as having abnormal or excessive fat accumulation), health is impaired.

Historically, Body Mass Index (BMI), a comparison of weight-for-height, has been used to classify whether an individual is overweight or obese.

WHO defines overweight as a BMI of 25 or higher and obesity as a BMI of 30 or higher. These cut-off points provide a benchmark for individual assessment, but there is evidence that the risk of chronic disease in populations increases progressively from a BMI of 21.

Based on BMI, the WHO’s latest projections indicate that globally in 2005:

• approximately 1.6 billion adults (ages 15 or older) were overweight; and
• at least 400 million adults were obese.

Alarmingly, however, the WHO projects that by 2015, approximately 2.3 billion adults will be overweight and more than 700 million will be obese.

The problem affects children as well. The WHO predicts that, globally, at least 20 million children under age 5 were overweight in 2005.

While many industrialized countries have experienced similar increases, United States obesity rates lead the world, with 64% of adults being overweight and almost a quarter being obese.

In the WHO European region, the prevalence of obesity has tripled in many countries since the 1980s. The numbers of those affected continue to rise at an alarming rate, particularly among children. For example, the UK government projects that 35% of UK men and 28% of UK women will be obese within three years.

However, overweight and obesity is not a problem associated with high-income countries only. Dramatic increases are being observed in low- and middle-income countries, particularly within urban settings.

Overweight and obesity lead to serious health consequences. Risk increases progressively with increased body fat, resulting in chronic diseases such as:

• Cardiovascular disease (mainly heart disease and stroke);
• Diabetes (WHO data projects that deaths as a result of diabetes will increase by more than 50% worldwide in the next 10 years);
• Musculoskeletal disorders (e.g. osteoarthritis);
• Some cancers (endometrial, breast, and colon).
Childhood obesity is associated with a higher chance of premature death and disability in adulthood.

Recently, Waist:Hip Ratio (WHR) has been introduced as an alternate indicator for obesity. WHR is a better indicator as it removes some errors associated with BMI. For example, a short individual with high body muscle would have a high BMI but would not necessarily have high body fat.

Research published in the Lancet in 2005 suggested that WHR is a more accurate indicator of obesity and, as such, could result in a threefold increase in the proportion of people categorised as at a high risk of heart attack compared with BMI as an indicator.

**POWER LIVING ON THE GRAND BANKS**

In early 2006, Mike Craig, Grand Banks rig manager, engaged the services of Definitions, a specialized wellness provider based in St. John’s, Newfoundland. Definitions had previously developed its “7 Habits of Power Living Program” during work with other corporate clients. The support to the Grand Banks was the first time the programme had been used offshore.

**7 HABITS OF POWER LIVING**

Habit 1: Have a plan.
Habit 2: Eat right.
Habit 3: Structured resistance training.
Habit 4: Structured cardio training.
Habit 5: Supplement.
Habit 6: Hydrate.
Habit 7: Achieve your goals and set them higher.

The Power Living Program educates workers on many misconceptions of fitness, nutrition and lifestyle. Personnel are taught how, when and why to eat to maximize energy levels and are encouraged to be active through daily resistance and cardiovascular exercise and training.

Definitions team members visited the rig for the first time in mid-2006. At that point, all rig personnel were invited to join the program and undertake an initial evaluation. Each individual received a “6 weeks to Power Living” pack, which included guidance on the program, a recipe book and a DVD demonstrating all exercises referred to in the program.

Following the initial evaluation, personnel received one-on-one support to create a tailored program for each person. For example, early on it was recognized that some personnel on the rig had energy expenditure levels comparable with competitive athletes. Therefore, the focus for them was to ensure that the individuals understood how to fuel themselves so they could carry out their work duties properly and safely. For other individuals, the focus was on diet and exercise.

One priority of the programme was ensuring that personnel had access to healthy food that would provide a balance of carbohydrates, essential fats and proteins. The galley was assessed, then Definitions provided education and certification to the catering crew. Healthy options were made available at all times, either in the galley or as snacks elsewhere on the rig. A recipe book was also provided to personnel so they could continue eating well while on field break and share the programme with family.
Exercise within the program is focused on 20- to 30-minute sessions alternating daily between resistance and cardiovascular training. The emphasis is on training smart, not hard. A tailored training schedule was made available, and personnel were able to receive on-one instruction and coaching while Definitions team members were onboard. The gym onboard the Grand Banks was deep-cleaned, new equipment were added and the programme’s workout regimes were introduced. In addition, the Medc received training and certification so they could provide guidance to personnel at all times.

RESULTS

Three hundred individual evaluations were completed, representing 100% participation from the crew, plus client and service company personnel. While it is recognised that individuals participated to varying degrees, everyone was engaged to some extent.

Men with a WHR below 0.9 (0.8 for women) have an 80% less chance of developing preventable lifestyle illnesses, such as cardiovascular disease, diabetes, arthritis, obesity, hypertension, high cholesterol and psychological disorders.

At the start of the initiative, the average WHR on the Grand Banks was 0.94. Approximately 50% of those onboard were in the high risk category. Within one year, the average WHR on the rig dropped to 0.89, and approximately 24% of the high-risk individuals moved into the low-risk category. In addition, the average participant (a 200-lb male) lost 6 lbs, equivalent to 3% body fat, and dropped 3 inches in waist measurement.

There was also a dramatic change in food choices available on the rig. Healthy food options were readily available — and were chosen by participants more than 80% of the time. Although Definitions and the catering crew initially instigated this change, over time the primary drive switched to the crew as they started to dictate the menu being provided by their predominate choice of healthy options.

Following the overhaul of the gym, there was a 58% and 40% respective increase in resistance and cardiovascular training onboard the rig. Linked to this, and as measured using the Likert Scale, there was a 30% and 25% respective increase in mid-tour and waking energy.

Prior to the launch of the program, the Grand Banks had 10 long-term medical cases, nine from 2005. Since the introduction of the program, there have been only two new cases – both of which have subsequently returned to work. Two of the previous long-term cases have returned to work as well. In the future, the Definitions’ Power Rehabilitation Program is expected to reduce the number of long-term medical cases by actively supporting the recuperation of personnel with difficult and longer-term medical conditions.

Associated with this is the positive recognition received from the Grand Banks’ medical insurance provider. In the two years preceding the introduction of the program to the rig, medical claims had increased by 250%. However, since the inception of the program, claims have decreased by an effective 24% (providers automatically anticipate a 15% increase). The medical provider even said they “expected medical premium costs to reduce” as a result of the Power Living Program and noted that it was “extremely rare” for claims’ costs to be reduced.

Although not directly attributable to the program, it is noted that safety performance on the rig has improved significantly since its start. It is recognised that other efforts and factors may have contributed to this, but the personnel’s improved health, fitness and morale is considered a contributing factor. Recent research in the US has shown that individuals with a BMI between 26 and 29 have a 15% increased risk of injury and, at a BMI greater than 40, the risk of injury increases by 45%. In 2005, there were five IADC recordable incidents onboard the rig. In 2006, there was one (before the program started). There have been no recordable incidents since the program began.

BUSINESS VALUE

The business value of the program can be demonstrated both directly and indirectly. In 2005, a new study documenting the costs associated with specific levels of obesity in the workplace found that the average annual per capita increase in medical expenditures and absenteeism associated with obesity ranges between $450 and $2,500 per obese employee, with costs increasing as BMI increases. However, of greater significance are the associated indirect costs. These were estimated as being two to 20 times greater than the direct costs.

In isolation, such costs are insignificant. However, assuming that, within 10 years, 12% of the global population could be obese and that obesity in high-income countries is already approaching or exceeding 20-25%, this will have a considerable impact on financial performance of organisations that do not address this issue.

In summary, the introduction of the Definitions Power Living Programme has had a dramatic and visible impact on the health, fitness and morale of personnel on the Grand Banks, with associated benefits to the company. There has been a notable improvement in morale on the rig. In addition, long-term sickness cases have reduced drastically with an associated reduction in medical costs.

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Article references available online at www.drillingcontractor.org.

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Studies on military personnel, such as Vietnam veterans, navy personnel, veteran officers from unarmed UN military and submarine crew, have shown that traumatic events are associated with physiological health problems and the development of post-traumatic stress disorder (PTSD), as well as depression and anxiety disorders, hyper arousal, disturbances in attention, and increase in risk behaviors (higher alcohol consumption levels) (Hourani). The primary goal of this study was to determine to what extent military mental health patients report suffering from significant occupational stress.