Understatement: The Canadian heavy construction industry has many health and safety challenges. The work environment—which changes from day to day and worksite to worksite—requires ongoing anticipation, evaluation and control of shifting hazards. Further jeopardizing the health of construction workers are the three greatest hazards—lack of exercise, poor diet and smoking—that affect workers in all industries.¹

Boilermakers are specialized building trades workers who build, erect, repair, test and maintain boilers, tanks, pressure vessels and tightly sealed containers for liquids, gases and powders. Most boilermakers in the construction industry are involved in building industrial plants such as mills, power generation plants and oil and gas facilities. Members who work in construction often work for several employers in a single year and over their careers.

Another challenge is the extremely mobile nature of this aging workforce. Like traveling nomads, these highly skilled tradespeople often are not in any one place very long and can spend extended periods of time away from family and home.

Often, construction workers do not fall under existing health programs and policies, creating a regulatory and program gap. Each of Canada’s 14 health and safety jurisdictions manages occupational health differently. They can have varying occupational exposure limits, different requirements for medical surveillance and so on. The construction sector can be particularly susceptible to these regulatory gaps because health surveillance requirements might not be triggered until after the construction project is completed.

Essentially, the temporary nature of the work arrangement—with long workdays/weeks, ergonomically unfriendly environments, lack of technical health expertise and critical nature and urgency of the work—means historically there has not been a focus on the long-term health of construction workers. While considerable industry focus and effort on safety have paid great dividends, health protection (on the job) addressing factors such as lung health and hearing loss lags behind, and health promotion off the job has been nonexistent.

We only have to look at occupational diseases and how they have become a major driver in “official” Canadian annual occupational fatality statistics as evidence. From 2010 to 2013, 61% of the 3,812 occupational fatalities recorded in Canada resulted from occupational disease.² Since 2005, almost 5,000 approved death claims resulted from asbestos exposure alone.³ This is not a uniquely boilermaker or Canadian experience; occupational diseases affect construction workers around the world.

Look further, and we can see that uncontrolled occupational health hazards, such as ergonomic-driven musculoskeletal injuries, are a common type of boilermaker workplace injury and a major driver of short- and long-term disabilities. Outside the workplace, internal health surveys and member assistance program statistics reinforce the health challenges boilermakers face.

To meet these significant health challenges, the International Brotherhood of Boilermakers union, along with several industry partners, began developing a strategic, long-term plan in 2012-13. The resulting program—called Boilermaker Total Health (BtH)—rolled out in mid-2014 and is the first of its kind within the Canadian heavy construction industry. Components developed to date include:

- **HealthBenchmark**: Sets standards for func-
tional abilities and mobility assessments, medical clearance and audiometric and lung function testing for preapprentices entering the boilermaker trade. The benefits of this program include:
— Ensuring new members can complete core tasks without risk to themselves or others
— Ensuring new members are placed into appropriate jobs
— Benchmarking new members’ health as they enter the trade, measuring change over time and creating opportunities for early intervention in the future.

• **HealthArc:** A comprehensive health and wellness program to improve the long-term health, well-being and quality of life of members, both on and off the job. Objectives include:
  — Raise awareness of health prevention strategies to avoid illness or disease
  — Encourage and empower boilermakers to undertake changes to improve their health
  — Provide boilermakers with the resources they need to make healthy choices
  — Construct environments to make it easier for boilermakers to live healthy lifestyles
  — Reduce employee absenteeism, injury and health care costs.

Some activities have focused on population-level interventions while others have focused on the individual level:

• **Health check clinics:** A traveling health care team provides health assessments measuring factors including blood pressure, cholesterol and body mass index. The team provides participating boilermakers with a printout and customized feedback to help them understand their test results, identify specific risk factors for disease and recommend various steps to improve their health. This is an effective prevention and early detection tool and will help raise awareness of health problems within the boilermaker community.

• **Internal website dedicated to education and training:** A central hub for promotional campaigns, the website is designed to be an adaptive resource that grows over time and will be the hub for health information for boilermakers. The website includes interactive pieces like a health quiz, health challenges and a social component that will seek to engage members on healthy living.

•进一步 engagement opportunities such as lunch and learns, safety moments and toolbox talks—on the job, at local office meetings and at social gatherings—are also used to extend the marketing reach of the program.

• **Online fitness software:** Boilermakers are using the same suite of interactive health tools and fitness software that a handful of professional hockey, basketball and baseball teams use to promote individual customized exercise and nutrition. Members input information about their exercise goals, equipment available (if any), frequency, etc., and the program customizes an exercise routine for the individual with videos, workout charts and schedules. The nutrition program is similar. Members enter their dietary restrictions, eating preferences and diet goals, and the

---

**Learn More**

Jason McInnis will join Chris Camp, Chair of the Halifax Professional Firefighters Benefits Trust, in presenting a webcast, “Implementing Your Wellness Program.”

Wednesday, September 17, 3:00 p.m. to 4:30 p.m. ET.
$195 for International Foundation Members, $255 for nonmembers.
Visit www.ifebp.org/webcasts for details.
what’s working

BOILERMAKERS: BUILD A STRONG & HEALTHY FUTURE.

program develops a meal plan with recipes and a grocery shopping list.

- **Health champion program**: As we continue to roll out the program, the campaign will include the voices of individual boilermakers. We will choose motivated boilermakers from across the country to be health champions. They will be provided with fitness and nutrition coaching and encouraged to blog about their experiences on the HealthArc website. Goals include empowering other members to make changes in their lives by witnessing the successful transition of their peers to a healthier, happier lifestyle and building a strong sense of camaraderie, healthy competition and support for others making healthy behaviour changes.

Program monitoring and evaluation have been built into the project work plan, with the first followup survey from the group’s health benchmark scheduled for fall 2015. Most member feedback to date has been positive.

BtH has the potential to change the way we deal with health in our industry across Canada. Our hope is that, over time, the program will become a model for an industrywide approach to health protection and health promotion.

The BtH approach was recognized as an affiliate program under the National Institute for Occupational Safety and Health Total Worker Health initiative—the first time the affiliate status was awarded to a union program or for a program outside the United States. We are continuing to research and develop BtH programs and initiatives to protect and promote health on the job—in minimizing workplace health risks—and off the job—by supporting healthy eating, promoting healthy body weights, encouraging physical activity, supporting smoking cessation, and mental health and reducing or eliminating substance misuse.

The goal is simple: improving boilermaker health so each and every member can have a long and rewarding career, enjoy life away from the job and achieve a healthy retirement.

Endnotes

Jason McInnis is the Canadian director of health and safety for the International Brotherhood of Boilermakers in Edmonton. He has a master’s degree in health science specializing in occupational health and industrial hygiene from the University of Toronto. He is a registered occupational hygienist and a Canadian registered safety professional.