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WSHI: First, congratulations Phil on becoming the sixth president of IAWHP! How did you get involved in worksite health promotion and what motivates you to make this your long-term career?

Thanks George. I could not be more excited to have the privilege of leading IAWHP moving forward. This is a real milestone in my career. The predecessor to IAWHP (AWHP) held an economic impact conference in Buffalo, NY in 1993. I was fortunate enough to be the administrative support for the consensus meetings to complete the conference statement. I was hooked at that point. I later parlayed that experience for 12 years at HealthNow NY eventually as the VP of Health Systems Management. The term has evolved to Population Health and we still attacking the same issues today as we were 40 and 50 years ago.

WSHI: Part of your resume includes being a consultant for a large healthcare organization. What was your primary responsibilities and what prior experience and skill sets do you feel are required to work within this space?

I worked at Optum prior to my current roles. That was another rush. I remember interviewing with Ron Ozminkowski and Shirley Musich. I was the practice leader for Worksite Health Promotion. I co-presented the findings from Shirley’s team and developed recommendations to the Human Resource and Health Promotion leaders for improved impact and overall medical expense savings.

Consulting is a fast paced and challenging field. It’s very hard to make a living as a consultant. Even for a large corporation, the demands are extreme. The consulting recipe for success includes a strong expertise in the subject matter. My clients had the same experience and education as I did. I needed to bring new perspectives and best practices to the table. Even with deep experience and up to date knowledge of the field, communication skills are the biggest trap door for a consultant. The white paper and 15 slide presentation are the tools of the trade. The final skill set is revenue development. You can call it sales, business development, or persuasive counseling. At the end of the day, you need to constantly generate revenue to stay viable. We used a ratio of 2:1 as break even and 3:1 as sustained profitability. So, a consultant salary of $100,000 should generate a minimum of $300,000 per year.

Consulting was very rewarding for me and I was grateful for what I learned from clients and satisfying to see your recommendations blossom into success for your client.

WSHI: One of your current responsibilities with the Medical University of South Carolina is providing clinical services through your provider network. It seems that there’s generally a huge disconnect within a community setting between employer sponsored worksite health programs, health plans, hospitals, and other not-for-profit organizations. What are some practical ways to bridge these gaps?

I think your question is the major headwind we all face to implement a total population health strategy. The main issue in my opinion is our financing system and the relative leverage (market share) of each stakeholder. As worksite practitioners, we have to navigate these waters. The most collaborative communities are those that are relatively isolated. I worked with a client who operated a large manufacturing plant in a rural town in the Midwest U.S. There was one hospital, 25% of the adults worked at the company plant. Even then, it took tough conversations to get key stakeholders on the same page. Collaboration does not happen naturally and it requires a lot of networking and energy.

As a profession we don’t naturally try to collaborate within the community through an integrated, collaborative framework—we usually focus within our respective workplaces and use community resources ad hoc. This is a missed opportunity when one considers that half of a person’s waking hours are at home and within the community—health promotion doesn’t stop when a person leaves the office or
punches out the time clock. Most of our IAWHP members are at the mid-level of management in their organization. The C-suite, senior leadership team is the only level that can leverage the organization’s political and financial capital within the community. That is not to say that health practitioners have no influence, but the reality check is who writes the checks?

A great first step is to go on a listening tour. Ask a few simple, yet challenging questions. What do they think is the top health need in the community? What is the top health need of their customers, employees or stakeholders? Who are the disenfranchised from a health equity perspective? Who are the biggest influencers within the community from health management and fund-raising perspectives? Who do they think could be helpful to work closer together? What can they offer to the community? Compile the data you have collected and send your observations and analysis back to everyone who participated.

WSHI: The efficacy of worksite health promotion continues to be questioned from a return-on-investment” (ROI) perspective from a few “influencers” who have continued to challenge the validity of various studies, etc. What’s your take on the ROI argument and what advice would you give to practitioners when they try to make the business case?

We made a terrible mistake 40 and 50 years ago, and still make the same mistake today. We promised industry that if they gave us the budget we would bring back a positive ROI. We trapped ourselves and deal with that mistake to this day. Your question is the evidence that individuals think our field is still unproven. We know it works, we know it improves health and it saves money.

Over 30 years of program evaluation the key metric has been participation with sustained engagement as a by-product of it. The second most important factor is the “I”, the investment. If you pay a vendor a lot of money you will never reach a positive ROI. Dr. Shirley Musich taught me all this. This data is published, and it all relates to math, not to any other science.

So, the answer to your question is making your business case in this order:

- Our employees are our best asset. Nobody will argue even if they don’t agree.
- Health is associated with productivity and a positive culture in our workforce. Some may resist, few will argue.
- We have identified the top 3 health issues for our employees that support our corporate goals. List 10 and pick the 3 that meet this criterion. Then recommend that your single most important goal is participation. You will reach a threshold of 50% within 3 years, if the leaders support front line managers/supervisors in pushing this organizational goal.
- Report back participation as your key dashboard metric to leadership and the entire organization. You need quality programs and results to maintain participation year over year, so quality is built into this single metric.
- Close your presentation with a bit of the science. If we get more than 50% participation, we are likely to impact costs. Then, play the commonsense virtue. This is the right thing to do. Who can argue that less obesity, less stress, less tobacco use, higher energy levels, more productivity, less disability is a good thing?
- Make sure your corporate goals are in this closing remark. Then, stand tall and wait for approval. That’s my two cents.

WSHI: As we speak, we are currently experiencing a world-wide pandemic due to Corvid19. Realistically, this will not be our last and will challenge the sustainability of businesses and the employability of its employees for years to come. How can worksite health practitioners stay relevant when there are so many other priorities that organizations and workers face?

Sadly, I believe this crisis is not going away soon and has left an indelible impact on the present and future nature of work around the world. The concept of the “office” has been changed for good and as worksite health practitioners we need to adapt our approaches to engaging employees both at home and within traditional “bricks and mortar” settings.

When a crisis arises, move fast. Most of us are not asked to help out, because we are not the medical director or head of HR. However, we shouldn’t sit on the sidelines. As unfortunate and sad this crisis is, I view this also as an opportunity for our profession to increase our relative value by developing and testing new approaches to help employees stay healthy, safe, and resilient.

For example, how do we assist and support employees and their loved ones from a “home care” perspective? How can we use technology such as Zoom to deliver programming especially in the areas of mental, emotional, and financial health? How do we redefine a “culture of health” when in many cases a majority of workers will now be working remotely?

WSHI: You’re a former Major of the United States Marine Corps. Based on your experience are there any leadership skills that you learned and applied that are applicable to the role of a worksite health practitioner?
Here are the traits that I think all health promotion practitioners can hone up on:

- Be technically and tactically proficient. We have to be fluent in the science and know the latest research. Understand the challenges to participation and engagement and their related barriers to successful lifestyle change. Then, be proficient in applying these insights and problem-solving within your planning and execution.

- Develop a sense of responsibility among your subordinates. You have committees, volunteers, vendors, and related support staff. Give them all a mission, a goal and set each of them up for success. Let them manage their own world. Develop a steering committee and a network of champions to drive your promotional activity and develop firsthand intelligence about what works, what doesn’t, and what do we need to do to become more successful?

- Know yourself and seek self-improvement. Understand what you are good at and what you need to improve. Many practitioners need to improve their administrative skills, budgeting acumen, and project planning. Those are not problems, we just need to know when to get help and what core competencies need to be improved based on one’s job responsibilities.

WSHI: As president, how do you envision expanding IAWHP’s international footprint?

Think big, start small, move fast. We want to have multiple country chapters on six continents across the globe. That’s the big part. We have a great partner organization in Brazil, Brazilian Quality of Life Association (ABQV). We teamed up with the Global Centre for Healthy Workplaces (GCHW) in Australia for their awards event last year, Washington DC this year and a different continent next year. We are partnering with other global organizations to help expand our reach. We have grown from these two to four partners this year and should add several more in the coming months. We also want more practitioners from non-U.S. organizations. Networking is a strong suit of IAWHP and a valued benefit of membership. As our world shrinks, we want IAWHP to become the glue that binds all health promotion, productivity, and health or safety practitioners across the globe. We know this is a unique mission and we intend to move fast. We need to recruit more practitioners, university leaders, students, health promotion related suppliers with multi-national footprints to join IAWHP and help expand our network. Our strength and benefits are the scope and depth of our peers across the world. And with this growth, we hope to engage more organizations on the value of employee health as a serious business strategy.

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So much has occurred to change our world, as we know it, in the past few months. Two very key lessons we have learned from this experience is that human connection is highly valued, and at the same time that we are flawed as humans in our inability to move beyond our biases against differences in culture, race and ethnicity, social status, physical makeup and other characteristics we use to set ourselves apart from others.

And none of us are immune to bias. It is built into all we do, say, think and believe. Being biased is often associated with being a bad person. And none of us want to be identified as a bad person. In fact, we would be highly offended if someone stated or implied that we were biased in any way. But we are. And how we act out our biases can cause us to make decisions that go against our desire to be inclusive and effective as workplace wellness practitioners.

The success of workplace wellness programs is fueled by how well they are designed, promoted and implemented to include both those who are inclined to healthier behaviors and those who find transitioning to healthier behaviors more challenging for various reasons, including chronic illnesses, disabilities, or the need for unhealthy lifestyle changes. Workplace wellness practitioners must take those challenges into consideration so that programs are intentionally inclusive of diverse needs without bias or discrimination.

How Bias Shows Up in Our Beliefs and Actions

The key to understanding the presence and power of bias is to first recognize that it exists – in all of us! To be biased is to have an inclination, temperament, or outlook against a way of thinking or behaving that often leads to an unreasoned judgement or prejudiced outlook about particular characteristics of a person, group or situation. Our biases form our preferences for how we view our world, including how we feel others should behave or look, what we define as success, what we believe to be “good” or “bad”, and who or what we believe to be true or false. And how we prefer the world to be, influences the decisions we make and the actions we take in our personal and professional lives.

A lot has been written about whether bias is deliberate (explicit) or unintentional (implicit) in its nature. It can be both. When we knowingly take an action that we intend to cause harm, it is clear that our bias is intentional. But our unintentional biases can be just as harmful. Howard Ross, in his book Everyday Bias, explains how we can be profoundly biased without ever being aware of it. It’s just the way we are and how we have been influenced in our thinking and actions over time by factors including our upbringing, our direct experiences with others cultures, our perspectives of historical events, and of course, politics and social media. Through these influences we make assumptions and judgements and buy into stereotypes that fit within our beliefs. And our biases often remain hidden from us and others until they are identified or called out in a personal or professional interaction or decision that is con-
considered prejudicial or discriminatory of another person or group. When this happens we become defensive and surprised that someone would think of us as a biased person. In their book Blind Spot: Hidden Biases of Good People, Mahzarin Banaji and Anthony Greenwald point out that biases become hidden because we are unaware of their influence, they are based on bits of knowledge, and are acted out with little conscious thought. But most of all…many good people have hidden bias blind spots. In their book they define good people as “those, ourselves included, who intend well and who strive to align their behavior with their intentions”. It is through aligning our non-biased intentions with our actions as workplace wellness practitioners we make way for the inclusion and engagement of employees with diverse backgrounds and needs.

How a Biased Mindset Impacts Workplace Wellness Programs

Bias takes on many forms and shows up in various ways program strategy design and management. The chart below gives examples of the types of bias that can create a mindset that has potential consequences for the decisions made in the operations of wellness programs. Note: This is not an exhaustive list but rather a sample of ways in which bias shows up.

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<tr>
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<tbody>
<tr>
<td><strong>Type</strong></td>
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<td>Attribution Bias</td>
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<td><strong>Conformity Bias (Group Think)</strong></td>
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<td><strong>Beauty Bias</strong></td>
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<td><strong>Confirmation Bias</strong></td>
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<td>Gender Bias</td>
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<td>Halo/Horns Effect Bias</td>
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<td>Expectation Bias</td>
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**Changing the Biased Mindset**

The more aware we become of the source and impact of our biases the more opportunities we discover to address them. We may not always reach the goal of totally eliminating our biased thinking and behavior, but by making a conscious effort to check our thinking when we are challenged with looking beyond our assumptions, stereotypes and judgements, taking time to learn more about ourselves and others, and continually reflect on the intention of our actions we can move away from a bias mindset.

Here are some actions that will help:

- Self-check the source and depth of your bias using assessment tools such as Harvard University’s Implicit Association Tests (IATs) https://implicit.harvard.edu/implicit/. Another great resource for those who create health and wellness messages and communication products is the Anti-Defamation League’s Guidelines for Achieving Bias-Free Communication https://www.adl.org/education/resources/tools-and-strategies/guidelines-for-achieving-bias-free-communication, Both tools examine how our thinking is structured towards bias.
Build your cultural knowledge by adopting culturally competent practices that focus your thinking on learning versus generalizing about differences, plan strategies that respect and value differences from the start, and taking time to check assumptions and accuracy of knowledge about cultural differences. It is essential to commit to on-going learning and research to design a wellness program that is truly inclusive of employees from various cultures and health and wellness perspectives and needs. Your knowledge of diverse needs and abilities for health behavior change is best achieved when employees are regarded as partners in determining the best approaches.

Continually reflect on the presence of biased thinking and actions and the impact on your role in designing and implementing your workplace wellness program. Your self-reflection should include taking the time to:

- Acknowledge your personal biases, including those of which you are aware and unaware.
- Assess the source of your biases and the judgements and assessments you make about others.
- Adapt your thinking towards acceptance and respect of differences.
- Consider how biased thinking can limit the effectiveness of your wellness program.
- Become more knowledgeable of tools and techniques to engage employees in program design and planning.
- Commit to building your knowledge about employee needs, concerns, and different viewpoints regarding health and wellness.

Changing how you think of difference can go a long way to move you from a fixed bias mindset toward a mindset focused on creating an inclusive workplace wellness experience.

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Understanding Health Literacy

George J Pfeiffer, MSE, FAWHP

The Robert Wood Johnson Foundation defines health literacy as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.”

As worksite health promotion practitioners this is especially important when considering that the lack of understanding among your employees (and family members) of basic health concepts and available resources, undermines your ability to educate, motivate, and engage your respective targeted audiences. This can be especially challenging among diverse employee populations where English is not the first language and unique cultural factors influence how employees interact with the healthcare system, view and adopt recommended self-care practices, and access/use wellness services.

Research has shown that only 12 percent of Americans are health literate (proficient) and up to one-third have basic to low health literacy rates. Groups that are more prone to having low health literacy include those having low socio-economic status, low education, the elderly, and where English is not the first language. (Note: Employees who have English as their second language, may not necessarily have low health literacy, as he or she may be proficient within their own first language.)

The implications of low health literacy include:
- Low adherence to prescribed medications and/or treatment recommendations
- Mistakes regarding medication dosage and/or schedules
- Lack of awareness of available healthcare and wellness resources within their respective workplace and community
- Difficulty understanding, selecting, and accessing employee health benefit offerings
- Inability of employees to understand and apply health promotion/safety materials/programs provided by their employer, particularly those that are felt to be outside of cultural norms and practices.
- Reluctance of employees to engage in sponsored health promotion programs due to such factors as embarrassment in not having language and knowledge skills concerning health topics/concerns
- Lack of skills in making informed medical decisions (e.g., weighing available options and their relative benefits, risks, and costs)
- Lower participation and engagement rates in sponsored health promotion activities

Organizational Risks

Because low health literacy has been associated with increased health risks, a higher prevalence of chronic health conditions, and poorer health outcomes, it can have negative health and productivity implications to the organization. Organizations who do not address issues of health literacy and how communications are developed within their respective workplaces may experience the following negative consequences such as:
- Lower employee engagement in health promotion activities
- Lower morale—feelings of low inclusion
- Poorer health outcomes
- Higher incidence of on-the-job accidents and related injuries
- Higher disability and workers compensation costs
- Higher absenteeism
- Higher employee turnover
- Higher presenteeism
- Higher direct healthcare costs
What Can Organizations Do?

Low health literacy is a societal concern, not just limited to employers. However, there are a number of ways organizations and health promotion practitioners can address this issue when developing communications as part of their respective health promotion/safety programs.

Developing Effective Communication Materials/Products (Key Tips)\textsuperscript{2,3,4}

An excellent resource for health promotion practitioners is the CDC Clear Communication Index\textsuperscript{2} that can be used in planning a health communication piece as well as a benchmarking tool for existing health communications. According to the CDC: “Clear communication means using familiar concepts, words, numbers and images presented in ways that make sense to the people who need the information.”\textsuperscript{1} The following are some tips in planning your health communications:

1. Know your employee population. Develop and update the demographics of your organization and sub-populations (e.g., gender, age, race, ethnicity, education, language)

2. Become familiar with and focus on the health and well-being needs and concerns of your targeted audience. General communication campaigns are significantly different from targeted campaigns. Targeted campaigns are focused on a specific audience who have a common health issue/interest (e.g., hypertension, diabetes, migraine, etc.) and preferably, takes into consideration demographics where there’s a higher prevalence. For example, African-American’s have a higher prevalence of hypertension and women have a higher prevalence of migraine. Thus, writing to these specific audiences and using appropriate graphics/images can help increase interest and engagement through targeted campaigns.

Common means to better understand your targeted audience include: reviewing existing data such as aggregate health risk assessment reports, biometric screenings, and employee interest/needs surveys. Also, when developing targeted health communications gather additional data through formative research such as through focus groups and pilot evaluations of prototypes.

3. Be clear as to the purpose of the intended communication product. Crafting your messaging and design is dependent on your primary communication goal(s). Is the intended product intended to: create awareness, improve knowledge, build skills, motivate, reinforce, and/or create community?

4. Identify your behavioral objective(s) and key message(s) What do you want your intended audience to do? Based on your primary communication goal(s), define your behavioral objective(s) and key message.

5. Determine how your material should be formatted and distributed so that it reaches your audience. Consider how your audience will find, receive and use the material. Choose the best format for your audience and the message (written, visual, audio, video). Identify dissemination channels, such as social media, community organizations, wellness champion networks, company emails, websites, and activities that match the audience.

6. Build in time to pilot test your material with your intended audience. Pilot testing your material through surveys and focus groups with your intended audience can help improve the likelihood that your material meets your communication goals, objectives, and is engaging.
Additional Considerations for Designing Relevant and Engaging Informational Materials

- Have your key message be prominent at the beginning of your communication piece. (e.g., “To help prevent Covid19, wash your hands with soap and water often.”) Reinforce your key message where appropriate and in your summary.
- Write in the active voice
- Include “you” and other pronouns
- Present other information in order of importance
- Match readability to your audience (e.g., Grade 5)
- Provide translated versions (e.g., Spanish) based on your work population. Remember, being biased to English can create significant barriers to employee inclusion and engagement.
- Reduce using multi-syllables.
- Avoid using jargon.
- Use action statements (What do you expect readers to do?)
- Break text into logical chunks using headings and bullets
- Include graphics and picture illustrations that are inclusive and representative of the diversity of the intended audience
- Use sidebars and lists to summarize key action items
- When appropriate, use “knockout” quotes to emphasize a key takeaway statement
- Use plenty of “white space” in your layout. (Avoid copy dense text)

Better Communication = Better Engagement

Being able to communicate effectively to your intended audience takes into consideration their ability to understand and assimilate information based on your specific communication goals. Lack of understanding is the first barrier to meaningful health engagement. As such, being sensitive to the health literacy, let alone the general literacy of your audience is important for increasing program engagement and success. In addition, being more culturally competent regarding your target audience and being aware on how personal biases (e.g., language) influence your communication approaches are important considerations when planning and designing inclusive communication materials for all your employees.⁵

References:
3. Health Literacy. (CDC website that provides information and tools in understanding health literacy and creating better health communications) https://www.cdc.gov/healthliteracy/basics.html
5. Crute, D. The Path to Cultural Competence in Workplace Wellness. Worksite Health International: 2020; Vol. 11(1)

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Wearable Technologies and Workplace Health Promotion Programs: Challenges and Opportunities

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One of the biggest challenges on promoting the health and wellbeing of a workforce is to have objective and reliable performance metrics on an individual level. Thanks to the technological advances on the area of the Internet of Things, miniaturization and connectivity, we have consumer devices with increasingly lower costs and more availability, for measuring a plethora of states, such as walked steps, heart rate, EKG, sleep patterns, posture, muscular fatigue, and even ovulation/fertility.¹

Since the last decade, we heard a lot of buzz around them, with big companies like Fitbit, Google and Apple investing billions of dollars to develop newer tools to track health and change behavior.

Even though, some questions are still not clear enough: Can these gadgets produce reliable data, and make well-being research easier? Are they helpful on promoting a healthier organizational culture? Do we need to be aware of any side effects of wearable tech adoption? If they are effective, how can we leverage the benefits of adopting wearables as a support for behavior change? This short report has the purpose of shedding some light and present some evidence about wearable safety, accuracy, effectiveness and its good practices, regarding individual behavior change, and long-term health benefits from these health technologies.

Data Availability and Scale

The biggest attraction of using wearable data to measure behavior change is, without a doubt, is the huge number of users across the world from a population health management perspective. We can have an idea of the number of wearable device user just by observing how many Fitbits were sold in the last few years (figure 1).²

Apple does not disclose their number of units sold, but some market experts estimate Apple had global sales of 53.2 million Apple Watch devices during 2018 and 2019.³

This scale of wearable device adoption means that we start to have a huge amount of data available, making some interesting projects viable, such as the Stanford Activity Inequality Project. They studied a “big data” on 68 million days of physical activity of 717,527 individuals from 111 countries. The results pointed to inequalities in physical activity between males and females, and the significant correlation between activity inequality and obesity prevalence.⁴
Finally, the data showed that some environmental features in communities, such as the walkability in some cities, can contribute to improving the physical activity levels versus communities that have low walkability. Thus, this type of data can help urban planners for example to design environmental supports (e.g., sidewalks, jogging trails, greenways, parks, etc.) for greater physical activity in community settings that have low prevalence.

As you will see within the workplace environment, there’s little published evidence that wearables are effective in behavior change. However, this doesn’t mean that they have no value. A large adoption rate of users (employees) could provide practitioners with valuable aggregate data to monitor rates of participation and engagement, as well as identify potential barriers to adopting healthier self-care practices. In addition, issues of privacy need to be addressed by the organization if individual data points are downloaded into a centralized database.

A good example is the quasi-scientific survey from Australia, capturing the average daily step count for 100 people from different professions (Figure 2).

![Figure 2. Average daily Steps in different professions. (Baker Heart and Diabetes Institute, 2012)](image)

Just by looking at the graphs, we could suppose that some professions, such as waiters, nurses or retail workers have beaten the infamous 10,000 steps per day goal, and based on such, would not require further physical exercise. On the other hand, we know how important physical activity can be to reduce stress, especially in professions with a high demand level, such as in nursing. Last, but not least, we can look at the groups which on average are below the recommended threshold for daily steps and plan activities to help them achieve their physical activity goals accordingly.
**Risks**

As these small technological marvels become more sophisticated they offer the opportunity for improved self-care engagement. On the other hand, there are reports of individuals seeking medical consultation/treatment because of self-diagnosed findings based on wearable data. For example, patterns such as altered periods of light/deep sleep, or insufficient sleep time, associated with anxiety and fatigue can lead to incorrect self-diagnosis. This trend can lead to unnecessary outpatient and emergent care utilization based on wearable feedback. Such concerns arise the importance of individual education and awareness about the purpose of monitoring one’s own health, and obviously, seeking appropriate medical consultation in cases of a suspected health problem.

Another concern raised in recent few years regards the precision of consumer-level wearables, especially first-generation products, when compared with high-precision actigraphy devices (e.g., over reporting steps). As the technology of these devices have improved in later versions, so has their reliability in measuring steps accurately.

**Are They Effective At All?**

Apart from all marketing literature, there are few systematic reviews assessing the effectiveness of wearables on improving health outcomes. One of the most thorough meta-analysis published included 3,646 participants across 9 countries, examining outcomes related with physical activity using consumer-level activity tracker devices. They found a significant increase in moderate and vigorous physical activity, daily step counts, and energy expenditure. However, the reduction in sedentary behavior was not statistically significant (Figure 1). Another finding from this systematic review was that most of these reported benefits were only found in the short-term. In addition, this review raises more questions. For example, did these changes come from sedentary individuals who became engaged in physical activity, or did this increase come from previously active users?

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Standardized Mean Difference between experimental-control groups</th>
<th>CI</th>
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<tr>
<td>Daily step count</td>
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<td>0.16 – 0.33</td>
<td>&lt;0.001</td>
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<tr>
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<td>0.15 – 0.39</td>
<td>&lt;0.001</td>
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<tr>
<td>Energy Expenditure</td>
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<td>0.03 – 0.54</td>
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<tr>
<td>Sedentary behavior</td>
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<td>-0.43 – 0.03</td>
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</table>

Table 1. Meta-analysis findings on outcomes of consumer-based wearable activity trackers.

Another review we found did a meta-analysis of 18 randomized control trials regarding wearables and mobile apps for physical activity. They concluded that the wearables and smartphone applications can generate a small to moderate increase in the number of daily minutes of physical activity. Another review of a small group of studies focused on youth (ages 5-19) showed preliminary data, suggesting these devices may help to increase activity engagement in the short term. In a randomized clinical trial (RCT) that tested the long-term effects of a program that integrated wearable technologies with lifestyle interventions, it showed that wearable users with a body mass index (BMI) between 25 and 40 lost less weight, compared with the control group (although the authors do not imply that wearables are harmful, since people using them lost weight as well). Hence, we can conclude that health coaching and education interventions made a significant difference in both groups, but researchers did not observe a positive effect associated with wearable adoption in that experiment. Since both groups received behavioral coaching with diet and exercise educational support, this raises a significant question—"Are wearables really effective and worth the expense over time?" In addition, there is no information if the health coaches were trained in assisting users use the technology to its full extent and in turn, leverage activity data in real time to improve user motivation and engagement.

Research on wearable effectiveness in the workplace setting is even more scarce. A small study with 30 employees involving smart activity trackers, email reminders, and a wellness seminar showed non-significant reduction in sitting time at home and in the office (based on self-reported survey data).

Thus, the lack of studies with proper methods and the right measurable outcomes is one of the main challenges for assessing wearable effectiveness in workplace environments.
How to Make Good Use of Wearable Data?

Even though wearable devices are scaling up in the consumer level for almost a decade, it seems that we still need to learn how to use them as tools of engagement and support for behavior change in workplace health promotion programs. As a suggestion, we would like to share a four-step approach, based on the excellent paper from Hicks et. al. (Figure 3), published in Nature npj Digital Medicine.¹⁴

1. **Identify the outcome to be changed**: Be careful with “step-based competitions”, since anecdotal evidence point to a short term engagement, and poor health outcomes, since most times these games are won by the fittest employees of the company. In this case, it is recommended that wearable data should be use as supplementary data, to help understanding worker behavior, and tailor the programs according to their needs.

2. **Prepare the data and give the needed treatment**: Try to understand some behaviors found in the data, such as missing step values (maybe a person who forgets to take or charge this tracker), and outliers (athletes and fitness “pros” in the company). Usually, if the data variance between groups is very high, it is recommended to find a way to normalize the information or give a differentiated treatment to each of the behavioral groups identified.

3. **Analyze the data**: Try to make the analysis the most visual as possible. For example, developing a performance dashboard with relevant data points can be very helpful in communicating to your user base and to other stakeholders. Try to combine qualitative and quantitative information to have a richer picture of employee behavior.

4. **Make behavior-based recommendations**: Use the outcome data to improve the offer of your workplace health promotion program, by linking identified needs to activities which can engage employees for the long run.

5. **Adjust metrics and programs generating a “Virtuous Cycle.”** Use the metrics to reassess your employees on a short-term basis to ensure engagement, and in the long run, to assure your health outcomes will be achieved. Try to balance qualitative and quantitative outcomes, so you can have a rich and meaningful dashboard of indicators to promote quality, continuous improvement, and program sustainability.

6. **Share the results**: Make sure to share your success stories using wearables with your employees and with your management. Also, share your experience/results with other health promotion practitioners.

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¹⁴ Overview of best practices for analyzing large-scale physical activity and health behavior data.
So... Are Wearables Worth the Investment?

After reviewing the evidence, we were astonished that the effectiveness of wearables in changing behavior is still an unanswered question. Though preliminary data is not encouraging when considering the potential investment, we believe the “jury is still out” regarding the value of wearables as part of a comprehensive worksite health program.

Scalability has improved for group purchasing due to lower unit costs, but as discussed, extended use and relative effectiveness remain a question. As such, corporate decision-makers could be reticent to invest in wearable technologies for their respective organization as a program component rather than as an incentive or prize common among corporate challenge events.

A major take away learned from these few studies is that in most cases, wearables were viewed as a “Silver Bullet” for behavior change with limited support and integration—an ill-advised tactic in our opinion. In addition, very few studies incorporated wearable data as a metric for overall employee engagement and quality improvement.

As such, usage shortfalls could be due to poor: study design (not having a RCT and adequate study period), program/intervention design, training/orientation, reinforcement, and not leveraging data to drive employee engagement and practitioner support. As such, further study is warranted in taking into consideration these concerns.

Finally, the allure of incorporating emerging technologies such as wearables into one’s program mix is understandable especially with the outcome promises by vendors in helping drive purchase decisions. It’s important for worksite health practitioners to make informed decisions based on reliable data sources and committing to appropriate employee/practitioner training and integration with existing program elements.

Last but not least, it’s important to ask oneself: I’m designing my program around technology, or around our people?

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Organizational Profile Brief: Our Vision is to be the future of mobility through a focus to innovate, inspire, be stakeholder focused, lead not follow, be brave, and revolutionary. To achieve our vision, our mission is to create, collaborate, and inspire. Our Organization’s values are Passion, Courage, Respect, Responsibility, and Integrity. With innovation at the core of its philosophy, Hero MotoCorp has been at the forefront of designing and developing technologically advanced two-wheelers for customers around the world. With over 34 years of excellence, it became the world’s largest two-wheeler manufacturer in 2001, in terms of unit volume sales in a calendar year and has maintained the coveted title for the past 18 consecutive years.

Hero MotoCorp has taken rapid strides to expand its presence to 38 countries across Asia, Africa, and South and Central America with a production capacity of 9.1 million units annually and a diverse global workforce of 33,000.

With over 90 million satisfied customers across the globe, it continues to champion socio-economic progress and empowerment through its range of products and services. Hero MotoCorp is headquartered in New Delhi, India with state-of-the-art manufacturing facilities in India, Colombia, and Bangladesh. We have six plants in India. Our state-of-the-art Global Parts Centre (GPC) at Neemrana, Rajasthan, supplies the parts to our local and global markets. Our Centre of Innovation and Technology (CIT) at Jaipur is supported by our first global R&D facility - The Hero Tech Center GmbH in Germany.

Organizational Health Policy: We are committed to the health and safety of our employees and other persons who may be affected by our operations. We believe healthier and safe work practices contributes to better business performance, a motivated workforce, and higher productivity. We shall create a health and safety culture in the Organization by:

- Integrating safety and health matters in all our activities
- Ensuring compliance with all applicable legislative requirements
- Empowering employees to ensure health and safety in their respective workplaces
- Promoting safety and health awareness amongst employees, suppliers, and contractors
- Continual improvement in health and safety performance through precautions, participation, and training of employees

Our aim is to promote and protect the health of employees by focusing on preventive healthcare (by modern and traditional medicine methods), implementation of best practices, prevention of occupational health issues, preventing lifestyle diseases, improving mental health, and staying fit and healthy.

Organizational Strengths:

- A triple bottom line approach with environment, social, and economic governance plotted over a materiality matrix with health and safety as a foremost priority, crafted around achievable sustainability goals.
- A strong senior leadership commitment towards employee health and safety with direct involvement in developing and participating in wellness activities and a strong worker involvement through health committees with representation from all sections of employees is evident.
- Complying to business ethics and legality, we respect and protect human rights and labor rights of workers. We comply with 15 Acts and Compliance to 18 Rules, Regulations and Standards.
- We enforce occupational health and safety codes/ laws and with Compliance to 3 Acts and 3 Rules.

Synergizing with WHO Global Healthy Workplace Model:

- The WHO Healthy Workplace Model has four components: physical work environment, personal health resources, psychosocial work environment, and enterprise community involvement.
- Hero MotoCorp is committed to ensure overall well-being of its employees by supporting and addressing their physical, mental health, psychosocial, spiritual and financial needs as key pillars through a holistic manner.
- The organization addresses requirements for creating an environment and for instilling a sense of well-being among employees through several policies and programs.
- We at Hero MotoCorp have a well-defined Workplace Well-being Policy, whose aim is ensure that employees are safe, healthy, satisfied, and engaged at work.
- Synergizing our global strategy at Hero MotoCorp we have developed a Holistic Well-being framework with four congruent domains: physical health, healthy lifestyle, mental/spiritual health and community involvement.
The Hero Wellness principles rest on motivation, inspiration, sustenance, a holistic perspective, and vision.

Sponsored Health and Wellness Programs and Initiatives

Some of the health programs and initiatives in synergy with the various domains of the WHO Global Healthy Workplace Protocol are as follows:

**Embedding Wellness into the Physical Health Environment:**
- Hazard identification and risk assessment
- Food safety surveys
- Walk through surveys
- Ergonomic survey and interventions
- Industrial hygiene
- Biological monitoring
- Emergency preparedness.

**Risk Control and Mitigation Measures:**
- Eliminate risks, substitute, engineer, administer policies, and provide personal protection for the health and safety of the worker and the workplace

**Addressing Personal Health Resources, Well-being and Supporting Healthy Lifestyles:**
- Healthy Heroes—an e-mailer on health and wellness, a regular e-newsletter on health and wellness, app-based tele-counseling.
- A well-defined Hero Corporate Wellness Program to create an integrated wellness solution, enhance employee experience and increase employee productivity by investing in their physical, emotional and mental fitness.
- Programs that promote fun at workplace through team celebrations, role plays, audio-visual, skits, walkathons, marathons, and impact league with an underlying social cause.
- Advanced gymnasium facilities
- Nutritional wellness is achieved through healthier food choices within vending machines and subsidized cafeteria.
- FSSAI guidelines implementation in canteen like Orange Book, installation of modern food processors, digital calorie displays units; nutrition challenge competitions, and healthy pot luck is conducted.

**Ensuring an Aligned Psychosocial Work Environment:**
- Organization of work—Hay’s Training on job description and job clarity
- Training on Leadership and Communication
- Reward and recognition program
- Work Life Balance—support counseling, discussion forums, and on-line platform
- Nutrition counseling
- Family meets and health programs
- Guided meditation, “Spiritual Art of Living,”
- Fitness and yoga videos
- Telemedicine, emergency health assistance helpline
- Work Culture-Awareness Training on gender diversity and inclusiveness
- Team capacity building program
- Team leadership program
- Employee growth and development programs
- Employee Health Assistance Program for supporting mental health,
Survey and e-interaction platform
Numerous leadership programs at all levels

**Specialized Health Promotion Programs:**
- Targeted health programs through health risk assessment
- Hazard mapping and risk mitigation plan
- Smoking Cessation Program
- De-addiction drives
- HIV/AIDS Awareness
- WHO Health Days Awareness Programs (e.g., World TB Day, World Hepatitis Day, World Malaria Day, World No Tobacco Day)
- Lifestyle modification programs for control of NCDs (e.g., hypertension, diabetes, dyslipidemia, obesity etc.)
- Counseling sessions—nutrition, exercise, de-addiction, weight control, and distress,
- Immunizations for employees, health-care providers, food handlers
- Clinical health examinations—annual health examination, health advisory during epidemic/ pandemic outbreaks
- Health talks, health tips, awareness sessions
- Hearing conservation program
- Lung conservation program
- Vision conservation program
- Stress Management programs
- Voluntary blood donation camps (1,700 units donated in a single day by Hero employees on 2nd July 2019)

**Extended Healthcare Services:**
- Free medications
- Basic diagnostics
- Super-specialty Clinic OPDs
- Alternative medical therapy (e.g., acupressure, electro-acupuncture)
- Health and welfare screening camps for families and community
- Immunizations for families
- Deworming program for employees
- Foreign travel medical assistance
- First Responder Training
- Comprehensive benefit offerings

**Health Protection:**
- Workplace injury management
- Ergonomics
- Health and Safety Training
- Safety management by integrating Occupational Health, Health of Work Environment, Toxicology, and Biological Monitoring functions

**CSR Initiatives for a Greener, Safer, and Equitable World:**
- Greener environment— tree plantation, LED/ solar lights, Earth Hour, water and forest conservation, sanitation initiatives
- Safer—road safety
- Equitable—emphasis on education, female empowerment, specially-abled, sports and community based public health programs
Our Global Sustainability Vision for a better Tomorrow by adopting the United Nations Sustainable Development Goals (SDG 17) integrated with Hero MotoCorp's Ambitious Targets for Sustainability- HATS 2020.

Fostering Innovation and Digital Wellness:

Through Digital Integration, Mobile Technology and Dedicated Health and Wellness Portal, collaboration with external stakeholders for provision of digital health services like Doctor Insta app, Breathe well-being, 1to 1 Help.net – mobile EAP App, 1mg online pharmacy app.

Summary Charts— Continuous Improvement: Evaluation and Outcomes

In Summary

Workplace Well-being relates to all aspects of working life, from the quality and safety of the physical environment, to how employee feel about their work, their working environment, the work climate, and the overall work organization. It is universally accepted that human beings’ basic need for a state of well-being are: good physical and mental health, peace, equality, shelter, food, income, sustainable resources, and social justice. At Hero MotoCorp we attempt to create and sustain a culture that supports these basic needs and beyond.

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The International Association for Worksite Health Promotion presented Stephen Cherniak, MS, MBA, with the 2020 “William B. Baun Award.” The following is part of his remarks.

“While I’m extremely honored and very pleased to accept this recognition. This isn’t about me. This day, this moment gives us pause to recognize the more important person here — Bill Baun.

We can all identify people who made an impact on us throughout our career. For me, there were several, starting with Dr. Dee Edington, a few of my bosses, and many of the IAWHP leaders in this room who like me were the novices in this profession trying to figure out what to do and push the profession forward. But Bill is always at the top of my list, because he didn’t need to figure things out, he knew what to do and helped lead us there.

He was a very special person and true craftsman of the health promotion profession. It was always a good news, bad news thing with me when I found myself working with or sharing the same workshop agenda with Bill.

The good news was that I always learned something when Bill talked, the bad news was that whatever I had to say paled in comparison to Bill’s presentation (in style and content). He was never good for my self-esteem.

For those of you who were fortunate to attend a workshop or work with Bill I think you know what I mean. For those of you who never had the opportunity, fear not, all is not lost for many of the old-timers in this room and profession are using many of Bill’s techniques and Bill’s principles in our teachings. His legacy still lives on — rightfully and thankfully so. As I conclude, I think Bill would agree with my sentiment that I don’t care if I’m remembered. I just want what I do to mean something now and going forward. Thanks to all of you – my IAWHP brother and sisterhood.”

Charles Estey and Stephen Cherniak

In Memorandum. The IAWHP Board of Directors is sad to announce the passing of Barry Roa. He was co-chair of Membership and was a tireless, dedicated professional. A new recognition award has been created in his name. He will be deeply missed.