

# Reimagining bone and joint health while reducing disparities in care

We know that bone and joint health is critical to maintaining mobility.

To stay active and engage in life fully for as long as possible, patients, providers, and the community alike must be aware of the importance of preventing and treating chronic conditions like arthritis and osteoporosis.

Everyone has a role to play in improving bone and joint health. Exemplifying this belief is the new Center for Bone and Joint Health at UPMC Magee-Womens Hospital.

By pulling together providers, resources, and services that better meet patients' personal and specific needs, the Center is addressing the crisis threatening to disable a significant portion of the U.S. population and that is placing growing, burdensome costs on the healthcare system.

More personalized care begins to address and reduce disparities along the lines of gender, socioeconomic, ethnic, and cultural considerations in bone and joint health.

With unique collaborations between integrated care teams of providers driven by a mission to personalize care, the Center for Bone and Joint Health is an innovative care model that empowers everyone to take charge of their journey to wellness by actively participating in co-designing better care experiences for all while reducing known disparities in care.

## It's the right time to focus on bone and joint health disparities

When it comes to bone and joint health, we need to get people's attention.

Despite the precipitously growing number of doctor-diagnosed arthritis cases in the U.S., projected by the CDC to increase 49% by 2040, from 54 million to 78 million, arthritis and other musculoskeletal health concerns often go overlooked by patients and providers for years, until painful symptoms worsen to the point of being unbearable, and we lose the ability to positively influence the course of the disease early. It is only at this later-than-ideal juncture do many patients even consider seeking treatment, and even then, the journey to improved wellness and overall function is not always a coordinated effort.

When it comes to bone and joint health, women are already at a greater disadvantage than their male counterparts. As one example, women comprise a larger share of the arthritis population, at 26% compared to 18% in men. Treatment timelines also differ between women and men, as women are more likely to wait longer to seek medical evaluations and treatment, allowing their condition to progress, and



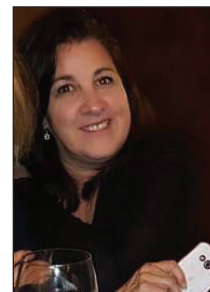
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deteriorate their bone and joint health in the meantime. The disparities only worsen for women from underserved communities. Black women are more likely to develop osteoarthritis than white women, and when they do, also have a higher prevalence of severe pain attributable to arthritis. Overall, women from underserved communities are less likely to seek care in the first place, meaning that they miss the opportunity for evaluation and treatment that may prevent or slow progression of the disease, while making them feel better

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and manage their day to day lives.

In cases of “silent diseases” like osteoporosis, many people live for years with the condition unknowingly until this leads to “fragility fractures,” which cause significant disability and pain. Of the estimated 10 million in the U.S. with osteoporosis, about eight million or 80% are women. Menopause significantly speeds bone loss and increases the risk for osteoporosis. This condition presents a unique challenge for providers and healthcare professionals, as many people are not screened for it. In fact, more than 70% of people over 65 with osteoporosis have never been screened and don’t know they have osteoporosis.

Beyond the bone and joint health disparities found in patient populations, provider representation, or lack thereof, also plays a part in the disparities. Only about 6% of orthopaedic surgeons are women, and the number of women with adult reconstruction training as an area of sub-specialization is even less (<1%). Ideally, providers should demographically mirror the communities that they serve, so that there is a greater understanding of the unique challenges faced by different populations. Supporting the increased inclusion and advancement of women in orthopaedics, specifically adult reconstruction surgery, must also factor into the larger strategy to reduce health disparities.

## Learning from patients using experience-based design science

Viewing care through the eyes of patients and families is a basic tenet of the Patient Centered Value System and

guides our process improvement methodology. Rooted in the experience-based design sciences, this strategy offers an alternative to the traditional view of patients and families as passive recipients of care and provides a methodology to integrate patient and staff input into the innovation process.

Patient engagement tools like “What Matters to You?” help us discover and empathize with what’s important to patients as the starting point. By asking this question, we can begin co-designing care delivery and personalize care while identifying and then reducing disparities. To develop and co-design the Center, we used the person-centered What Matters to You? approach with patients and staff, through which we identified patient priority areas of focus within bone and joint health. Feedback included requests for services like physical activity guidance, nutrition counseling and ways to reduce anxiety. When asked to identify barriers to caring for their health and wellness, respondents cited low motivation, insufficient time, competing priorities, and lack of direction, among others.

Diving deeper through direct patient engagement, we gained insights to how lifestyle factors, (dis)trust of health care providers, mental health status, social and community engagement, and attitudes about certain conditions and treatments made a significant impact on patient’s willingness to seek intervention. Our findings replicated those of the wider research: a patient’s individual characteristics and circumstances have a profound impact on both physical well-being and

healthcare spending, sometimes even more so than clinical factors.

In addition, using multiple follow-up focus groups with age-based subsets of the population, we also learned about what participants would really want to get out of a bone and joint health program. Far and away, their responses centered around similar themes — wanting to feel heard and understood by their providers, having time to talk with their provider and ask questions, and receiving guidance and support along the journey. Just as bone and joint health care is multidisciplinary and overlaps with other services and areas of care, so too are the patients’ needs. Their lifestyles, behaviors, family systems, communities, and cultures all play a part in how they approach care.

## The journey to wellness roadmap at the Center for Bone and Joint Health

As evidenced in musculoskeletal research and replicated in our local data, for millions in the U.S. with bone and joint conditions, the path to wellness is confusing, challenging and mostly uncoordinated between providers. The barriers to figuring out what to do about one’s own bone and joint health can be frustrating and intimidating enough to make patients postpone care for far too long.

But within this problem, there lies an opportunity: arthritis and bone degeneration can be slowed if diagnosed early and appropriately addressed with individualized treatment plans. In other words, earlier screenings (like simple X-rays and DEXA scans) help patients learn where

they stand with their bone and joint health so that they can make appropriate lifestyle choices that optimize their mobility and overall wellness. From there, arthritis and osteoporosis sufferers can learn to manage pain and symptoms at earlier stages, and with their provider, design a personalized self-management program to decelerate disease progression and continue living life to the fullest.

At the Center for Bone and Joint Health, we are developing ways for patients to have earlier evaluations and therefore get diagnosed early, engage in their own care, pursue non-operative treatment options, and personalize a plan based on their needs. In our program, patients work as a team along with providers to actively take charge of their bone and joint health, according to their priorities.

Trained in Motivational Interviewing and drawing from Cognitive Behavioral Therapy techniques, the Clinical Coordinators at the Center develop trusting, therapeutic relationships with patients early in the journey. A critical and ongoing component of this person-centered approach is continuing education, learning, and action planning around the areas most important to patients, like exercise, strength training, nutrition, pain management, weight management, emotional wellness, goal setting, decision making, and others. As patients advance through the program and work through various checkpoints, the Clinical Coordinators serve as ongoing supporters and accountability partners that can also connect patients with other services and support that they require to succeed.

## Exporting and scaling our model

Our interdisciplinary teams co-create programs intended to not only work in and for our own community, but that also serve as replicable and reusable models to scale and spread change in neighborhoods and communities around the world. More holistic and comprehensive resources and strategies for individualized treatment plans are necessary in care settings across the country.

As part of our innovative program, we are collaborating and creating infrastructure and guidelines to support other 'champions' interested in modeling after our approach. In developing the Center for Bone and Joint Health, we have had the good fortune to learn from and connect with programs emerging at Duke, Yale, UNC Chapel Hill, and others. We are also following the lead of champions in this field by partnering with Movement is Life, a national coalition addressing musculoskeletal health disparities, and Operation Change, a proven community-based and culturally-specific movement program. Closer to home, we will also be presenting our approach next month at the Magee-Womens Summit, a biennial event that brings together world-class scientists, clinicians, thought leaders and advocates to explore women's health research across the lifespan.

Successful healthcare systems of the future will be powered by patient-centered and personalized care approaches that provide a holistic view of an individual's health status and

data to inform early individualized preventive and treatment plans that shape lifetime health. As the Center for Bone and Joint Health evolves, we will continue to adapt, tailor, customize and refine our approach for maximum impact and portability. We believe that our adaptable care delivery model will not only work in and for our own community, but can also guide scaling and spreading similar change in neighborhoods and communities around the world to support improved bone and joint health for all people.

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