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# Osteoarthritis Management: Time to Change the Deck

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**T**he overwhelming majority of my publications and grant applications begin with background material detailing the immense disability and burden associated with osteoarthritis (OA). Focusing a lens on the impact of this condition particularly helps to emphasize 2 things: first, it reinforces the magnitude of this epidemic, particularly given shifts in societal demographics as each relate to aging and obesity. Second, and most importantly from my perspective, it highlights the opportunity that comes from limitations

in the efficacy and safety of our existing treatments, as well as the parlous state of typical clinical management that is characterized by inappropriate care.

This Viewpoint will highlight the shortcomings of existing clinical practices and emphasize the opportunity that can come about by virtue of adherence to appropriate management. In an effort to emphasize optimism, there are huge missed opportunities with existing efficacious treatments and tremendous developments that are currently going on that will positively influence future care.

In the first instance, however, it is important to recognize the inherent shortcomings of existing OA clinical practices. As one of the fathers of modern medicine, Sir William Osler, once said: “Osteoarthritis is an easy disease to take care of: when the patient walks in the front door, I walk out the back door.”<sup>2</sup> No one

denies that the management of OA is challenging; however, the current reactive approach to end-stage disease—using palliative treatment options—is both counterintuitive and harmful.

Many people with OA are faced with health care professionals whom they perceive to be somewhat nihilistic toward their concerns. A number of studies have characterized the fact that the majority of patients do not receive appropriate care<sup>10</sup> and have further highlighted the areas where we are not serving our patients well by underutilizing efficacious, evidence-based lifestyle and behavioral management strategies, particularly exercise and weight loss.<sup>3</sup> There are a multitude of reasons as to why this evidence practice gap exists, including perceptions among health care providers that OA is merely a part of normal aging, with limited treatment options and competing

demands from other comorbid health conditions in the context of routine visits.

One consequence of our perspective that treatment options are limited is that much of our management of this chronic disabling disease is focused on treatments that have no clinically meaningful benefit over placebo, are harmful, not cost-effective, or all of the above. There is robust evidence to suggest that glucosamine, paracetamol, opioids, viscosupplements, and arthroscopy, among other treatments for OA, fit into this category, hence affecting their stature in recent guidelines.<sup>8</sup> When patients are offered treatment options that are no better than placebo, harmful, or expensive, it is not surprising that many are dissatisfied or disillusioned with current Western medical practice and seek alternative treatments and/or premature joint replacement.

Many medical professionals grew up in an era when their profession was regarded as noble, and they were allowed to self-regulate (to judge the quality of their own work). Today, however, due to marked variations in practice, errors in health care (with associated morbidity and mortality), and unquestionable profiteering, we have lost most of this privilege.<sup>4</sup> For the sake of our own integrity and, more importantly, the benefit of

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our patients, we should be seeking better care, better health at a lower cost. As Berwick<sup>4</sup> advocated in a recent viewpoint, this will only come about by virtue of continual design and redesign of our health care system, with increasing accountability and a shift in resources to creating appropriate care.

So how does this relate to OA? In the first instance, we need to recognize that the majority of patients are receiving inappropriate care and that many of the commonly utilized interventions have grave limitations. Similar to an addiction, if you don't recognize that there is a problem, then it will be difficult to make any effort to address it. Once the problem has been recognized, addressing it will go well beyond the development of guidelines, algorithms to facilitate adoption of appropriate evidence-based practice,<sup>9</sup> and assessment of quality indicators. Changing the delivery of care will require complex interventions aimed at improving consumer knowledge, self-management, and health care delivery characterized by integrated, multidisciplinary chronic disease management. This may seem overwhelmingly convoluted and, particularly from a health care design and delivery perspective, a challenge too vast to overcome. As a clinician researcher and as someone who has OA, my response to this is: this is a small challenge compared to the burden faced by our patients. The disease has a tremendous impact on the individuals who are affected as well as a large societal cost.<sup>7</sup>

Our current palliative approach, in clinical medicine, of analgesic prescription followed by joint replacement needs to change.<sup>6</sup> We need to focus care to tailor management to the individual needs of the consumer, targeted toward the central complaints of pain and functional limitation, with a chronic disease multidisciplinary management approach. Modern health care systems are typically reactive and focused on acute care, whereas the management of OA is ideally efficient, coordinated, and patient centered to support integration of evidence

into practice. The pendulum of treatment choices provided for patients by health care professionals needs to swing from the drugs and surgery end to behavioral management with a focus on exercise, weight loss, and self-management. This focus is emphasized in recent guidelines,<sup>8</sup> and my colleagues and I have recently published real-world case algorithms to facilitate implementation.<sup>9</sup>

So how might one go about redesigning the health care system, cognizant of the grave limitations faced by many consumers with OA? Fortunately, recent international activities have facilitated reflection on this and have provided a framework based on existing models of care that others might find suitable within their own local context.<sup>1</sup> Evidence is now mounting to support these policy changes, which will facilitate improved patient outcomes and reduce inappropriate health care utilization and resource waste. These models should be routinely incorporated in care for patients with knee and/or hip OA, ideally early in the disease continuum rather than as a last resort. A shared decision-making process to select the right patient at the right time for joint replacement, recognizing that 1 in 4 patients undergoing arthroplasty will not be satisfied with the outcome, is critical. Employing decision tools to identify those who are likely to be nonresponders, including screening for low pain scores, limited radiographic change, morbid obesity, and psychosocial comorbidities, is essential.

Looking forward, there is light on the horizon, and we should see major shifts in a couple of other areas for OA. Osteoarthritis prevention should not be seen as a future goal, because it is something that is readily within reach now; however, it also needs some system redesign to ensure widespread implementation of injury prevention programs and community obesity reduction in order to see salutary benefits. Unfortunately, despite good evidence that by reducing weight and preventing joint injury we can significantly reduce the risk of people developing OA,

many governments appear impotent to deploy programs that have been shown to be efficacious.

Another area that shines brightly on the horizon is that of disease modification. This has been an active area of research interest for a number of decades. It is a landscape that unfortunately is littered with clinical trial failures, and many of the corporate interests have come and gone over the years as a consequence of having their toes burnt. It is important to note, however, that much has been learned from these negative clinical trials, and this knowledge is now being applied in more thoughtful clinical trial designs. Osteoarthritis is a heterogeneous disease that is characterized by slow progression. The tools that we have been using to phenotype the disease and to monitor its progression have had grave limitations. These limitations are being overcome, and increasing interaction between academics, industry, and regulatory authorities is paving the way to facilitate more efficient clinical trials, raising the real possibility that we should have effective disease modifiers available relatively soon.

As health care professionals responsible for consumers with this disabling disease, we have a personal and professional responsibility to adopt these changes. Recognizing that many do not like change, reflect on the impact existing practices have on clinical outcomes and waste in the health care system. If that is insufficient, it is likely that change will come whether you like it or not, as we have recently seen in both the technological and political landscapes. An increasing evidence base supports this health care redesign and implementation of appropriate evidence-based chronic disease practices.

As one more eloquent than I once said, "The people who are crazy enough to think they can change the world are the ones who do."<sup>5</sup> We have all been afforded an opportunity to impact the lives of citizens who are affected by this disabling disease. How we respond to that opportunity will not only impact the individuals

disabled by the disease but also make a massive difference to our society through reducing underemployment and health care waste. ●

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