

# Health Disparities Among African American Women



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# **Health Disparities Among African American Women**



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## INTRODUCTION

While the diversity of the American population is one of the Nation's greatest assets, one of its greatest challenges is reducing the profound disparity in health status of minorities and other health disparity populations compared to the population as a whole. Among the noteworthy findings in their 2002 report entitled *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, the Institute of Medicine concluded that, even when disease severity, socioeconomic status, education, and access are controlled, racial and ethnic minorities receive a lower quality of care and worse clinical outcomes.<sup>1</sup>

When healthcare providers enter practice, they are directed to apply principles of evidence-based medicine and meet performance measures that are intended to produce high-quality medical and health care. Despite these efforts and the best intentions of practitioners, disparities in health care continue. The Institutes of Medicine (IOM) report underpinned by substantial empirical evidence gathered from the Implicit Association Test (IAT) and other research concludes that populations in the U.S. that are the subject of negative cultural stereotypes also experience the greatest healthcare disparities and that Blacks were particularly subject to disparities in treatment.<sup>2</sup>

Although cultural stereotypes may not be endorsed consciously, their mere existence can influence behaviors and judgments when it comes to the clinical environment. When bias enters clinical decision-making it perpetuates health disparities.<sup>3</sup> To address these inequities; it is important to first gain an awareness of how disparate health statistics are for minorities.

## HEALTH DISPARITIES AMONG AFRICAN AMERICAN WOMEN

According to the Health Resources and Services Administration (HRSA), health disparities are defined as "population-specific differences in the presence of disease, health outcomes, or access to healthcare."<sup>4</sup> Considerable racial and ethnic disparities exist in women's health which is problematic considering women make up 50.8% of the 309 million people who live in the United States.<sup>5</sup> It is also well documented that African American women are disproportionately affected by conditions that negatively impact their health in comparison to their Caucasian counterparts. Both caregiver- and patient-influenced behaviors create disparity. The primary reasons cited by researchers include<sup>6</sup>:

- socio-economic status,
- health behaviors related to culture,
- access to health care,
- environmental factors, and
- direct and indirect manifestations of discrimination.

In the early 2000's the Institute of Medicine reviewed 600 studies and assessed the quality of healthcare for various racial and ethnic minority groups. They found discrepancies amongst the following:

- cardiovascular disease treatment,
- diabetes management,

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- amputation,
  - cancer treatment,
  - HIV treatment,
  - pain management,
  - referrals for clinical tests,
  - physician communication behaviors, and
  - other areas.

It is important to recognize distinct patterns of health disparities, especially among African American women, and how they impact the cycle of co-morbidities (the presence of two chronic diseases at the same time) and the exacerbation of illnesses within that group. The first step, however, is to understand the factors that lead to health disparities such as bias, prejudice, and stereotyping.

## Thought Question

Why do you think African American Women are disproportionately impacted?

### *The Role of Bias in Health Disparities*

Bias is an attitude, belief or feeling that results in justifying unfair treatment - favorable or unfavorable - toward someone because of their identity. There are two types of biases: explicit (conscious bias) and implicit (unconscious bias). An explicit bias is the kind of attitude or belief that someone deliberately thinks about or is aware of having; it accounts for many cases of discrimination and should not be tolerated. An implicit bias can be summed up as positive or negative assumptions made about another person based on prevalent cultural stereotypes that someone embraces on an unconscious level. Research shows that when people hold a negative stereotype about a group and meet someone from that group, they often treat that person differently and honestly don't even realize it.<sup>7</sup>

Considerable attention has been paid in recent years on how unconscious bias may affect communication and care offered to minorities, and contributes to health disparities.<sup>8,9,10</sup> It may be helpful to review the terminology associated with unconscious bias to further understand how they manifest through behavior.

Terminology	Definition	Example
Confirmation Bias	The tendency to interpret new evidence as confirmation of a person's existing beliefs or theories.	A person holds a belief that diabetics are irresponsible with their diet. Whenever this person encounters a diabetic that has been careless with their diet, they place greater importance on this "evidence" supporting their already existing belief.
Prejudice	An idea or opinion, usually negative that is not based on fact, logic or actual experience.	Believing that all obese patients are weak-willed and not likely to comply with treatment.
Discrimination	The unjust or prejudicial treatment of different groups of people or things, especially on the grounds of race, age or sex.	Believing that young black males are more criminally inclined.
Stereotyping	The critical, attitude people hold toward those outside of their own experience who are different. Stereotyping result of incomplete or distorted information accepted as fact.	Believing that men are stronger and able to tolerate pain better than women.

## THE ORIGIN OF BIAS

Social psychologists theorize that the content of our unconscious biases are learned from the society in which we live. From a very early age, all of us are exposed to certain ideas repeatedly from our family, social circle and the media. Eventually these ideas become embedded in our belief system and they are activated unconsciously. Everyone has unconscious biases. For example, if a child said that one parent was a homemaker and the other was an engineer, one might immediately assume that the homemaker was the mother and the engineer was the father.

Traditionally, it has been assumed that patterns of discriminatory behavior is conscious and that people, who are informed, do the right thing while those who are uninformed cause bias. This paradigm of diversity has led to a "good person/bad person" idea about bias; it is the belief that good people are unbiased and inclusive while bad people are biased and exclusive. Moreover, the primary method to eliminate bias has been to find the "bad people" and "fix them."<sup>11</sup> The problem with the good person/ bad person paradigm is it virtually assures that both on collective and individual basis diversity will never be done "right" because every human being has bias of one kind or another. This, in effect, condones bias. In fact, research suggests that simply making people aware that unconscious bias is common can increase bias if it is not underscored that unconscious bias is also unacceptable.

In several experiments, Prof. Michelle Duguid of Washington University in St. Louis and Prof. Melissa Thomas-Hunt of the University of Virginia designed a study to determine if making people aware of bias would lessen it. They informed some participants that bias and stereotypes were rare and told others that bias and stereotypes were common; they then asked participants for their perceptions of women. Those who were informed that stereotypes were common rated women as significantly less career-oriented and more family-oriented than the participants who were told that stereotypes were rare. Even when instructed to “try to avoid thinking about women as less career-oriented,” participants who were told that stereotypes were common still viewed women as less career-oriented.”<sup>12</sup>

If awareness of bias makes it worse, how can it be managed? According to these researchers, the solution is not to stop pointing out bias. Instead, we need to clearly communicate that these biases are undesirable and unacceptable.

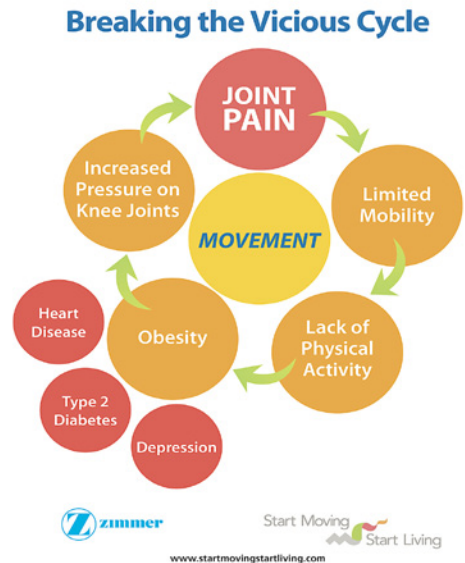
## Thought Question

Identify an unconscious bias that you have related to obesity.

## JOINT PAIN AND DISPARITIES IN AFRICAN AMERICAN WOMEN WITH ARTHRITIS AND OSTEOARTHRITIS

Any damage to the joints from disease or injury can interfere with mobility and cause pain. Joint pain is extremely common and is usually a symptom of a musculoskeletal condition that affects the muscles, bones, joints, and nerves that support the neck, shoulders, arms, hands, wrists, back, hips, legs, knees, and feet.<sup>13,14</sup> Symptoms vary from mild, to moderate, to severe and in some cases make it difficult to walk, climb stairs and perform other daily activities.

It’s been demonstrated through studies that 27% of African Americans report having severe pain most of the time,<sup>15</sup> although they underreport pain in the clinical setting, especially in the presence of physicians who were perceived as having “higher social status.”<sup>16</sup> This is because African Americans are more likely to attribute pain to personal inadequacies and to use “passive” coping strategies, such as prayer, to deal with pain. They are also burdened with the stigma that is pervasive in health care that African



American patients are more likely to abuse drugs than Caucasian Americans and therefore should have less access to them, when in fact they are less likely to do so. As a result, Caucasian Americans receive more and better pain treatment.

Arthritis is a major cause of joint pain. It limits mobility and is known to be more severe in the African American community. The term arthritis is used as a general means of referring to joint pain or disease. It is a growing problem in general for all adults in the U.S.<sup>17</sup> however, its disabling effects are excessively prevalent in African American women. Osteoarthritis (OA) is the most common type of arthritis and occurs when cartilage between joints breaks down leading to pain, stiffness and swelling.<sup>18</sup>

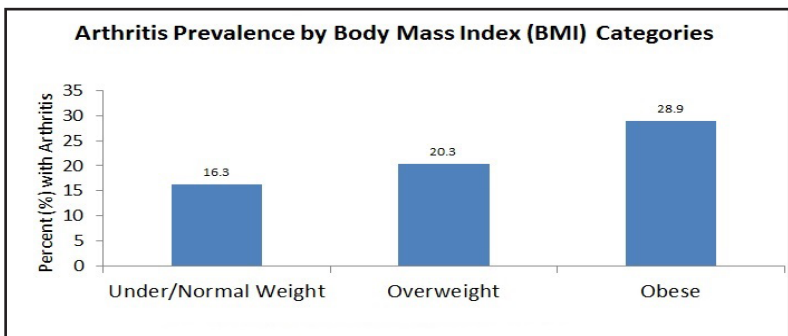
Every pound of excess weight exerts about 4 pounds of extra pressure on the knees.

According to the 2008 Kaiser Women's Health survey, 54% of African-American women reported having doctor diagnosed arthritis within the past five years, compared to 37% of Caucasian women.<sup>19</sup> As it relates to OA; studies suggest that African

American women are at risk for poorer outcomes than Caucasian women. The lifetime risk of developing osteoarthritis in the knee that causes pain is 45%; a study that looked at different segments of society showed that among people age 40 (without existing arthritis) African American women have the highest lifetime risk of developing painful knee osteoarthritis. The study further found that by age sixty-five, 11.3 % of African American women were expected to develop painful knee OA as compared to 10% of Caucasian women.<sup>20</sup>

Arthritis is more common among adults who are obese than among those who are of a healthy weight, and the higher risk factors seen among African American women in the study was attributed to higher rates of being over weight or obese. In fact, the age-adjusted prevalence of arthritis in general increases as body mass index increases from 16.3% among normal/underweight adults to 28.9% among obese adults is shown in graph 1. The percentage of women aged 50 to 84 years, who have symptomatic knee osteoarthritis, obesity, or both, ranges from 30% for Caucasians and 55% for African Americans.

**Graph 1. Age-Adjusted Arthritis Prevalence by Body Mass Index (BMI) Categories<sup>21</sup>**  
Data source: 2010-2012 National Health Interview Survey



Source: Daigle, Burbine, Katz; 2012



The rationale: the more weight that is placed on the joints of the body, the more likely they will wear down and become damaged. Additionally, fat itself creates and releases chemicals that cause inflammation that impact body systems including musculoskeletal and cardiovascular systems.<sup>22</sup>



The Black Women’s Health Imperative reports that 4 out of 5 black women are overweight.

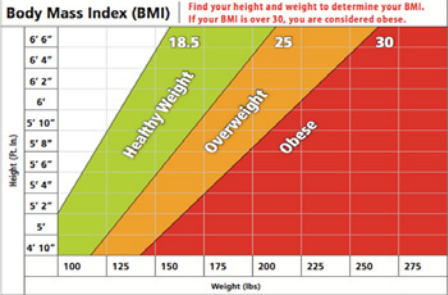
**The Correlation between Obesity and Lack of Physical Activity on Health Disparities in African American Women**

Obesity describes the ranges of weight that are greater than what is generally considered healthy for a given height.<sup>23</sup> The formula used to calculate body fat content, or body mass index (BMI), is to divide a person’s weight in kilograms by the square of their height in meters. An adult with a BMI between 25 and 29.9 is considered overweight; an adult who has a BMI of 30 or higher is considered obese (see figure below).

**Figure 1. Body Mass Index Chart**

**BMI Chart**

BMI less than 18.50	Underweight
BMI 18.50 - 24.99	Healthy weight
BMI 25.00 - 29.99	Overweight
BMI 30 or more	Obese



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The following table 1 provides an example of BMI ranges for a person who is 5'9"<sup>24</sup>:

**Table 1.**

Height	Weight Range	BMI	Considered
5' 9"	124 lbs. or less	Below 18.5	Underweight
	125 lbs. to 168 lbs.	18.5 to 24.9	Healthy weight
	169 lbs. to 202 lbs.	25.0 to 29.9	Overweight
	203 lbs. or more	30 or higher	Obese

BMI is one indicator of potential health risks associated with being overweight or obese. The National Heart, Lung, and Blood Institute guidelines also recommend measurement of a person's waist circumference, blood pressure and physical inactivity to assess the likelihood of developing obesity-related diseases.

In the United States, where obesity ranks as the second leading cause of preventable deaths,<sup>25</sup> nearly 80% of African American women are obese compared to 58% of Caucasian women. Among women age 20 years and older 59% of African American women were significantly more likely to be obese compared with 32% of Caucasian women. In a National Health Interview Survey (NHIS) from years 2005 to 2007, 69% of black non-Hispanic women self-reported that they were overweight or obese exceeding the 50% of white non-Hispanic women who self-reported.

Obesity is often associated with a sedentary lifestyle and diet, and as stated above, it carries with it an increased risk of heart disease, diabetes, depression, musculoskeletal disorders and other health conditions. African American women not only have the highest rates of obesity, but also the highest instances of obesity-related diseases<sup>26</sup>:

- 60% more likely to be diabetic.
- 30% more likely to die of heart disease.

It is widely known that an active lifestyle can help prevent weight gain, promote weight loss and mitigate the incidence of obesity-related conditions. Despite these benefits, African American women report particularly low levels of regular physical activity.<sup>27</sup>

### **Obesity and Weight Bias in Health Care**

Obesity describes the ranges of weight that are greater than what is generally considered healthy for a given height.<sup>28</sup> It is a recognized health risk but it also has social consequences as overweight and obese individuals are often targets of bias and stigma, and are vulnerable to negative attitudes in employment, educational institutions, healthcare settings, the media and personal relationships. Although there has been an active movement to promote self-acceptance among overweight people, few positively identify as overweight or obese, and view being "fat" stigmatizing.

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Biased attitudes toward obese patients have been well documented and include perceptions that they are unintelligent, unsuccessful, weak-willed, unpleasant, overindulgent and lazy. Weight discrimination in the US has increased by 66% in the past decade<sup>29</sup> and overweight patients report that:

- they are treated disrespectfully by health providers,<sup>30</sup>
- 53% of overweight/obese women report inappropriate comments from their doctor,<sup>31</sup> and
- they are more likely to cancel or delay medical appointments and preventive health care services (particularly women).<sup>32</sup>

However, individuals who experience weight stigmatization have higher rates of depression, anxiety and social isolation leading them to avoid interventions that will guide them in obtaining a healthy weight.<sup>33</sup>

## Thought Question

Why do you think that overweight African American women may avoid obtaining medical care even if they feel that they have a serious condition?

### *Distrust of Health Care and the Impact on Health Disparities*

Missed opportunities to establish trust and a therapeutic relationship with healthcare professionals has long been a deterrent to access medical care for African American patients. Generally, African Americans still lack overall confidence in the health care system and believe they are less likely to receive the same medications, treatments or quality of care as Caucasian patients.<sup>34</sup> As a result, over the decades, church became the source of healing for both body and soul when often there was no other healthcare available.<sup>35</sup> Although efforts have been made; healthcare providers continue to struggle with adapting to different cultural beliefs and practices and demonstrating respect for others' viewpoints about health and illness. The reluctance by healthcare providers to seek insight has a serious impact as seen in the disparity in heart disease and diabetic patients.

According to data from the National Center for Health Statistics, African American women live sicker and die younger than Caucasian women largely as a result of heart disease.

### *Heart disease*

Heart disease refers to any type of disorder that affects the heart and is the number one killer for all Americans. As the leading cause of death for women it accounted for 1 in every 4 female deaths in 2009.<sup>36</sup> Obesity, diabetes and high blood pressure are the most common

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conditions that increase the risk of heart disease, with African Americans being in the highest risk category.<sup>37</sup> Although only 1 in 5 African American women believe that they are personally at risk for heart disease,<sup>38</sup> African American women:

- suffer rates of heart disease that are twice as high as those among Caucasian women,<sup>39</sup>
- are 30% more likely to die from heart disease, and
- more likely to die from stroke or heart disease.

High blood pressure is a risk factor for heart disease. It causes scarred arteries that fill up with plaque and become more prone to blood clots. These clots block the blood supply to the heart muscle tissue and can lead to coronary heart disease or a heart attack. The U.S. Department of Health and Human Services (U.S. DHS) reports that African American adults are 40% more likely to have high blood pressure and African American women are 1.6 times as likely as Caucasian women to have high blood pressure. In 2011-2012, the prevalence of hypertension among non-Hispanic black adults was 42.1%, compared to 28% among non-Hispanic white adults.<sup>40</sup> Fifty-three percent of African American women reported having doctor diagnosed high blood pressure in the past five years, compared to 33% of white women according to the 2008 Kaiser Women's Health Survey. The mortality for African American women with high blood pressure is 352% higher than Caucasian women.

About 7.6% of African American women and 5.8% of Caucasian women have coronary heart disease.<sup>41</sup> In 2013; the age-adjusted death rate for coronary heart disease (per 100,000 populations) was 110.3 for African American women and 84.9 for Caucasian women. The mortality rate is 69% higher in African American women.<sup>42</sup>

Despite the alarming incidents of heart disease, African American women were 10% less likely to receive aspirin and 27% less likely to receive cholesterol-lowering drugs as reported in a comparison study on the differences in medical care and disease outcomes among black and white women.<sup>43</sup>

### **Type 2 Diabetes**

Diabetes is the condition in which the body does not properly process food for energy and the pancreas doesn't make enough insulin, or can't use its own insulin, as well as it should. This causes sugars to build up in the blood and can hurt parts of the body, such as the skin, kidneys, heart, nerves, eyes, and feet. It can even cause death.

African American adults are 70% more likely to be diagnosed with diabetes by a physician as Caucasian Americans, and 1.7 times as likely to be hospitalized. African Americans experience complications, such as end-stage renal disease and amputation, at a higher frequency. In fact, in 2010 the U.S. DHS found that African Americans were 2.2 times as likely to die from diabetes as Caucasians.<sup>44</sup> Being overweight or obese increases the likelihood of developing diabetes because the additional fat adds pressure on the body's ability to use insulin to control blood sugar levels. Almost 90% of people living with type 2 diabetes are overweight or have obesity.<sup>45,46</sup>

Type 2 diabetes (non-insulin-dependent diabetes or adult-onset diabetes) accounts for approximately 90% of all diagnosed cases of diabetes. It is one of the most significant

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health challenges facing African American women. Some of the risk factors for type 2 diabetes are:

- age,
- race,
- pregnancy,
- stress,
- genetics or family history,
- high cholesterol, and
- obesity.

During the period from 1980 to 2010, the age-adjusted prevalence of type 2 diabetes increased to 5.4% among Caucasian women as compared to 9.5% among African American women.<sup>47</sup> Of African American women age 20 or older, 12% have type 2 diabetes, and the rate accelerates as their age increases. One in four African-American women over 55 has type 2 diabetes in addition to many of the accompanying risk factors such as heart disease, kidney failure, high blood pressure and obesity.<sup>48</sup>

Diabetes can lead to peripheral arterial disease (PAD), a circulation problem where narrowed arteries reduce blood flow to the legs causing pain or numbness. If there is a sore on a patient's foot it can result in a life-threatening infection if blood cannot circulate to the leg properly. In spite of amputation being the treatment of last resort, African Americans are<sup>49</sup>:

- three times more likely than other patients to have a leg amputated because of complications with diabetes and PAD,
- likely to reach rates of seven times higher for risk of amputation in some areas of the Southeastern region of United States, and
- even more startling, in most cases low-risk African Americans patients experience a higher risk of amputation than nearly every other cultural group.

There are clinical guidelines for diabetics that can help reduce progression toward amputation<sup>50</sup>:

- yearly lipid profile,
- yearly micro-albuminuria analysis,
- quarterly Hgb A1C analysis,
- an annual foot exam,
- an annual eye exam, and
- at least 1 diabetes education session.

In a recent study, it was found that of patients, who succumbed to major lower leg amputations, 0% had good compliance with recommended clinical guidelines, 8% had

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average compliance and 92% had poor compliance. In contrast, patients who did not progress to major lower leg amputations, 28% had good compliance, 65% had average compliance and only 7% had poor compliance.

## Thought Question

An obese African American woman knows that she has diabetes but continues to eat food that is not on her diet. Why do you think she is non-compliant?

### *The Stigma of Depression and the Effect on African American Women*

Depression is a highly common medical condition that is often under-recognized and under-treated, especially in the African American community. Many African Americans fall victim to stigmas that prevent them from seeking treatment for depression. They view depression, or any other form of mental illness, as a sign of weakness. Younger generations of these ethnic groups may feel that they should have little reason to be depressed when their lives are less burdened, and their ancestors have overcome so much. The tendency is to minimize the significance of stress therefore ignoring the threat of mental illness and striving to overcome problems through self-reliance and determination.

Major depression manifests through severe symptoms such as joint pain, fatigue, gastrointestinal problems and appetite changes that interfere with the ability to actively enjoy life.<sup>51</sup> Individuals who are overweight are often more likely to suffer from depression. It is difficult to determine which comes first; however, it is commonly known that individuals who are depressed have a higher likelihood of binge eating and not exercising regularly.

In 2012, an estimated 16 million adults aged 18 or older in the U.S. had at least one major depressive episode in the past year. This represented 6.9% of all U.S. adults. About 1 in 5 women develop depression during their lifetime and it is estimated that the depression rate among African American women is nearly 50% higher than that of Caucasian women.<sup>52</sup> African American women are also 20% more likely to report having serious psychological distress than Caucasian adults.

Table 2 summarizes data from the 2010 National Health Interview Survey (NHIS) regarding aspects of depression in African American and Caucasian women.

Overall, Caucasian adults were less likely to have feelings of sadness all, most, or some of the time during the 30 days prior to the interview than African American adults. Conversely, African Americans were more likely to feel that everything is an effort all, most, or some of the time during the 30 days prior to the interview than either non-Hispanic white adults or Hispanic adults.



**Table 2. Percent of population with feelings of sadness, hopelessness, worthlessness, or that everything is an effort all of the time, among persons 18 years of age and over.**

	Non-Hispanic Black Women	Non-Hispanic White Women	Non-Hispanic Black Women/ Non-Hispanic White Women Ratio
Sadness	5.2	3.2	1.6
Hopelessness	2.8	2.1	1.3
Worthlessness	2.5	1.9	1.3
Everything is effort	10.4	6.1	1.7

Source: CDC 2012. Summary Health Statistics for U.S. Adults: 2010. Table 14.  
[http://www.cdc.gov/nchs/data/series/sr\\_10/sr10\\_252.pdf](http://www.cdc.gov/nchs/data/series/sr_10/sr10_252.pdf)

Depression is alive and thriving among African American women. There has been a movement to end the silence and start discussions about how spiritual guidance along with professional mental health treatment can be beneficial to recovery and enhance overall quality of life.

### Thought Question

An African American woman was diagnosed with depression during an annual medical appointment that coincided with the breakup with her fiancé. At that time she had mood, sleep and appetite symptoms. She was functioning well at work, and had a good social network. She was prescribed medication, which she did not take, and as a result her symptoms have not improved. What culturally rooted traditions may she have been relying on to cope with her depression in place of taking the prescribed medication?

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## SUMMARY

Health disparities among minority groups disproportionately affect a growing segment of our population. They not only affect the day-to-day experiences of individual patients, but also threaten the well-being of communities at large.

The health issues and incidents of mortality faced by African American women are immense. A black woman with joint pain has only scratched the surface of her possible underlying problems that are highly likely to include onset of obesity due to lack of mobility, developing diabetes as a result of excess weight, heart disease from the strain that the other conditions place on her heart and depression manifested as a result of having to cope with several co-morbidities that have been added to life's usual stressors. It is truly a vicious cycle that is difficult to interrupt. Eliminating disparities requires fostering trust and acknowledging patients' beliefs, social and economic challenges, and understanding the specific needs of African American women.



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## GLOSSARY

### **Bias**

An attitude that projects favorable or unfavorable dispositions towards people; biases may be conscious (explicit) or unconscious (implicit), even among well intended.

### **Body mass index (BMI)**

Body mass index (BMI) is a measure of body fat based on height and weight that applies to adult men and women. It is used as an indicator of potential health risks associated with being overweight or obese.

### **Cross-cultural communication**

How individuals endeavor to communicate across different cultures.

### **Discrimination**

Behavioral manifestation of bias, stereotyping, and prejudice; it is the manner in which others are treated.

### **Disparities**

Health disparities are preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations.

### **Explicit Bias**

An attitude that somebody is consciously aware of having. Research has found that implicit and explicit biases are often diverging. For example, a person may consciously express a neutral or positive opinion about a social group that they unconsciously hold a negative opinion about.

### **Implicit Bias**

A positive or negative mental attitude towards a person, thing, or group that a person holds at an unconscious level.

### **Osteoarthritis (OA)**

Sometimes called degenerative joint disease or “wear and tear” arthritis, osteoarthritis (OA) is the most common chronic condition of the joints.

### **Prejudice**

Refers to a positive or negative evaluation of another person based on their perceived group membership ie, in-group versus out-group.

### **Sedentary**

A sedentary lifestyle is a type of lifestyle with no or irregular physical activity.

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## REFERENCES

1. Institute of Medicine (IOM). *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Washington, DC: The National Academies Press; 2003.
2. White A, Chanoff D. *Seeing Patients: Unconscious Bias in Health Care*. Cambridge, MA: Harvard University Press; 2011: 211-217.
3. Institute of Medicine. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Washington, DC: The National Academies Press; 2001.
4. Health Resources and Services Administration. About HRSA. <http://www.hrsa.gov/about/organization/bureaus/ohe>. Accessed May 5, 2015.
5. U.S. Department of Commerce Economics and Statistics Administration. [PDF]. Age and sex composition: 2010. <http://www.census.gov/prod/cen2010/briefs/c2010br-03.pdf>. Accessed May 5, 2015.
6. U.S. Department of Health and Human Services. *A Century of Women's health: 1900-2000. Office of Women's Health*. Washington, DC: USDHHS; 2002.
7. Lyubansky M. Studies of Unconscious Bias: Racism Not Always by Racists. Psychology Today. <https://www.psychologytoday.com/blog/between-the-lines/201204/studies-unconscious-bias-racism-not-always-racists>. Accessed March 1, 2015.
8. Smedley BD, Stith AY, Nelson AR. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare*. Washington, DC: National Academy Press; 2003.
9. van Ryn M, Fu SS. Paved with good intentions: do public health and human service providers contribute to racial/ethnic disparities in health? *Am J Public Health*. 2003 Feb;93(s):248-255.
10. White AA. *Seeing patients: Unconscious bias in health care*. Cambridge, MA: Harvard University Press; 2011.
11. CHUBB, Cook Ross, Inc. [PDF] Proven Strategies for Addressing Unconscious Bias in the Workplace. <http://www.cookross.com/docs/UnconsciousBias.pdf>. Accessed January 2, 2015.
12. Grant A, Sandberg S. When Talking About Bias Backfires. *NY Times*. [http://mobile.nytimes.com/2014/12/07/opinion/sunday/adam-grant-and-sheryl-sandberg-on-discrimination-at-work.html?\\_r=3&referrer=](http://mobile.nytimes.com/2014/12/07/opinion/sunday/adam-grant-and-sheryl-sandberg-on-discrimination-at-work.html?_r=3&referrer=). Accessed August 16, 2014.
13. AAOS. Information about Musculoskeletal Conditions. <http://www.aaos.org/research/stats/patientstats.asp>. Accessed May 8, 2015.
14. Arthritis Research UK. Musculoskeletal care module. <http://elearning.rcgp.org.uk/course/info.php?id=118>. Accessed May 8, 2015.
15. Reyes-Gibby CC, Aday LA, Todd KH, Cleeland CS, Anderson KO. Pain in aging community-dwelling adults in the United States: non-Hispanic whites, non-Hispanic blacks, and Hispanics. *J Pain*. 2007;8(1):75-84.
16. Mossey JM. Defining racial and ethnic minorities in pain management. *Clin Orthop Relat Res*. 2011;469(7):1859-1870.
17. Kisha Holden, et.al. Toward culturally centered integrative care for addressing mental health disparities among ethnic minorities. Psychological Services. *American Psychological Association*. 2014;11(4): 357-368.

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18. Arthritis Foundation. What is osteoarthritis. <http://www.arthritis.org/about-arthritis/types/osteoarthritis/what-is-osteoarthritis.php>. Accessed May 8, 2015.
  19. The Henry J. Kaiser Family Foundation. Women's Healthcare Chartbook. <http://files.kff.org/attachment/2014-employer-health-benefits-survey-full-report>. Access May 9, 2015.
  20. Holman AJ. [PDF] Using Dynamic MRI to Diagnose Neck Pain: The Importance of Positional Cervical Cord Compression (PC3). *Practical Pain Management*. 2012 Dec:51-55. [http://www.positionalcordcompression.com/images/PPM\\_2012.pdf](http://www.positionalcordcompression.com/images/PPM_2012.pdf). Accessed May 8, 2015.
  21. Barbour KE, Helmick CG, Theis KA, et al. Prevalence of doctor-diagnosed arthritis and arthritis-attributable activity limitation-United States, 2010-2012. *Morb Mortal Wkly Rep*. 2013;62(44):869-873. PubMed PMID: 24196662.
  22. Kane A. How fat affects arthritis. Arthritis Foundation. <http://www.arthritis.org/living-with-arthritis/comorbidities/obesity-arthritis/fat-and-arthritis.php>. Accessed May 11, 2015.
  23. CDC. Defining overweight and obesity. <http://www.cdc.gov/obesity/adult/defining.html>. Accessed May 6, 2015.
  24. CDC. Body mass index. <http://www.cdc.gov/healthyweight/assessing/bmi/index.html>. Accessed May 6, 2015.
  25. Mokdad AH, Marks JS, Stroup DF, Gerberding JL. Actual causes of death in the United States, 2000. *JAMA*. 2004;291(10):1238-1245.
  26. Lynch CS, Chang JC, Ford AF, Ibrahim SA. Obese African-American Women's Perspectives on Weight Loss and Bariatric Surgery. *Journal of General Internal Medicine*. 2007;22(7):908-914. doi:10.1007/s11606-007-0218-0.
  27. US Department of Health and Human Services. 2008 Physical Activity Guidelines for Americans., Washington, DC: USDHHS; 2008.
  28. CDC. Defining overweight and obesity. <http://www.cdc.gov/obesity/adult/defining.html>. Accessed May 6, 2015.
  29. Puhl R, Brownell KD. [PDF] Bias, Discrimination, and Obesity. Rudd Center for Food Policy and Obesity (Yale University). <http://www.yaleruddcenter.org/resources/upload/docs/what/bias/Bias-Discrimination-and-Obesity.pdf>. Accessed May 20, 2015.
  30. Anderson, Wadden. Bias, Discrimination, and Obesity. Rudd Center for Food Policy and Obesity (Yale University). <http://www.yaleruddcenter.org/resources/upload/docs/what/bias/Bias-Discrimination-and-Obesity.pdf>. Accessed May 20, 2015.
  31. Puhl & Brownell. Weight Bias in Health Care Implications for Patients, Providers, and Public Health. [http://www.chip.uconn.edu/chipweb/lectures/20090219\\_Rebecca\\_Puhl/Presentation/RPuhl.pdf](http://www.chip.uconn.edu/chipweb/lectures/20090219_Rebecca_Puhl/Presentation/RPuhl.pdf). Accessed May 20, 2015.
  32. Obesity Society. Obesity, Bias, and Stigmatization. <http://www.obesity.org/resources-for/obesity-bias-and-stigmatization.htm>. Accessed on May 20, 2015.
  33. Obesity Society. Obesity, Bias, and Stigmatization. <http://www.obesity.org/resources-for/obesity-bias-and-stigmatization.htm>. Accessed on May 20, 2015.
  34. Newlin K, Knaff K, Melkus GD. African-American spirituality. *ANS Adv. Nurs. Sci*. 2002;25:57-70.
-

- 
35. George LK, Ellison CG, Larson DB. Explaining the relationships between religious involvement and health. *Inquiry*. 2002;13:190-200.
  36. Kochanek KD, Xu JQ, Murphy SL, Miniño AM, Kung HC. Deaths: final data for 2009[PDF-2M]. *National vital statistics reports*. 2011;60(3).
  37. American Heart Association. African Americans and heart disease. [http://www.heart.org/HEARTORG/Conditions/More/MyHeartandStrokeNews/African-Americans-and-Heart-Disease\\_UCM\\_444863\\_Article.jsp](http://www.heart.org/HEARTORG/Conditions/More/MyHeartandStrokeNews/African-Americans-and-Heart-Disease_UCM_444863_Article.jsp). Accessed May 8, 2015.
  38. Duke University Translational Medicine Institute. Blacks Under-Represented in Clinical Trials. <https://www.dtmi.duke.edu/news-publications/news/dtmi-news-archives/blacks-under-represented-in-clinical-trials>. Accessed May 7, 2015.
  39. Black Women's Health Imperative. News. <http://www.bwhi.org/news/2013/12/23/women-health-news1/4-out-of-5-black-women-are-overweight.-this-group-has-the-solution-and-they-are-on-the-march/>. Accessed May 9, 2015.
  40. U.S. Department of Health and Human Services Office of Minority Health. Diabetes and African Americans. <http://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=19>. Accessed May 9, 2015.
  41. Roger VL, Go AS, Lloyd-Jones DM, Benjamin EJ, Berry JD, Borden WB, et al. Heart disease and stroke statistics—2012 update: a report from the American Heart Association. *Circulation*. 2012;125(1):e2-220.
  42. Williams RA. Cardiovascular disease in African American women: a health care disparities issue. *J Natl Med Assoc*. 2009;101:536-40.
  43. Jha AK, Varosy PD, Kanaya AM, et al. Differences in Medical Care and Disease Outcomes among Black and White Women With Heart Disease. *Circulation*. 2003;108:1089-1094.E39-e90.
  44. U.S. Department of Health and Human Services Office of Minority Health. Diabetes and African Americans. <http://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=18>. Accessed May 9, 2015.
  45. Obesity Society. Your weight and diabetes. <http://www.obesity.org/resources-for/your-weight-and-diabetes.htm>. Accessed May 7, 2015.
  46. CDC. Living with Diabetes. <http://www.cdc.gov/diabetes/living/index.html>. Accessed May 6, 2015.
  47. CDC, National Center for Health Statistics. Division of Health Interview Statistics, data from the National Health Interview Survey.
  48. Office of Women's Health, DHS. Diabetes. <http://www.diabetes.org/living-with-diabetes/treatment-and-care/women/coronary-heart-disease.html>. Accessed May 7, 2015.
  49. A Dartmouth Atlas of Health Care Series. [PDF] Variation in the care of surgical conditions: Diabetes and peripheral arterial disease. 2014. [http://www.dartmouthatlas.org/downloads/reports/Diabetes\\_report\\_10\\_14\\_14.pdf](http://www.dartmouthatlas.org/downloads/reports/Diabetes_report_10_14_14.pdf). Accessed May 20, 2015.
  50. Nash T, Bellew JW, Cunningham M, McCulloch J. Identifying cause for advancement to amputation in patients with diabetes: The role of medical care and patient compliance. *Wounds*. 2005;17(2):32-36.
-

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51. National Institute of Mental Health. What is Depression? <http://www.nimh.nih.gov/health/topics/depression/index.shtml>. Accessed May 7, 2015.
  52. Black Women's Health. Black Women and Mental Health. <http://blackwomenshealth.com/blog/black-women-and-mental-health/#sthash.IsCsTho8.pdf>. Accessed May 9, 2015.