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Sociology 204
Final Paper

Sociological Causes of and Responses to the Increasing Incidence of Metabolic Syndrome

Medical problems are often viewed as personal problems, private problems. However, some medical problems are closely linked to social conditions and cultural patterns of behavior, and hence deserve a sociological analysis of their causes and impacts, as well as sociological remedies. Metabolic syndrome is one such problem.

Metabolic syndrome is a collection of interrelated disorders of the metabolism, including high blood sugar, high circulating blood lipids (fats), high blood pressure, low good (HDL) cholesterol, and abdominal obesity. These imbalances in metabolism exacerbate each other, meaning that a worsening of any of these issues is likely to cause or worsen the others. Metabolic syndrome can lead to serious health consequences like diabetes, heart attack, stroke, kidney failure, gout, disease of the liver and gallbladder, cancer, amputations, blindness (Isaacs & Vagnini, 2006). This list shows the extent of death, disability, and human suffering that can result.

Around 27% of Americans have metabolic syndrome and the rate is even higher among racial and ethnic minorities and those over age 60 (Isaacs & Vagnini, 2006). While metabolic syndrome is a relatively recent as a medical category, its incidence is rising. The rate of increase is most clearly seen through tracking the increasing incidence of the individual disorders that comprise, or result from, metabolic syndrome. Obesity in America has risen from 13% to 31% in the past 40 years, and an amazing 63% of Americans are overweight. Childhood obesity has more than tripled in the last 20 years (American Sports Data, Inc., 2006). From 1980 to 2006, the number of Americans with diabetes tripled (Centers for Disease Control and Prevention (CDC), *Number,* 2008). Heart disease is the leading cause of death in the U.S., and a major cause of disability (CDC, *Heart,* 2009).

With metabolic syndrome rapidly becoming more common, all those interested in reducing

human suffering and healthcare costs should look to the causes of this syndrome with an eye to its prevention and reversal. At an individual level, metabolic syndrome carries an increased risk of early death or long-term disability. Those living with metabolic syndrome run the risk of decreased quality of life from such factors as fatigue and pain for years before obvious medical complications such as heart attack or blindness occur. The medical management of this syndrome requires a substantial amount of time and money by the patient, as there is no quick cure and these chronic conditions often worsen despite regular, ongoing medical attention. 75% of healthcare costs in the U.S. are for chronic conditions, many of which are related to metabolic syndrome, and these costs are born both by the individual and by the whole society – medical agencies, insurance companies, all healthcare consumers, and taxpayers (Lubkin & Larsen, 2006). Disability related to metabolic syndrome also negatively impacts economic productivity, as workers miss work or are unable to work.

What are the causes of this syndrome? Just as metabolic syndrome is a diverse collection of disorders, so it has diverse causes. Genetics seem to predispose some people to metabolic syndrome, but this does not account for its increasing incidence, since our genes have not changed in the last few decades. The risk of metabolic syndrome does increase with age, so as our life expectancy rises, this leads to more cases. However, the primary change that has lead to the increase in metabolic syndrome is a change in our behavior. In the last few decades Americans have become more sedentary and increasingly eat diets conducive to weight gain, including larger portions, more fat, and less fruits, vegetables, and whole grains. The collective impact of this change in exercise and diet is imbalance in our metabolism. Our bodies' biology just cannot cope with long-term inactivity and overconsumption of calories, so a variety of diseases emerge from this situation. Fortunately, if caught at the stage of metabolic disorder, before it has progressed to diabetes or heart disease, metabolic disorder can usually be corrected through improved diet and exercise. In 2005 a randomized trial called the Diabetes Prevention Program compared lifestyle change to medication therapy and found far more improvement in the disorders of metabolic syndrome with lifestyle change, including diet change, increased exercise,

weight loss, and professional support (Repas, 2007).

But why have we developed such poor diets and inactive lifestyles? The dramatic increases in metabolic syndrome show that this is not a matter of a few people making poor choices, but rather a social change in which huge numbers of people are changing their lives and habits in similar, and unhealthy, ways. What are these social factors that are encouraging us down such an unhealthful path? And how can we change both our individual lives and the structures and policies of our communities to counter this trend? Metabolic syndrome is a medical problem, but because its primary roots are in human behavior, its solution must lie in changes by individuals and society, not just in strictly medical solutions from doctors and nurses. The rest of this paper will explore various sociological trends that have contributed to the rise of metabolic syndrome and what individuals and social institutions can do to remedy the situation.

The social environment influences individual behavior by making certain options easier or harder and by making value judgments that encourage or discourage certain behaviors. However, people have an amazing capacity for creativity and flexibility, so individuals usually have the option to behave in ways that go against a societal trend or even in ways that violate societal norms and values. The key to individual behavioral change to prevent or reverse metabolic syndrome is to become motivated, make a realistic plan for regular exercise and a balanced diet, and maintain that motivation until the new behavior becomes a habit. Initial motivation is often easy, whether it comes from the surprise of a medical diagnosis, the health struggles of a friend, an article in the newspaper, or a thoughtful reevaluation of personal priorities. Translating motivation into a plan is harder, because it requires reassessing habits that may feel normal, pleasurable, or necessary. "I want to exercise, but between work and the kids I'm too busy." "I want to lose weight, but I can never seem to stop myself from eating dessert." These excuses can't be dismissed, because they reflect our real feelings and needs. Rather we have to think beyond these excuses to how we can make changes *despite* the challenge of a busy life or the temptation of tasty treats. Maybe the working parent can go for a walk

on their breaks at work, exercise by playing with the kids, or wake up 30 minutes earlier in the morning. Maybe the dessert-lover can focus on adjusting the rest of their diet, and then buy no-fat versions of favorite desserts or pre-cut desserts into smaller portions so they don't feel deprived. There are all sorts of creative ways to adjust our behavior. When it is hard to see the options, someone like a friend, nurse, personal trainer, or nutritionist might have ideas of things to try.

The biggest challenge is generally in maintaining motivation and behavior change over time. This is where a support network of some kind can be invaluable. People are very social creatures, so encouragement, ideas, and feedback from other people is often more effective than purely private processes. Support for changes in diet and exercise could come from family, friends, neighbors, a healthcare provider, a support group such a Weight Watchers, or a counselor. Change your diet as a family, buying different groceries and preparing different kinds of meals. Exercise with a friend or neighbor, or join an exercise class where you can meet new friends with similar goals. Make a regular appointment with your doctor, their nurse, or a counselor to review your progress and discuss difficulties. Join a support group, and ask them to call you if you don't attend. Track your progress so if you have a frustrating week, you can see the bigger picture. Then start again the next week - habits are hard to change.

Unfortunately, individual behavioral change is difficult and weight loss notoriously so. The Diabetes Prevention Program study also found that despite extensive support only half of its lifestyle change participants met a modest weight loss goal. A separate survey study called the National Weight Control Registry followed people who had been *successful* at long-term weight loss. It found that in one year of monitoring 35% of participants gained weight (Repas, 2007). In theory, changes in individual health behaviors can prevent and reverse metabolic disorder, but many barriers make it difficult for individuals to follow through on recommendations or intentions for behavioral change. From a sociological perspective this is unsurprising. If broader societal trends caused the widespread increase in metabolic disorder, those trends must be addressed in order to effectively decrease the

incidence of metabolic disorder. Some individuals will be able to change their lifestyle without societal change, but this problem has societal causes and requires societal solutions if the most Americans are to avoid metabolic disorder. All levels of social institution can have a role, from national government to city council, non-profit organizations to schools, employers to food manufacturers.

First, let us explore the sociological factors that have contributed to an American diet high in calories, saturated fat, and processed foods and low in fiber. Throughout the 20th century, international free trade, corporate production of food, and governmental food subsidies reduced the cost of food, at the same time producing lower-nutrient, higher-fat foods in larger portions. People can afford more food than ever, and the types of food that are cheapest and provided most conveniently are high-fat and high-sugar. Overall economic advancement has meant that as people get richer, they also generally choose to eat more meat. Fresh produce is more difficult to ship long distances and store for long periods, so is not favored in an international food market. Non-processed foods don't create as much brand loyalty, so are not favored by food companies competing for market share.

As more women entered the workforce and more families depended on two incomes, people sought convenient foods that would reduce food preparation time at home. This lead both to highly-processed foods for consumption at home and to fast-food options away from home. Cash-strapped schools found willing suppliers of cheap food in these new fast-food companies. As more and more food was provided through brands and corporations, advertising kept pace, enticing consumers to center their diet around these products. Dense urban centers were particularly affected by lack of non-convenience foods such as fresh produce. As inner cities became notorious for crime and poverty due to demographic changes, grocery stores fled along with other businesses, leaving the poor, usually also racial minorities, with fewer healthy food choices (Friel, Chopra, Satcher, 2007).

This brief overview of the social changes that have impacted the American diet suggests a wide range of responses that could return us to a more healthful diet. Government food subsidies could be shifted to encourage production of food grains and legumes, and fruits and vegetables, rather than sugar

and livestock feed. Local food production, which facilitates delivery of fresh produce, can be encouraged through subsidies, advertising, and sponsorship of farmers' markets, community gardens, and gardening classes. Cities can use zoning and financial incentives to bring grocery stores, produce stands, and farmers' markets into all parts of the city, including poor and minority areas. State food stamp programs can partner with farmers' markets and produce stands so that stamp recipients can use their benefit in these venues. Food banks can partner with farmers and non-profit gleaning groups to increase the fresh produce available to the poor. Schools can remove fast-food and junk food from the campus, and provide balanced meals and healthy vending machine snacks and drinks. Groups like Parks and Recreation, community colleges, and community groups can offer classes in healthy cooking, geared toward special interests like eating on a budget, ethnic menus, and quick family meals. Schools can provide regular nutrition education to children, and community health departments and employers can extend this information to adults. Food manufacturers can accurately label their products with nutritional information and design products that provide greater nutrition per calorie.

Second, let us explore the sociological factors that have contributed to the sedentary American lifestyle. The nature of most people's work has become less physical throughout the 20th century. Where most people used to farm or work in physical trades, now most work sitting in offices. Urban planning in the 20th century focused on the automobile to such an extent that many roads and areas were built without provision for pedestrians or bikes, and many areas were left without parks or open spaces for recreation. Those in the suburbs had nice places to walk, but had to drive long distances to get anywhere they needed to go, like the store or work. Those in urban areas feared crime, traffic, and pollution if they went for a walk, and usually also needed the car to get around. Whether due to distance or fear of crime, most children cannot walk or bike to school. Exercise is no longer integrated into our work or transportation, but physical activity during leisure hours has not compensated – television, computers, and video games dominate (Friel, Chopra, Satcher, 2007).

Exercise can be brought back into the workplace through employer plans such as on-site gym or

exercise classes, subsidized gym membership, sponsorship of company sports teams, or encouragement of exercise during breaks. Urban planning can do many things to make exercise part of everyday life and provide for recreational exercise opportunities. New roads can be built, and old ones retrofitted, to provide sidewalks and crosswalks for pedestrians and bike lanes for bikers. Parks can be incorporated into new areas, and created in old neighborhoods. Walking and running paths can be created. City government can improve law enforcement coverage in neighborhoods where outdoor exercise is currently unsafe. Organizations like Parks and Recreation and community colleges can offer affordable exercise classes and sports leagues, using sites like schools and clinics that are closed on the weekends and offer nearby access and safety from crime and poor weather. Large businesses like malls can create early morning hours and incentive programs for people to come indoors and walk.

Even with all these opportunities for structural changes to support lifestyle change, we cannot turn back the clock to a nineteenth century lifestyle. People will continue to have more unhealthy eating options than they did a century ago. Most people will continue to have relatively sedentary jobs that fill most of their daytime hours, and will need to *choose* to engage in physical activity. Societal changes can make it easier to make healthy choices, or even punish unhealthy ones, but individuals still have to make those choices. For individuals that struggle with these choices or have a genetic predisposition toward metabolic disorder, personal support in making ongoing healthy choices may be needed. The medical profession can have a particular role in providing effective support for lifestyle change since it can use research to design the best programs and approaches. However, preventive care, chronic disease management, and behavioral change therapy are not areas in which the American medical industry currently excels. The final portion of this paper will look at several structural changes the medical industry could make to more effectively support behavior change in those struggling with metabolic disorder, or trying to prevent it.

First, in order for medical professionals to help prevent metabolic disorder, patients need to have financial access to their services. Everyone needs to have medical insurance and that insurance

needs to provide reimbursement for preventive care visits, for regular visits to monitor and manage chronic disease, and for lifestyle change classes. The U.S. healthcare system developed largely to treat acute incidents of disease, but the reality is that most patient complaints and healthcare costs are now related to chronic disease that can usually be prevented through lifestyle change. Our current system does not allow for visits that are frequent enough or intense enough to effectively address these chronic issues. Our model of healthcare delivery, and financial reimbursement, needs to shift to allow a multifaceted approach to care delivery. The traditional 15-minute visit to a doctor needs to be supplemented with the possibility of regular visits with a nurse, support group meetings, educational classes, exercise and cooking classes, and more. To be cost effective, these interventions don't always have to be with a doctor. Less expensive professionals in the team, like a dietician or nurse, can provide many visits. Support and education can often be provided in a group setting, with the added benefit of social networking among patients with similar goals. Technology can also play a role in efficiently supporting large populations of at risk patients, using online educational materials and secure email communication for rapid, ongoing support. This use of technology is being explored in a current research study called E-LITE (Ma, et al., 2009).

Research can inform what sort of counseling and techniques should be used. A growing number of studies show that a technique called therapeutic lifestyle change can prevent or delay the onset of diabetes in a large proportion of at risk participants, and is more effective than medication therapy. Examples of such success include the Coronary Health Improvement Project (Merrill and Aldana, 2009) and the Diabetes Prevention Program (Repas, 2007). Therapeutic lifestyle change promotes health food intake, weight loss, increased exercise, and ongoing contact with a lifestyle coach. This is achieved through intensive education, planning for lifestyle change, and continuing contact with a coach, who could be a nurse, social worker, dietician, or other professional. This approach requires time to partner with the patient to strategize how they individually will work toward these goals, and to modify the plan over time. The old approach of telling a patient they are in danger and should lose

weight is obviously insufficient. The way in which education is provided and the supports given to the creation and maintenance of a behavior change plan are key. One communication technique that is well-suited to this task is motivational interviewing. Motivational interviewing works to enhance motivation by exploring potential difficulties and excuses without placing blame or making the patient feel defensive. It focuses on the patient as an individual who is best able to create a realistic plan for themself, encouraging the person to recognize and use this ability. The "interviewer" takes the role of a collaborator, one who can provide information and ideas, but in more of a facilitating role. Some of the communication techniques used are open-ended questions, reflecting the patient's ideas, correcting misinformation, exploring goals, listing pros and cons, asking about concerns, refocusing the conversation, offering new ideas or perspectives, affirming the patient's feelings and ideas, and emphasizing personal control (Carino, Coke, Gulanick, 2004). Such an open conversation, focused on the person's individuality can help reveal such crucial issues as what is their barrier to exercise. It could be a fear of failure, an unsafe neighborhood, knee pain, a busy schedule, or lack of money to participate in their favorite sport. Helping the patient identify these barriers allows for exploration of their level of motivation and problem-solving to overcome those specific barriers.

Therapeutic lifestyle change and motivational interviewing require time and an ongoing relationship, but healthcare providers can begin using these techniques in their daily practice even before structural changes to healthcare delivery and insurance reimbursement happen. Many providers see their patients more than once, and can begin modifying how they discuss metabolic disorder, its causes, and its remedies. Multi-provider practices can experiment with reallocating a few hours of nursing time to a weekly support group, or hiring a dietician for a few hours a week to lead an educational class. In a world where most health complaints can't be fixed during a 15-minute appointment, healthcare providers need to re-think their role. The authoritative provider of cures needs to learn to become the well-informed partner who provides ideas, support, and resources to patients with complex medical issues requiring lifestyle change. And perhaps also the advocate for social

change to remedy the root causes of our unhealthy lifestyles.

I am studying to become a nurse, and am particularly interested to work in preventive health care or chronic disease management. As I have explored nursing schools and potential post-graduation jobs, I have been saddened by how little of the training or the available jobs focuses on preventive care or even chronic care, despite the fact that it comprises the majority of healthcare expenditures. There clearly needs to be structural adjustment to all levels of healthcare education, delivery and reimbursement so that more resources are put into combating our current major health challenges. Metabolic disorder is at the root of much of the diabetes and heart disease, and some of the cancer, that are the major health threats for America. Rather than waiting to engage in heroic, expensive medical interventions once disease is severe, we need to reshape our medical system to do a better job at preventing and reversing conditions like metabolic syndrome. This needs to include structural changes in the medical industry and personal behavior change from healthcare providers, such as in communication technique and attitude. It also needs to include advocacy for wider social changes that support healthy lifestyles so that our patients are not trying to work against the trends of our society. I know from personal experience that making diet and exercise changes are difficult. I have many financial and social advantages that facilitate a healthy lifestyle, such as money to shop at a nearby produce store, a safe neighborhood for walking, and fun, affordable exercise classes at the nearby college, but even so, changing habits is hard. Many huge social changes of the 20th century had the inadvertent effect of causing unhealthy diets and inactivity for most Americans. It will take a concerted, society-wide effort to create new patterns of diet and exercise that return us to a healthier lifestyle.

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