The Shifting Engines of Medicalization*

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Social scientists and other analysts have written about medicalization since at least the 1970s. Most of these studies depict the medical profession, interprofessional or organizational contests, or social movements and interest groups as the prime movers toward medicalization. This article contends that changes in medicine in the past two decades are altering the medicalization process. Using several case examples, I argue that three major changes in medical knowledge and organization have engendered an important shift in the engines that drive medicalization: biotechnology (especially the pharmaceutical industry and genetics), consumers, and managed care. Doctors are still gatekeepers for medical treatment, but their role has become more subordinate in the expansion or contraction of medicalization. Medicalization is now more driven by commercial and market interests than by professional claims-makers. The definitional center of medicalization remains constant, but the availability of new pharmaceutical and potential genetic treatments are increasingly drivers for new medical categories. This requires a shift in the sociological focus examining medicalization for the twenty-first century.

Social scientists and other analysts have written about medicalization since at least the 1970s. While early critics of medicalization focused on psychiatry (Szasz 1970) or a more general notion of medical imperialism (Illich 1975), sociologists began to examine the processes of medicalization and the expanding realm of medicine (Freidson 1970; Zola 1972). As sociological studies on medicalization accumulated (see Conrad 1992, 2000) it became clear that medicalization went far beyond psychiatry and was not always the product of medical imperialism, but of more complex social forces. *The essence of medicalization became the definitional issue: defining a problem in medical terms, usually as an illness or disorder, or using a medical intervention to treat it.* While the medicalization process could be bidirectional and partial rather than complete, there is strong evidence for expansion rather than contraction of medical jurisdiction.

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RISE OF MEDICALIZATION

Most of the early sociological studies took a social constructionist tack in investigating the rise of medicalization. The focus was on the creation (or construction) of new medical categories with the subsequent expansion of medical jurisdiction. Concepts such as moral entrepreneurs, professional dominance, and claims-making were central to the analytical discourse. Studies of the medicalization of hyperactivity, child abuse, menopause, post-traumatic stress disorder (PTSD), and alcoholism, among others, broadened our understanding of the range of medicalization and the attendant social processes (see Conrad 1992).

If one conducted a meta-analysis of the studies from the 1970s and 1980s several social factors would predominate. At the risk of oversimpli-

fication, I suggest that three factors underlie most of those analyses. First, there was the power and authority of the medical profession, whether in terms of professional dominance, physician entrepreneurs, or, in its extremes, medical colonization. Here, the cultural or professional influence of medical authority is critical. One way or another, the medical profession and the expansion of medical jurisdiction was a prime mover for medicalization. This was true for hyperactivity, menopause, child abuse, and childbirth, among others. Second, medicalization sometimes occurred through the activities of social movements and interest groups. In these cases, organized efforts were made to champion a medical definition for a problem or to promote the veracity of a medical diagnosis. The classic example here is alcoholism, with both Alcoholics Anonymous and the "alcoholism movement" central to medicalization (with physicians reluctant, resistant, or irresolute). But social movements were also critical in the medicalization of PTSD (Scott 1990) and Alzheimer's disease (Fox 1989). Some efforts were less successful, as in the case of multiple chemical sensitivity disorder (Kroll-Smith and Floyd 1997). In general, these were organized grassroots efforts that promoted medicalization. Third, there were directed organizational or inter or intra professional activities that promulgated medicalization, as was the case with obstetricians and the demise of midwives (Wertz and Wertz 1989) or the rise of behavioral pediatrics in the wake of medical control of childhood diseases (Pawluch 1983; Halpern 1990).

To be sure, there were other contributing factors that were implicated in the analyses. Pharmaceutical innovations and marketing played a role with Ritalin and hormone replacement therapy (HRT) in the medicalization of hyperactivity and menopause. Third-party payers were factors in the medicalization in terms of whether insurance would pay for surgery for "gender dysphoria," obesity, or detoxification and medical treatment for alcoholism. However, it is significant that in virtually all studies where they were considered, the corporate aspects of medicalization were deemed secondary to professionals, movements, or other claims-makers. By and large, the pharmaceutical and insurance industries were not central to the analyses.

CHANGES IN MEDICINE

By the 1980s we began to see some profound changes in the organization of medicine that have had important consequences for health matters. There was an erosion of medical authority (Starr 1982), health policy shifted from concerns of access to cost control, and managed care became central. As Donald Light (1993) has pointed out, countervailing powers among buyers, providers, and payers changed the balance of influence among professions and other social institutions. Managed care, attempts at cost controls, and corporatized medicine changed the organization of medical care. The "golden age of doctoring" (McKinlay and Marceau 2002) ended and an increasingly buyer driven system was emerging. Physicians certainly maintained some aspects of their dominance and sovereignty, but other players were becoming important as well. Large numbers of patients began to act more like consumers, both in choosing health insurance policies and in seeking out medical services (Inlander 1998). Managed care organizations, the pharmaceutical industry, and some kinds of physicians (e.g., cosmetic surgeons) increasingly saw patients as consumers or potential markets.

In addition to these organizational changes, new or developed arenas of medical knowledge were becoming dominant. The long-influential pharmaceutical companies comprise America's most profitable industry and became more so with revolutionary new drugs that would expand their influence (Public Citizen 2003). By the 1990s the Human Genome project, the $3 billion venture to map the entire human genome, was launched, with a draft completed in 2000. Genetics has become a cutting edge of medical knowledge and has moved to the center of medical and public discourse about illness and health (Conrad 1999). The biotechnology industry has had starts and stops, but it promises a genomic, pharmaceutical, and technological future that may revolutionize health care (see Fukuyama 2002).

Some of these changes have already been manifested in medicine, perhaps most clearly in psychiatry where the cutting edge of knowledge has moved in three decades from psychotherapy and family interaction to psychopharmacology, neuroscience, and genomics. This is reinforced when third-party payers will pay for drug treatments but severely limit individual and group therapies. The choice available to many

doctors and patient-consumers is not whether to have talking or pharmaceutical therapy but rather which brand of drug should be prescribed.

Thus, by the 1990s these enormous changes in the organization of health care, medical knowledge, and marketing had created a different world of medicine. How have these changes affected medicalization?

In a recent paper, Adele Clarke and her colleagues (2003) argue that medicalization is intensifying and being transformed. They suggest that around 1985 "dramatic changes in both the organization and practices of contemporary biomedicine, implemented largely through the integration of technoscientific innovations" (p. 161) coalesced as an expanded phenomena they call biomedicalization. By biomedicalization they mean "the increasingly complex, multisited, multidirectional processes of medicalization that today are being reconstituted through the emergent social forms and practices of a highly and increasingly technoscientific biomedicine" (Clarke et al. 2003:162). Clarke et al. paint with a very broad brush and create a concept that attempts to be so comprehensive and inclusive—incorporating virtually all of biotechnology, medical informatics and information technology, changes in health services, the production of technoscientific identities, to name just a few—that the focus on medicalization is lost. This new conception, in my judgment, loses focus on the definitional issues, which have always been a key to medicalization studies.[1]

Along with Clarke et al. (2003), I see some major changes in medicalization in the past two decades (cf. Gallagher and Sionean 2004). I see shifts, where they see transformations. I see medicalization as expanding and, to a degree, changing, but not morphing into a qualitatively different phenomena. My task remains narrower and more focused on the medicalization process.

EMERGENT ENGINES OF MEDICALIZATION

In the remainder of this article, I want to examine how three major changes in medical knowledge and organization have engendered a shift in the engines that drive medicalization in Western societies: biotechnology, consumers, and managed care.

Biotechnology

Various forms of biotechnology have long been associated with medicalization. Whether it be technology such as forceps for childbirth (Wertz and Wertz 1989) or drugs for distractible children (Conrad 1975), technology has often facilitated medicalization. These drugs or technologies were not the driving force in the medicalization process; facilitating, yes, but not primary. But this is changing. The pharmaceutical and biotechnology industries are becoming major players in medicalization.

Pharmaceutical industry. The pharmaceutical industry has long been involved in promoting its products for various ills. In our 1980 book *Deviance and Medicalization* (Conrad and Schneider [1980] 1992) the examples of Ritalin, Methadone, and psychoactive medications were all a piece of the medicalization process. However, in each of these cases it was physicians and other professionals that were in the forefront. With Ritalin there were drug adevertisements promoting the treatment of "hyperactivity" in children and no doubt "detailing" to doctors (e.g., drug company representative's sales visits to doctor's offices). But it was the physicians who were at the center of the issue.

This has changed. While physicians are still the gatekeepers for many drugs, the pharmaceutical companies have become a major player in medicalization. In the post-Prozac world, the pharmaceutical industry has been more aggressively promoting their wares to physicians and especially to the public. Some of this is not new. For most of the twentieth century the industry has been limited to promoting its wares to physicians through detailing, sponsoring medical events, and advertising in professional journals. However, since the passage of the Food and Drug Administration (FDA) Modernization Act of 1997 and subsequent directives, the situation has changed.

Revisions in FDA regulations allowed for a wider usage and promotion of off-label uses of drugs and facilitated direct-to-consumer advertising, especially on television. This has changed the game for the pharmaceutical industry; they can now advertise directly to the public and create markets for their products. Overall, pharmaceutical industry spending on television advertising increased six-fold between 1996 and 2000, to $2.5 billion (Rosenthal et al. 2002), and it has been rising steadily since. Drug companies now spend nearly as much on direct-to-

consumer (DTC) advertising as in advertising to physicians in medical journals, especially for "blockbuster drugs that are prescribed for common complaints such as allergy, heart burn, arthritis, 'erectile dysfuction,' depression and anxiety" (Relman and Angell 2002:36). The brief examples of Paxil and Viagra can illustrate this, but there are many others (see Conrad and Leiter 2004).

Male impotence has been a medical problem for many years. In March 1998, the FDA approved Viagra (sildenafil citrate) as a treatment for erectile dysfunction (ED). When introduced, Viagra was intended primarily for the use of older men with erectile problems or ED associated with diabetes, prostate cancer, or other medical problems (Loe 2001). A demand for a drug for erectile problems surely existed before Pfizer began advertising Viagra. However, it was Pfizer who tapped into this potentially large market and shaped it by promoting sexual difficulties as a medical problem and Viagra as the solution. The initial Viagra promotion was modest (Carpiano 2001), but Pfizer soon marketed very aggressively to both physicians and the general public. At first it was with Bob Dole as a spokesman for elders, but soon it was with baseball star Rafeal Palmeiro and the sponsorship of a Viagra car on the NASCAR circuit, expanding the audience and the market for the drug. Virtually any man might consider himself to have some type of erectile or sexual dysfunction. "Ask your doctor if Viagra is right for you," the advertisements suggest.

Viagra sales were sensational. In the first year alone, over three million men were treated with Viagra, translating into $1.5 billion in sales (Carpiano 2001). In 2000, Viagra was ranked sixth in terms of DTC spending and sales. By 2003 Viagra reached $1.7 billion in sales and was taken by six million men, which may not include all those who purchased it from Internet sites. By 2003, Levitra and Cialis were introduced as improvements and competitors for a share of this large market. The drug industry has expanded the notion of ED and has even subtly encouraged the use of Viagra-like drugs as an enhancement to sexual pleasure and relationships. Recent estimates suggest a potential market of more than 30 million men in the United States alone (Tuller 2004). The medicalization of ED and sexual performance has significantly increased in the past six years and shows no signs of abating.

When Prozac was introduced in 1987, it was the first wave of new antidepressants called selective serotonin reuptake inhibitors (SSRIs). SSRIs had the same or better efficacy than older antidepressants, with fewer disturbing adverse effects. These drugs caused a bit of a revolution in the pharmaceutical market (Healy 1998), and with $10.9 billion in sales in 2003 have become the third best selling class of drugs in the United States (IMS Health 2004). When Paxil (paroxetine HCl) was approved by the FDA in 1996 it joined a very crowded market for antidepressants. The manufacturer of Paxil, now called GlaxoSmithKline, sought FDA approval to promote their product for the "anxiety market," especially Social Anxiety Disorder (SAD) and Generalized Anxiety Disorder (GAD). SAD and GAD were rather obscure diagnoses in the *Diagnostic and Statistical Manual of Mental Disorders (DSM):* SAD (or "Social Phobia") is a persistent and extreme "fear of social and performance situations where embarrassment may occur," and GAD involves chronic, excessive anxiety and worry (lasting at least six months), involving multiple symptoms (American Psychiatric Association 1994:411, 435–36).

Marketing diseases, and then selling drugs to treat those diseases, is now common in the "post-Prozac" era. Since the FDA approved the use of Paxil for SAD in 1999 and GAD in 2001, GlaxoSmithKline has spent millions to raise the public visibility of SAD and GAD through sophisticated marketing campaigns. The advertisements mixed expert and patient voices, providing professional viability to the diagnoses and creating a perception that it could happen to anyone (Koerner 2002). The tag line was, "Imagine Being Allergic to People." A later series of advertisements featured the ability of Paxil to help SAD sufferers brave dinner parties and public speaking occasions (Koerner 2002). Paxil Internet sites offer consumers self-tests to assess the likelihood they have SAD and GAD (www.paxil.com). The campaign successfully defined these diagnostic categories as both common and abnormal, thus needing treatment. Prevalence estimates vary widely, from 3 to 13 percent of the population, large enough to be a very profitable pharmaceutical market. The marketing campaign for Paxil has been extremely successful. Paxil is one of the three most widely recognized drugs, after Viagra and Claritin (Marino 2002), and is currently ranked the number six prescription drug, with 2001 U.S. sales approximately $2.1 billion and global sales of $2.7 billion. How much Paxil

was prescribed for GAD or SAD is impossible to discern, but by now both Paxil and SAD are everyday terms. While there have been some concerns raised about Paxil recently (Marshall 2004), it is clear that GlaxoSmithKline's campaign for Paxil increased the medicalization of anxiety, inferring that shyness and worrying may be medical problems, with Paxil as the proper treatment.

Children's problems constitute a growing market for psychotropic drugs. Ritalin for attention deficit hyperactivity disorder (ADHD) has a long history (Conrad 1975) but perhaps now can be seen as a pioneer drug for children's behavior problems. While the public may be ambivalent about using drugs for troubled children (McLeod et al. 2004), a wide array of psychotropic drugs are now prescribed for children, especially stimulants and antidepressants (Olfson et al. 2002). Whatever the benefits or risks, this has become big business for the drug industry. According to a recent survey, spending on behavior drugs for children and adolescents rose 77 percent from 2000 through 2003. These drugs are now the fastest growing type of medication taken by children, eclipsing antibiotics and asthma treatments (Freudenheim 2004).

At the other end of the life spectrum, it is likely that the $400 billion Medicare drug benefit, despite its limits, may increase pharmaceutical treatments for a range of elder problems as well. This policy shift in benefits is likely to encourage pharmaceutical companies to expand their markets by promoting more drug solutions for elders.

Genetics and enhancement. We are at the dawn of the age of genomic medicine. While there has been a great investment in the Human Genome Project and a celebration when the draft of the human genome was completed in 2000, most of genetic medicine remains on the level of potential rather than current practice. For example, we have known about the specific genes for cystic fibrosis and Huntington's disease for a decade, but these have yet to translate into improvements in treatment. Thus far, genetics has made its impact mostly in terms of the ability to test for gene mutations, carriers, or genetic anomalies. Despite the publicity given to genetic studies (Conrad 1997), we have learned that only a few disorders and traits are linked to a single gene, and that genetic complexity (several genes operating together, gene-environment interactions) is the rule (Conrad 1999). But I have little doubt that genomics will become increasingly important in the future and impact medicalization.

Although the genetic impact on medicalization still lies in the realm of potential, one can imagine when some of the genetic contributors to problems such as obesity and baldness are identified, genetic tests and eventually treatments will soon follow. Obesity is an increasing problem in our society and has become more medicalized recently in a number of ways, from a spate of epidemiological studies showing the increase in obesity and body fat among Americans to the huge rise in intestinal bypass operations. Today physicians prescribe the Atkins or South Beach diet and exercise; it is possible in the future that there could be medical interventions in the genes (assuming they can be identified) that recognizes satiation. Gene therapy has not yet succeeded for many problems, but one could imagine the rush to genetic doctors if there were a way to manipulate genes to control one's weight. We know that baldness often has a genetic basis, and with Rogaine and hair transplants it has already begun to be medicalized. However, with some kind of medical genetic intervention that either stops baldness or regenerates hair, one could see baldness move directly into the medical sphere, perhaps as a genetic "hair growth disorder."

A large area for growth in genetics and medicalization will be what we call biomedical enhancement (Conrad and Potter 2004; Rothman and Rothman 2003; Elliott 2003). Again, this is still in the realm of potential, but the potential is real. There is a great demand for enhancements, be they for children, our bodies, or our mental and social abilities. Medical enhancements are a growing form of these. One could imagine the potential of genetic enhancements in body characteristics such as height, musculature, shape, or color; in abilities such as memory, eyesight, hearing, and strength; or in talents (e.g., perfect pitch for music) and performance. Enhancements could become a huge market in a society where individuals often seek an edge or a leg up. While many genetic improvements may remain in the realm of science fiction, there are sufficient monetary incentives for biotechnology companies to invest in pursuing genetic enhancements.

The potential market for genetic enhancements is enormous. To get a sense of the possible impact, I recently examined human growth hormone as an existing biomedical enhance-

ment (Conrad and Potter 2004). Synthetic human growth hormone (hGH) became available in 1985, and it was approved for some very limited purposes, including growth hormone deficiency (a rare hormonal disorder). Shortness can be devalued and engender social problems for individuals. There is evidence that shorter people earn less money, get fewer promotions, can be stigmatized, and can have problems with such mundane tasks as finding proper fitting adult clothes (Conrad and Potter 2004; Rothman and Rothman 2003). Parents often have concerns that their children will be too short and now have the option of going to physicians for growth hormone treatments. Genentech, manufacturer of Protropin, a brand of hGH, encouraged "off-label" uses of hGH for children who were extremely short but had no growth hormone deficiency. In a real sense these children with idiopathic short stature (ISS) can be called "normal" shorts; they are just short, from short parents or genetic makeup. Although hGH therapy can be very expensive ($20,000 a year for perhaps five years) and yield only moderate results (2–3 inches), in 1994 13,000 children with ISS were treated in the United States. These numbers are undoubtedly greater now, since the FDA recently approved an Eli Lilly growth hormone, Humatrope, for use for short statured children in the lowest 1.2 percent of the population. There are several lessons for biomedical enhancement here. First, a private market for enhancements for children, even involving significant expense, exists and can be tapped by biotechnology companies. Second, biotechnology companies, like pharmaceutical companies, will work to increase the size of their markets. Third, the promotion and use of biomedical enhancements will increase medicalization of human problems, in this case short stature. Imagine if genetic interventions to increase a child's height were available.

We do not yet have biotechnology companies promoting genetic enhancements, but we will. Biotech companies are already poised to use DTC advertising to promote genetic tests. They will employ many of the same marketing strategies as the pharmaceutical companies, which is no surprise, since many of them are the same or linked. The promotion of genetic tests may also contribute to medicalization. A positive finding on a genetic test—that one has a gene for a particular problem (cancer, alcoholism)—may create a new medicalized status, that of "potentially ill." This can have an impact on one's identity, social status, and insurability, and it may create new categories of pre-cancer, pre-alcoholism, or similar labels. This could expand medical surveillance (Armstrong 1995) and the medical gaze.

Consumers

In our changing medical system, consumers of health care have become major players. As health care becomes more commodified and subject to market forces, medical care has become more like other products and services. We now are consumers in choosing health insurance plans, purchasing health care in the marketplace, and selecting institutions of care. Hospitals and health care institutions now compete for patients as consumers.

I will briefly cite several examples about how consumers have become a major factor in medicalization: cosmetic surgery, adult ADHD, hGH therapy, and the rise in pharmaceutical advertisements.

Cosmetic surgery is the exemplar of consumers in medicine (Sullivan 2001). Procedures from tummy tucks to liposuction to nose jobs to breast augmentation have become big medical business. The body has become a project, from "extreme makeover" to minor touch ups, and medicine has become the vehicle for improvement. In a sense, the whole body has become medicalized, piece by piece. To use just one example, from the 1960s through 1990 two million women received silicone breast implants, 80 percent for cosmetic purposes (Jacobson 2000; Zimmerman 1998). In the 1990s a swirling controversy concerning the safety of silicone implants became public when consumer groups maintained that manufacturers had mislead women about silicone implant safety, leading the FDA in 1992 to call for a voluntary moratorium on the distribution and implantation of the devices (Conrad and Jacobson 2003). The market for implants plummeted. In 1990 there were 120,000 implants performed; by 1992 there were 30,000. But with the introduction of apparently safer saline implants, breast augmentation increased by 92 percent from 1990 to 2000. According to the American Society for Aesthetic Plastic Surgery (2004), in 2003 there were 280,401 breast augmentations in the United States, making this procedure the second most popular cosmetic surgery following liposuction. While plastic

surgeons do promote breast augmentation as a product (current cost around $3,000), the medicalization of breasts and bodies is driven largely by the consumer market. Overall, 8.3 million Americans had cosmetic medical procedures in 2003, a 20 percent rise from the previous year and a whopping 277 percent rise since 1997 (American Society for Aesthetic Plastic Surgery 2004). While the media and professional promotion fuel demand, virtually all of these procedures are paid for directly out of the consumer's pocket.

Since the early 1970s, Ritalin has been a common treatment for ADHD (formerly known as hyperactivity) in children. However, in the 1990s a new phenomenon emerged: adult ADHD. Researchers had shown for years that whatever ADHD was, it often persisted beyond childhood, but in the 1990s we began to see adults coming to physicians asking to be evaluated for ADHD and treated with medication. This was in part a result of several books, including one with the evocative title *Driven to Distraction* (Hallowell and Ratey 1994), along with a spate of popular articles that publicized the disorder. Adults would come to physicians and say, "My son is ADHD and I was just like him," "I can't get my life organized, I must have ADHD," or "I know I'm ADHD, I read it in a book." Since Ritalin for adult attention problems is an off-label use of the medication, the pharmaceutical companies cannot directly advertise either the disorder or its treatment, but there are other ways to publicize the disorder: There are any number of Internet web sites describing adult ADHD and its treatment, and the advocacy group Children and Adults with Attention Deficit and Hyperactivity Disorder (CHAAD) has become a strong advocate for identifying and treating adult ADHD. It is well known that CHAAD gets most of its funding from the drug industry. Even so, CHAAD is a consumer-oriented group and, along with adults seeking ADHD treatment, has become a major force in what I have called elsewhere "the medicalization of underperformance" (Conrad and Potter 2000).

Adult ADHD is only one example of what Barsky and Boros (1995) have identified as the public's decreased tolerance for mild symptoms and benign problems. Individuals' self-medicalization is becoming increasingly common, with patients taking their troubles to physicians and often asking directly for a specific medical solution. A prominent example of this has been the increasing medicalization of unhappiness (Shaw and Woodward 2004) and expansive treatment with antidepressants.

Nonprofit consumer groups like CHAAD, National Alliance for the Mentally Ill (NAMI), and the Human Growth Foundation have become strong supporters for medical treatments for the human problems for which they advocate. These consumer advocacy groups are comprised of families, patients, and others concerned with the particular disorder. However, these consumer groups are often supported financially by pharmaceutical companies. CHAAD received support from Novartis, manufacturer of Ritalin; the Human Growth Foundation is at least in part funded by Genentech and Eli Lilly, makers of the hGH drugs; and NAMI receives over $6 million a year from pharmaceutical companies (Mindfreedom Online 2004). Spokespeople from such groups often take strong stances supporting pharmaceutical research and treatment, raising the question of where consumer advocates begin and pharmaceutical promotion ends. This reflects the power of corporations in shaping and sometimes co-opting advocacy groups.

The Internet has become an important consumer vehicle. On the one hand, all pharmaceutical companies and most advocacy groups have web sites replete with consumer-oriented information. These often include self-administered screening tests to help individuals decide whether they may have a particular disorder or benefit from some medical treatment. In addition, there are thousands of bulletin boards, chat rooms, and web pages where individuals can share information about illness, treatments, complaints, and services (Hardey 2001). This has for many individuals transformed illness from a privatized to a more public experience. On these web sites people suffering from similar ailments can connect and share information in new ways, which, despite the pitfalls of misinformation, empower them as consumers of medical care. Both corporate and grassroots web sites can generate an increased demand for services and disseminate medical perspectives far beyond professional or even national boundaries.

In our current medical age, consumers have become increasingly vocal and active in their desire and demand for services. Individuals as consumers rather than patients help shape the scope, and sometimes the demand for, medical treatments for human problems.[2]

Managed Care

Over the past two decades, managed care organizations have come to dominate health care delivery in the United States largely in response to rising health care costs. Managed care requires preapprovals for medical treatment and sets limits on some types of care. This has given third-party payers more leverage and often constrained both the care given by doctors and the care received by patients. To a degree, managed care has commercialized medicine and encouraged medical care organizations and doctors to emphasize profits over patient care. But this is complex, for in some instances managed care constrains medical care and in other cases provides incentives for more profitable care.

In terms of medicalization, managed care is both an incentive and a constraint. This is clearly seen in the psychiatric realm. Managed care has severely reduced the amount of insurance coverage for psychotherapy available to individuals with mental and emotional problems (Shore and Beigal 1996), but it has been much more liberal with paying for psychiatric medications. Thus managed care has become a factor in the increasing uses of psychotropic medications among adults and children (Goode 2002). It seems likely that physicians prescribe pharmaceutical treatment for psychiatric disorders knowing that these are the types of medical interventions covered under managed care plans, accelerating psychotropic treatments for human problems.

In the 1980s I would frequently say to my students that one of the limits on the medicalization of obesity is that Blue Cross/Blue Shield (then a dominant insurance/managed care company) would not pay for gastric bypass operations. This is no longer the case. Many managed care organizations have concluded that it is a better financial investment to cover gastric bypass surgery for a "morbidly obese" person than to pay for the treatment of all the potential medical sequelae including diabetes, stroke, heart conditions, and muscular skeletal problems. The number of gastric bypass and similar surgeries in the United States has risen from 20,000 in 1965 to 103,000 in 2003, with 144,000 projected for 2004 (Grady 2003). In the context of the so-called obesity epidemic (Abelson and Kennedy 2004), bypass operations are becoming an increasingly common way to treat the problem of extreme overweight, with the threshold for treatment decreasing and becoming more inclusive. The recent Medicare policy shift declaring obesity as a disease could further expand the number of medical claims for the procedure. As the *New York Times* recently reported, "the surgery has become big business and medical centers are scrambling to start programs" (Grady 2003:D1).

But managed care organizations affect medicalization by what they don't cover as well. When there is a demand for certain procedures and insurance coverage is not forthcoming, private markets for treatment emerge (Conrad and Leiter 2004). As noted earlier, prior to this year, hGH was only approved for the very few children with a growth hormone deficiency. The FDA approval of Humatrope expanded the number of children eligible for growth hormone treatment by 400,000. It will be interesting to see whether managed care organizations will cover the expensive hGH treatments for these children.

In effect, managed care is a selective double-edged sword for medicalization. Viagra and erectile dysfunction provides an interesting example; some managed care organizations' drug benefits cover (with co-pays) either four or six pills a month. While it is unclear how these insurance companies came up with these figures, it seems evident that managed care strictures both bolster and constrain the medicalization of male sexual dysfunction. Increasingly, though, managed care organizations are an arbiter of what is deemed medically appropriate or inappropriate treatment.

MEDICALIZATION IN THE NEW MILLENNIUM

The engines behind increasing medicalization are shifting from the medical profession, interprofessional or organizational contests, and social movements and interest groups to biotechnology, consumers, and managed care organizations. Doctors are still gatekeepers for medical treatment, but their role has become more subordinate in the expansion or contraction of medicalization. In short, the engines of medicalization have proliferated and are now driven more by commercial and market interests than by professional claims-makers.

The definitional center of medicalization remains constant, but the availability and promotion of new pharmaceutical and potential genetic

treatments are increasing drivers for new medical categories (cf. Horwitz 2002). While it is still true that medicalization is not technologically determined, commercial and corporate stakeholders play a major role in how the technology will or won't be framed. For example, if a new pharmaceutical treatment comes to market, the drug industry may well pursue the promotion of new or underused medical definitions to legitimate their product (e.g, Paxil and SAD/GAD), attempt to change the definitions of a disorder (e.g., hGH and idiopathic short stature), or expand the definitions and lower the treatment threshold of an existing medicalized problem (e.g., Viagra and erectile dysfunction). Thus drug companies are having an increasing impact on the boundaries of the normal and the pathological, becoming active agents of social control. This is worrisome for a number of reasons, but perhaps especially "because corporations are ultimately more responsible to their shareholders than to patients; shareholder desires are often at odds with patients' needs for rational drug prescribing" (Wilkes, Bell, and Kravitz 2000). It may well be to the shareholders' advantage for pharmaceutical companies to promote medications for an ever-increasing array of human problems, but this in no way insures that these constitute improvements in health and medical care. And what is the impact of the new engines of medicalization on the rising costs of health care?

In a culture of increasingly market-driven medicine, consumers, biotechnological corporations, and medical services interact in complex ways that affect social norms in changing definitions of behaviors and interventions. The relationship between normative changes and medicalization runs in both directions. For example, changing norms about breast augmentation are one cause of medicalization, while at the same time the processes of medicalization themselves lead to changes in the social norms surrounding breast enhancements. Similarly, advertisements for Viagra have destigmatized male erecticle dysfunction, while a normalized notion of erecticle dysfunction has increased the consumer demand for Viagra.

I would be remiss if I did not note the gendered nature of much corporatized medicalization. This should be no surprise, since women's bodies have long been objects of medical control (Riska 2003). We are now seeing the expansion of largely gendered markets for medicalization, such as Viagra and Ritalin for males and Prozac and cosmetic surgery for females (e.g., Blum and Stracuzzi 2004). And there may be more coming, with growing markets for andropause and baldness targeting men (Szymczak and Conrad forthcoming) and the pharmaceutical industry's ardent search for a female equivalent of Viagra (Hartley and Tiefer 2003). While corporate medicalizers might wish to include both men and women to increase their market potential, gender segmentation is a propitious strategy for defining problems and promoting medical solutions, both exploiting and reinforcing gender boundaries.

Medicalization is prevalent in the United States, but it is increasingly an international phenomenon. This is partly the result of the expanding hegemony of western biomedicine, but it is facilitated by multinational drug companies and the global reach of mass media and the Internet. As McKinlay and Marceau (2002) note, "Transnational corporations involved in the globalization of medicine (pharmaceuticals, services, medical insurance, and biotechnology) generate local demand for services . . . " (p. 399). The pharmaceutical companies' introduction and promotion of "mild depression" as an illness in Japan has resulted in a dramatic rise in SSRI treatment since 1999 (Schulz 2004). Furthermore, cyberspace knows no national boundaries, expediting the dissemination of medical knowledge, commercial promotion, and consumer desires. Perspectives that germinate in Boston today are available in Cairo or Moscow by the evening and in Calcutta and Yogyakarta, Indonesia the next day. We have no idea yet what the Internet's impact is on the local and global nature of medical categories and treatments, but it is a safe assumption that medicalization will increase with globalization.

Professional and public concern about medicalization may be growing as well. The *British Medical Journal* (2002) devoted nearly an entire issue to medicalization topics, and we increasingly see the term medicalization used in the popular press. For years when I talked with people about medicalization I would always need to explain in detail what I meant. Now most people quickly understand what the term means. But despite the increased awareness and openness to the issue, we also need to develop our own understandings of medicalization in new and deeper ways.

I close with a challenge to sociologists. We need to shift our attention in medicalization research and study the emergent engines of

medicalization. This means examining the impact of biotechnological discoveries, the influence of pharmaceutical industry marketing and promotion, the role of consumer demand, the facilitating and constraining aspects of managed care and health insurance, the impact of the Internet, the changing role of the medical profession and physicians, and the pockets of medical and popular resistance to medicalization. This means supplementing our social constructionist studies with political economic perspectives. Medicalization still doesn't occur without social actors doing something to make an entity medical, but the engines that are driving medicalization have changed and we need to refocus our sociological eye as the medicalization train moves into the twenty-first century.

NOTES

1. While this ambitious and analytically dense paper has many virtues, in my judgement, Clarke et al. (2003) lose sight of the process of medicalization itself. The authors are certainly correct in many of their contentions. It seems clear that the biotechnological and pharmaceutical industries—especially in the areas of scientific and commercial discoveries in genetics, neuroscience, and pharmacology—will have an increasing impact on the medicalization of human problems. The extension of "medical jurisdiction over health itself and the commodification of health" are seen as parts of medicalization, especially through risk factors and medical surveillance. They see the shift to biomedicalization as moving from medical control over external nature to controlling and transforming inner nature. These all seem to me to be astute observations. However, in the Clarke et al. conception one is hard pressed to identify something related to biotechnology and medicine that is not part of biomedicalization. Further, the claim that the biomedicalization change represents a shift from modernity to postmodernity depends entirely on what one considers as postmodern. As Anspach (2003) points out, "Efforts to rationalize health care through data banks and practice guidelines may actually represent new forms of bureaucratizaton, a quintessentially modern, rather than post modern, phenomenon" (unpaged). Given its reliance on a scientific knowledge base and its bureaucratic organization, it is difficult to see biomedicine as predominantly a postmodern enterprise.
2. It is my contention that the consumer orientation toward medical care has expanded, subsuming or reorienting some of the social movements promoting medicalization. Moreover, there is an increasing amount of public and media promotion of health care products, procedures, and services that further spurs medicalization (including medications, surgical procedures, and other treatments). These are aimed at individuals, not as patients but as consumers.

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