# JMCM

# Journal of Managed Care Medicine

A Peer-Reviewed Publication

Vol. 7, No. 1, 2003

**Disease Management of Type 2 Diabetes: Implications for Managed Care**

**New Tools to Assist Physicians and Their Diabetes Patients**

**The End of an Era? Results of the 2002 Medical Directors Survey**

The Official Journal of the
NATIONAL ASSOCIATION OF MANAGED CARE PHYSICIANS
AMERICAN ASSOCIATION OF INTEGRATED HEALTHCARE DELIVERY SYSTEMS
AMERICAN COLLEGE OF MANAGED CARE MEDICINE

A Publication for Medical Directors and Healthcare Executives

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# JMCM

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4435 Waterfront Drive, Suite 101
Glen Allen, VA 23060
(804) 527-1905
fax (804) 747-5316

**EDITOR-IN-CHIEF**
Dexter W. Shurney, MD, MBA, MPH

**PUBLISHER**
Jack F. Klose

**ADVERTISING COORDINATOR**
Karen Almond

**JOURNAL MANAGEMENT**
Douglas Murphy
Communications Inc.
8730 Stony Point Parkway, Suite 250
Richmond, VA 23235
(804) 272-9100
fax (804) 272-1694

**MANAGING EDITOR**
Virginia Sowers
virginia.sowers@douglasmurphy.com

**ART DIRECTOR**
David Balch

**ASSOCIATE ART DIRECTOR**
Lisa Summerell

**DESIGN ASSOCIATE**
Paul Lacy

**ADVERTISING MANAGEMENT**
Jack F. Klose
804 Broadway
W. Long Branch, NJ 07764
(732) 229-8845
fax (856) 582-9596
jklose@namcp.org



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## Correction

Due to an editing error, "Advances in the Management of Atopic Dermatitis" by William Abramovits MD, (*JMCM*. 2002;6:3,10-16.) contained incorrect values in Exhibit 5. The range of values on the Total Costs $ axis should have been 0 to 1,600, not 0 to 160. *JMCM* regrets the error.

Also since the article's publication, data have been presented indicating that pimecrolimus is cost-effective compared with conventional therapy in the long-term management of mild to moderate AD (Ellis CN, Kahler KH, Grueger J. Long-term management of atopic dermatitis with pimecrolimus cream 1%: an economic analysis. Presented at: the 61st Annual Meeting of the American Academy of Dermatology; San Francisco, CA; March 21-26, 2003).

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The *Journal of Managed Care Medicine* is a peer-reviewed national publication. Original articles dealing with the business or clinical side of managed care are welcome. Manuscript length generally should range between 10 to 15 typed pages, including a summary with key points, exhibits, and references. All submissions should include the following elements:

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Newcomers will want to attend **Health & Productivity Management (HPM) 101**, led by Spencer Borden, MD, MBA, and an excellent introduction to the next two days of conference sessions.

#### TUESDAY, OCT. 7

Keynote speaker, Ron Kessler, PhD, Harvard Medical School, presents **Measuring Health and Productivity**. Don't miss the **International Report on HPM Around the Globe**, with research and case studies from the U.K., Canada, and Europe. Joe Leutzinger, PhD, consultant to WELCOA (formerly with award-winning Union Pacific) presents the case for **Wellness and Productivity**; and John Yardley, PhD, Brock University, presents **Creating and Measuring Organizational Health**.

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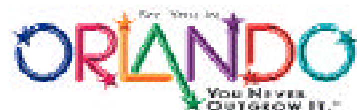

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# Obesity in America…A Growing Concern

IT'S NO FUN TO BE FAT IN AMERICA. Obesity makes people unsightly and sick, and it kills. The U.S. Surgeon General says more than 300,000 adults die each year because of obesity-related health problems such as hypertension, type 2 diabetes cardiopulmonary disease, stroke, sleep apnea, and more. No one is immune—obesity cuts across all ages, racial and ethnic groups, and genders.

Unfortunately, this epidemic shows no sign of subsiding as the frightening statistics continue to climb. More than 60 percent of U.S. adults, 13 percent of children, and 14 percent of teens are currently overweight or obese. For adolescents alone, this number has nearly tripled in the last 20 years. The economic impact of obesity in the United States is enormous, topping more than $123 billion in 2001. Currently it is estimated that the healthcare costs linked to obesity are more than those related to smoking and alcohol abuse combined. Obviously for the payers of healthcare services, these costs are enormous.

Although the cause of obesity is simple to diagnose—excessive calorie intake, lack of exercise or both—successful treatment is much harder to come by. Despite the well-documented success of diet, medical, and behavioral strategies to produce temporary weight loss, a well-known statistic is that more than 90 percent of these programs fail to provide lasting results. Therefore, the greatest challenges are maintaining the weight loss initially achieved and avoiding the all too frequent and potentially harmful pattern of loss and regain. For severely obese individuals (BMI >40), we know that the results of conventional therapies are even less optimistic. Enter bariatric surgery as a surgical option for the severely obese. Bariatric surgery is now endorsed by The National Institutes of Health (NIH) as the treatment of choice for morbid obesity.

In one form or another, bariatric surgery has been a part of the medical landscape for at least three decades but in recent years, with advances in safety, the popularity of and public acceptance for the procedure has grown as never before.

No one is immune—obesity cuts across all ages, racial and ethnic groups, and genders.

More than 80,000 procedures were completed last year; and that number is expected to rise to 250,000 by 2005. Bariatric surgery is now available laparoscopically, which could yield even higher demand.

In Louisiana, there is pending legislation that would require all insurance companies offering health coverage in the state to include mandated coverage for morbid obesity, including paying the costs of gastric bypass surgery.

The increased use of bariatric surgery presents some specific challenges for healthcare and managed care organizations. For instance, what is the best way to ensure a cost-effective, high-quality, multidisciplinary comprehensive bariatric program with the best surgeons and properly screened patients? Clearly, the surgical procedure is just one aspect of a well-defined program for the morbidly obese that must include sensitive and knowledgeable nursing staff, case managers, and other ancillary pre- and post-operative support systems.

Last year, the American Society of Bariatric Surgery (ASBS) issued credentialing guidelines to help healthcare organizations with the process of establishing comprehensive bariatric surgical treatment programs. These guidelines provide a starting point, but the model of a truly excellent bariatric program is a clinical and administrative plan that works within a given organization, large or small, and within the particular, often unique, parameters of the community.

How well we will meet the growing demand in this specialized area of medicine is unknown. But one thing healthcare organizations cannot do is nothing, because all signs indicate that the morbid obesity problem will continue to disable and kill each year.

—Dexter W. Shurney, MD, MBA, MPH

*Dr. Shurney is a healthcare business consultant specializing in managed care strategic innovation that includes the design and application of information technology for creating web-enabled organizational efficiencies. The former vice president of medical affairs and corporate medical director for Blue Cross Blue Shield of Michigan, Dr. Shurney has a 17-year tenure in managed care.*

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# Disease Management of Type 2 Diabetes: Implications for Managed Care

Rachel Brody, MD, PhD

**Summary**

Type 2 diabetes is responsible for significant morbidity and mortality in the United States, with considerable economic impact. Recent findings underscore the importance of the metabolic syndrome and insulin resistance in the pathogenesis of type 2 diabetes. Prevention of cardiovascular disease remains a major therapeutic goal for treatment of patients with type 2 diabetes, and intensive medical management will likely require that most patients receive multiple pharmacologic agents. Developing effective disease management programs using multidisciplinary teams may lead to improved patient outcomes and help manage costs associated with type 2 diabetes.

**Key Points**

- Insulin resistance is a primary metabolic defect contributing to the pathogenesis of type 2 diabetes.
- The metabolic syndrome is a constellation of abnormalities including visceral obesity, insulin resistance, dyslipidemia, and hypertension. It is associated with markedly enhanced risk for coronary heart disease.
- Effective management of type 2 diabetes requires intensive glycemic control as well as interventions to improve blood pressure and correct dyslipidemia.
- Disease management programs that involve multidisciplinary teams and work to empower patients to control their health issues may result in improved outcomes for patients with type 2 diabetes.

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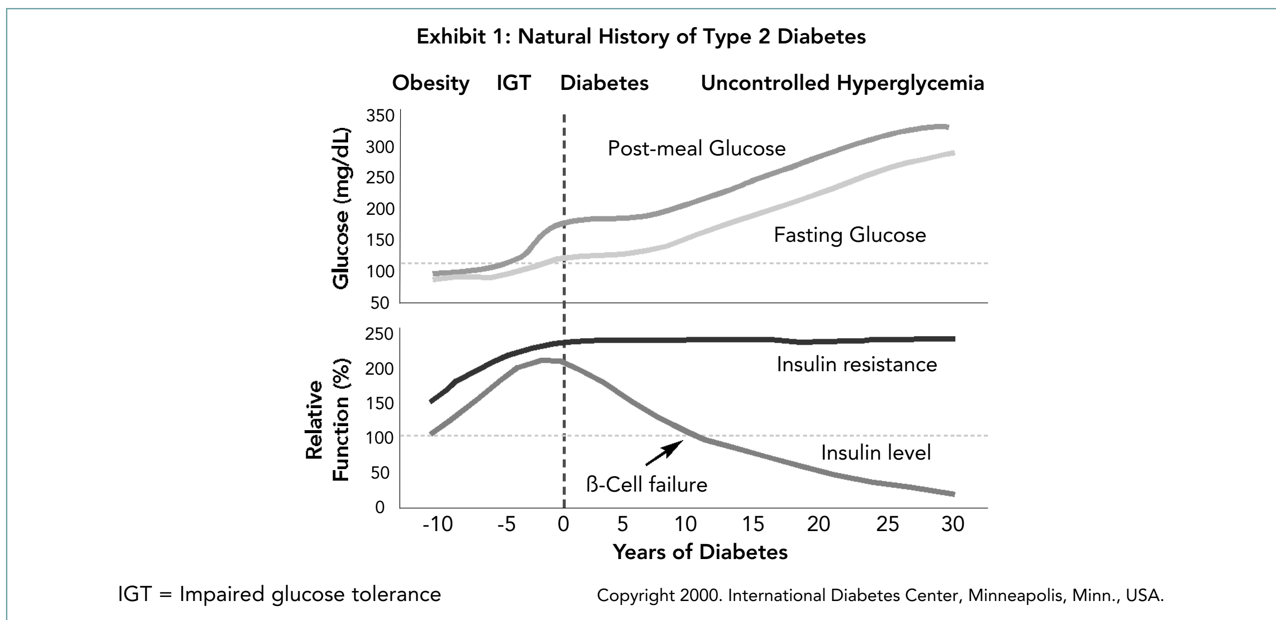
THE AMERICAN DIABETES ASSOCIATION (ADA) estimates that approximately 17 million people in the United States have diabetes, but nearly one third remain undiagnosed.[1] In addition to the staggering numbers of individuals affected by diabetes, the economic burden of this disease is profound. Total direct and indirect costs of diabetes in the United States were estimated to be $132 billion in 2002, up from $98 billion in 1997. Long-term sequelae of diabetes include microvascular complications, which significantly affect function of the eyes, kidneys, and nerves, as well as macrovascular (cardiovascular) complications. Macrovascular complications result in premature cardiac death for many people with diabetes. Healthcare professionals who treat patients with diabetes strive not only to eliminate the symptoms of disease and improve their patients' well-being but also to prevent or retard development of microvascular complications and reduce the occurrence of macrovascular events. Because of the high prevalence of diabetes and its significant health and economic impact, managed care organizations have sought to develop strategies, including disease management programs, to optimize care and con-

trol costs related to diabetes. Disease management programs are designed to achieve several specific goals:
- reduce variation in care by systematically monitoring and evaluating the processes of care
- identify opportunities for quality improvement activities to improve clinical outcomes
- enhance patient safety by reducing medical errors
- promote evidence-based clinical programs
- strengthen the patient-physician relationship.

## Pathophysiology of Type 2 Diabetes

Hyperglycemia is the classic symptom of diabetes, and its role in the development of the many microvascular complications of this disease has long been recognized. Two main pathophysiologic abnormalities mediate type 2 diabetes: insulin resistance and b-cell dysfunction. Insulin resistance refers to the inability of target tissues to respond to insulin and reduce circulating glucose levels. In insulin-resistant individuals, normally adequate insulin levels fail to reduce hepatic glucose production and to increase glucose utilization by skeletal muscle tissue; hyperglycemia occurs even in the face of increased insulin levels. Insulin resistance develops long before the onset of frank diabetes (*Exhibit 1*). Initially, insulin secretion by b-cells increases to maintain euglycemia in response to increasing insulin resis-

**Exhibit 1: Natural History of Type 2 Diabetes**




IGT = Impaired glucose tolerance

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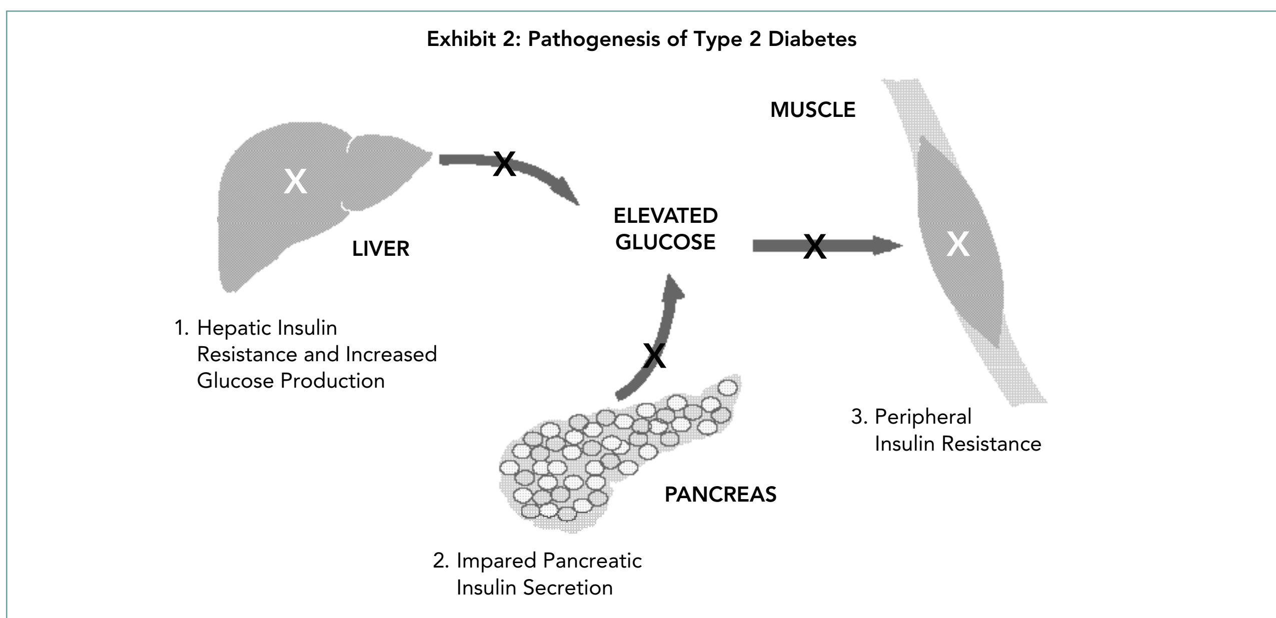
**Exhibit 2: Pathogenesis of Type 2 Diabetes**



tance. As insulin resistance progresses and b-cell insulin output declines, the clinical manifestations of diabetes become evident (*Exhibit 2*).

Both the microvascular and macrovascular complications of diabetes are well known. In recent years, the mechanisms by which cardiovascular disease develops in individuals with type 2 diabetes have become clearer because the "metabolic syndrome" has become better defined and understood. The metabolic syndrome refers to a cluster of metabolic abnormalities, which include visceral obesity, insulin resistance, hypertension, and multiple lipid risk factors.[2] Presence of the metabolic syndrome confers vastly increased risk for development of atherosclerosis and subsequent cardiovascular disease. Exhibit 3 shows the criteria for clinical identification of the metabolic syndrome as defined by the National Cholesterol Education Program (NCEP), and Exhibit 4 schematically indicates the progression to atherosclerosis. NCEP has targeted people with the metabolic syndrome for intervention to prevent cardiovascular disease. Weight reduction and increased physical activity are recommended for all patients with the metabolic syndrome[2]; these are also the initial interventions suggested for patients with type 2 diabetes.[3]

**Exhibit 3: NCEP Clinical Identification of the Metabolic Syndrome***

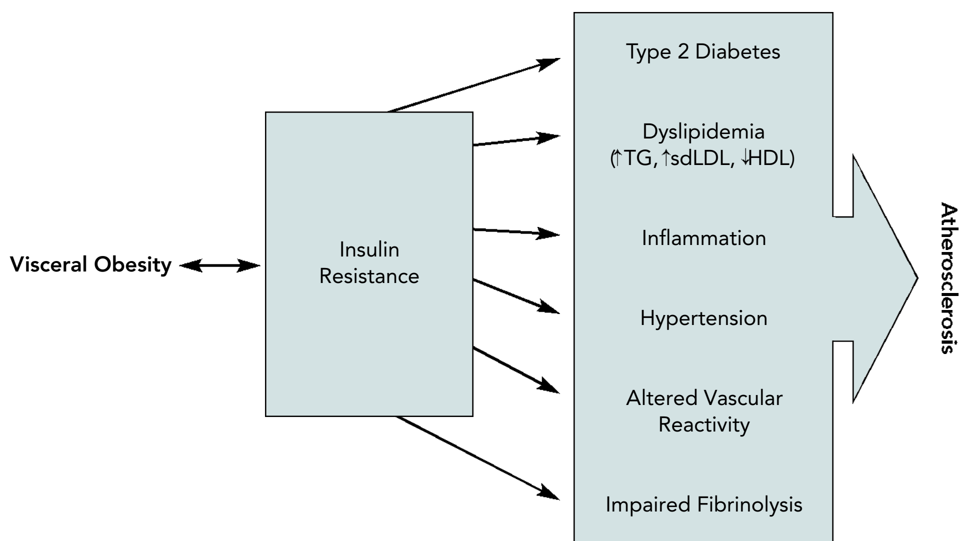
| Risk Factor | Defining Measures |
|---|---|
| Abdominal obesity | Waist circumference |
| Men | >40 in (>102 cm) |
| Women | >35 in (>88 cm) |
| Triglycerides | ≥150 mg/dL |
| HDL cholesterol | |
| Men | <40 mg/dL |
| Women | <50 mg/dL |
| Blood pressure | ≥130/≥85 mm Hg |
| Fasting glucose | ≥110 mg/dL |

*Three or more risk factors comprise the metabolic syndrome.
*Adapted from National Cholesterol Education Program. Executive Summary. 2001;1-28.*

The metabolic syndrome is highly prevalent in the United States, according to data from the third National Health and Nutrition Examination Survey (NHANES III), conducted between 1988 and 1994 in 8,814 adults.[4] Using the criteria shown in Exhibit 3, the age-adjusted prevalence of the metabolic syndrome was 23.7 percent. The prevalence among people aged 60 to 69 years was 43.5 percent, and among different ethnic groups, was highest among Mexican Americans (31.9 percent). Extrapolating from the 2000 U.S. census data, an estimated 47 million people in the United States have the metabolic syndrome. Obesity and physical inactivity represent the underlying causes of the metabolic syndrome and the development of insulin resistance. The Centers for Disease Control and Prevention and each U.S. state's health department conducted a random-digit telephone survey of 184,450 adults during 2000 to assess the obesity epidemic. It revealed a prevalence of obesity (defined as body mass index [BMI] > 30 kg/m2) of 19.8 percent. Sedentary lifestyle exacerbates the metabolic syndrome, and this survey found that 27 percent of adults did not participate in any physical activity.[5] Clearly, the metabolic syndrome affects a vast number of Americans and will inevitably lead to significant long-term health consequences.

The degree to which the features of the metabolic syndrome have impact on the pathogenesis of type 2 diabetes and the development of macrovascular complications has

**Exhibit 4: The Metabolic Syndrome**



been studied as well. Haffner and colleagues found that insulin resistance among people with type 2 diabetes was significantly correlated with higher total triglycerides, very-low-density lipoprotein (VLDL) cholesterol, VLDL triglycerides, fibrinogen, plasminogen activator inhibitor-1, and fasting glucose levels.[6] This correlation implies that insulin-resistant people with type 2 diabetes have more atherogenic cardiovascular risk factors than do those with type 2 diabetes who are not insulin-resistant.[6] Differences in atherogenic risk factors exist even before the onset of diabetes. Among people who later develop diabetes, those who are insulin-resistant had worse cardiovascular risk factors than did insulin-sensitive patients.[7] These findings have significant implications for cardiovascular morbidity and mortality among patients with type 2 diabetes. In an analysis of data with seven years of follow-up from a Finnish population-based study, investigators showed that diabetic patients without previous myocardial infarction (MI) have as high a risk of experiencing MI as do nondiabetic individuals who have had a previous MI (*Exhibit 5*).[8] Furthermore, diabetic patients who had a previous MI had a 45 percent chance of experiencing another MI in the subsequent seven years.[8]

One key component of the metabolic syndrome is central, or visceral, adiposity. Visceral adiposity is clearly linked to insulin resistance. In the Insulin Resistance Atherosclerosis Study (IRAS), Haffner and colleagues used minimal model analyses of frequently sampled intravenous glucose tolerance tests to determine insulin sensitivity in 479 individuals with type 2 diabetes.[6] Fully 442 patients (92.3 percent) were insulin-resistant, demonstrating the extent to which insulin resistance characterizes type 2 diabetes.[6] Interestingly, the incidence of obesity and differences in body fat distribution were markedly different between insulin-resistant and insulin-sensitive type 2 diabetics.[6] Insulin-resistant subjects had a higher mean BMI (31.7 kg/m2 versus 27.1 kg/m2; $P<.0001$) and a greater waist circumference (1005 mm versus 891 mm; $P<.001$) than insulin-sensitive subjects[6]; insulin resistance thus appears associated with the same adverse body weight parameters typical of the metabolic syndrome. Furthermore, euglycemic-hyperinsulinemic clamp (glucose clamp) studies demonstrated the strong relationship of visceral adiposity and insulin resistance.[9] Rexrode and colleagues analyzed data from more than 44,000 women and found that central adiposity is significantly correlated with coronary heart disease risk ($P=.007$) (*Exhibit 6*).[10]

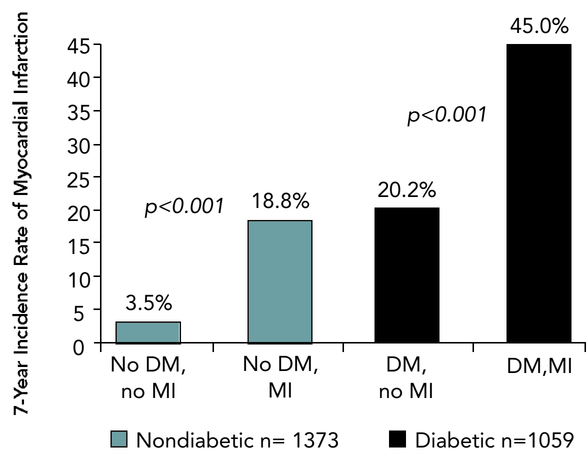
## Treatment Options for Type 2 Diabetes: The Mandate for Combination Therapy

The rationale for aggressive management of type 2 diabetes is clear. Diet and exercise are universally recommended as part of the treatment plan for patients with diabetes, but most patients will need pharmacologic therapy, often with multiple agents. The main classes of oral agents used to treat type 2 diabetes and their sites of action are shown in Exhibit 7 and briefly described below.

Sulfonylureas enhance insulin secretion by stimulating pancreatic b-cells. As a result of increased insulin, the liver decreases glucose production while skeletal muscle tissue increases glucose uptake, decreasing plasma glucose levels.[3] Nonsulfonylurea insulin secretagogues, such as nateglinide[11] and repaglinide,[12] can also help lower plasma glucose levels. All of these agents require functioning b-cells to stimulate insulin secretion.[11,12]

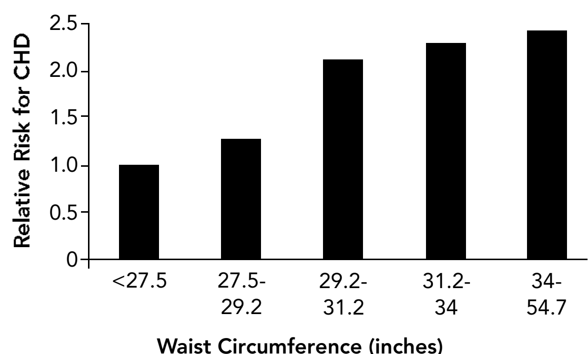
Metformin is a biguanide long used for treating type 2 diabetes. It has no direct effect on insulin secretion. It acts by inhibiting hepatic glucose synthesis, decreasing intestinal absorption of glucose, and increasing the sensitivity of muscle cells to insulin. Effective both as monotherapy

**Exhibit 5: Type 2 Diabetes and Coronary Heart Disease**




DM = Diabetes mellitus MI = Myocardial infarction
Adapted from Haffner SM, et al.[8]

**Exhibit 6: Central Adiposity and CHD Risk in Type 2 Diabetes**




Adapted from Rexrode KM, et al.[10]

and in combination with a variety of other agents, metformin has generally positive effects on lipids, decreasing plasma triglycerides, LDLs, and free fatty acid levels. Gastrointestinal (GI) side effects, such as diarrhea or abdominal discomfort, may occur in up to 30 percent of patients but rarely result in discontinuation.[3]

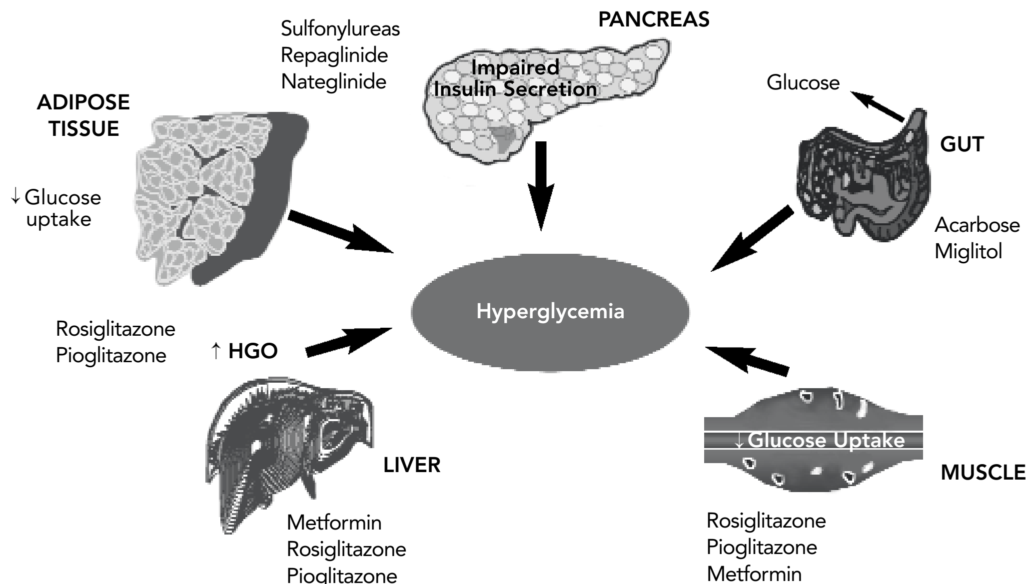
Acarbose, an oral a-glucosidase inhibitor, interferes with carbohydrate digestion and delays GI absorption of glucose. Acarbose has no effect on lipid levels or body weight. Side effects of acarbose are generally limited to the GI tract and may include flatulence and bloating.[3]

The thiazolidinediones, also known as the glitazones, represent another class of oral antidiabetic agents. These drugs target insulin resistance. Insulin resistance in type 2 diabetes is thought to be a consequence of impaired signal transduction in insulin target tissues, such as adipose, skeletal muscle, and the liver. Glitazones increase insulin sensitivity, ultimately resulting in lower circulating insulin levels. The mechanisms by which glitazones exert their effects are summarized in Exhibit 8. These agents enter target cells and bind to the peroxisome proliferator activated receptor g (PPAR-g), a specific nuclear transcription factor. Activation of these nuclear receptors results in the transcription of insulin-responsive genes, which mediate glucose production, transport, and utilization.[3] One glitazone, troglitazone, was associated with rare but significant hepatotoxicity and is no longer available in the U.S. In contrast, no cases of acute liver failure or severe liver dysfunction have been observed with the currently available glitazones, rosiglitazone and pioglitazone.[3]

Aggressive management of patients with diabetes offers clear benefits. Conclusive evidence from the United Kingdom Prospective Diabetes Study (UKPDS) and the Diabetes Control and Complications Trial (DCCT) confirms that intensive therapy decreases the incidence and progression of macrovascular and microvascular complications of diabetes.[13,14] Most patients with type 2 diabetes require a combination of at least two pharmacological agents to achieve a successful level of glycemic control. For many patients, additional medications are necessary.[3] Because of the variety of agents available and their different mechanisms of action, rational combinations are plausible and have been the focus of numerous controlled clinical trials. Some combinations are now formulated as single tablets. Metformin can be combined with sulfonylureas with beneficial clinical results.[3] Combinations that include glitazones may offer the benefit of increasing insulin sensitivity. The combination of metformin and rosiglitazone, for example, resulted in improved glycemic control, insulin sensitivity, and improved b-cell function, compared with metformin monotherapy.[15]

In addition to glycemic control, medical management is usually essential to minimize the risk of car-

**Exhibit 7: Oral Therapy for Type 2 Diabetes**




*HGO = Hepatic glucose output

Adapted from DeFronzo RA.[3]

Prescribing information for *AVANDIA*® (rosiglitazone maleate, GlaxoSmithKline), Actos® (pioglitazone HCl, Takeda Pharmaceuticals North America Inc.), Prandin® (repaglinide, Novo Nordisk A/S), Starlix® (nateglinide, Novartis AG), Precose® (acarbose tablets, Bayer Pharmaceutical), Glyset® (miglitol, manufactured by Bayer for Pharmacia & Upjohn)

diovascular disease for patients with the metabolic syndrome. NCEP recommends treatment of hypertension, the use of aspirin to reduce the prothrombotic state, and treatment of dyslipidemias.[2] In addition to the drugs needed to achieve satisfactory glycemic control, it is likely that most patients with type 2 diabetes will require treatment with multiple pharmacologic agents to address the components of the metabolic syndrome. Because of the complex issues surrounding polypharmacy and the importance of lifestyle modification in the control of diabetes (and the other components of the metabolic syndrome), managed care organizations may choose to develop disease management programs to optimize outcomes for patients with type 2 diabetes.

## Standards of Care for Diabetes Treatment

Exhibit 9 summarizes the ADA's recommendations for adults with diabetes. Normoglycemia is the primary goal, as individuals should strive to achieve preprandial plasma glucose levels between 90 and 130 mg/dL, with peak postprandial plasma glucose levels less than 180 mg/dL. Glycosylated hemoglobin A1c (HbA1c) levels should be less than 7.0 percent, and blood pressure should be less than 130/80 mm Hg.[16]

The ADA has established recommendations for patient follow-up to optimize glycemic control and minimize the development of complications.[16] To assess the effectiveness of diabetes management, HbA1c levels should be measured at least twice per year, according to the ADA. A strategy to lower LDL cholesterol, raise high-density lipoprotein (HDL) cholesterol, and lower triglyceride levels can reduce the macrovascular complications of type 2 diabetes, so lipid panels should be performed at least annually. Aggressive management of diabetes reduces microvascular complications as well, and the ADA recommends annual testing for microalbu-

**Exhibit 8: Overview of Glitazone Action**

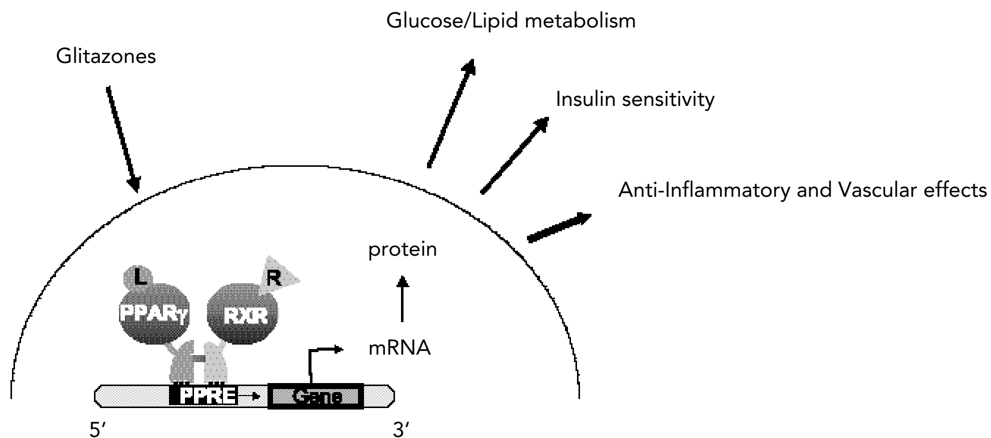



**Exhibit 9: Summary of ADA Recommendations for Adults With Diabetes Mellitus**

| | |
|---|---|
| **Glycemic control** | |
| $HbA_{1c}$ | <7.0%* |
| Preprandial plasma glucose | 90 to 130 mg/dL |
| Peak postprandial plasma glucose | <180 mg/dL |
| **Blood pressure** | <130/80 mmHg |
| **Lipids** | |
| LDL cholesterol | <100 mg/dL |
| Triglycerides† | <150 mg/dL |
| HDL cholesterol | >40 mg/dL in men, >50 mg/dL in women |

*Referenced to a nondiabetic range of 4.0% to 6.0% using a DCCT-based assay.

†Current NCEP/ATP III guidelines suggest that in patients with triglycerides >200 mg/dL, the "non-HDL cholesterol" (total cholesterol minus HDL) be utilized. The goal is ≤130 mg/dL.

minuria and annual comprehensive ophthalmologic as well as foot examinations.

### Disease Management for Patients With Diabetes

The Hawaii Medical Service Association has identified several important elements that contribute to the success of disease management programs. Such programs should:

- include all members of a chronic disease population
- integrate and coordinate available resources in a continuum of care
- emphasize disease prevention
- empower patient self-care
- improve and maintain the health and functional status of patients
- include measurable quality-improvement parameters.

A team-based model allows for cooperation among professionals with different areas of expertise. Such multidisciplinary teams often include physicians,pharmacists, diabetes educators, dieticians, nurses, and case managers. Case managers are vital to disease management programs because they facilitate communication among team members, ensure that patients are receiving appropriate services, and document follow-up evaluations and audits. The Hawaii Medical Service Association's implementation of the Diabetes Care Connection program resulted in marked improvements in patient care. Four clinical measures were selected to evaluate the impact of the program. Exhibit 10 compares the clinical testing for plan members one year before and one year after participating in the Diabetes Care Connection. Statistically significant improvements ($P<.0001$) were observed in all measures.

### Project Dulce

In San Diego County, Calif., the population includes approximately 220,000 individuals with diabetes, 25 percent of whom are uninsured. Many of these people are of Mexican and Asian heritage—ethnic groups disproportionately affected by diabetes. Project Dulce was developed in the mid-1990s as a collaborative effort by Community Health Improvement Partners in California, the Council of Community Clinics, and the Whittier Institute for Diabetes. With input from clinic-based teams, the collaborators focused on three main goals for medically underserved patients with diabetes: achieve excellence, reduce errors, and improve outcomes in diabetic care.

The principal elements of Project Dulce included a nurse-led multidisciplinary team working with empowered patients. Patients with diabetes received team-based intensive clinical care and education. Furthermore, efforts were made to ensure that patients had access to necessary pharmaceutical and glucose monitoring supplies, as well as ophthalmology and podiatry care. Nurses or dieticians were typically the diabetes educators and led patient education groups. A critical feature of Project Dulce was its culturally sensitive health promotion component. For example, "promotoras" (culturally affiliated health workers) were selected from the target community to be peer teachers.

Nurse/dietician diabetes educators developed a curriculum to train promotoras to provide diabetes education. After a four- to eight-month training period, promotoras could then teach patients in the program about diabetes and its complications; the role of diet, exercise, medications; and the importance of self-monitoring. Because of their cultural similarities, promotoras were successful in engaging patients and improving retention of participants. Individuals participating in Project Dulce were able to share fears, beliefs, and experiences with a peer of the same ethnic background. In return, the promotora shared strategies to help patients take control of their own health.

In the pilot program, 300 high-risk patients were drawn from three north San Diego county community clinics. The group was 73 percent female and 72 percent Latino; 82 percent had type 2 diabetes. Sixty-eight percent of participants had annual incomes less than $10,000, and 51 percent had not continued in school past eighth grade.

Adherence to ADA standards for control clinic patients was compared with patients who had participated in Project Dulce for one year. The ADA recommends HbA1c testing at least twice per year, as well as annual lipid panels, foot examinations, and retinal examinations. Fully 100 percent of Project Dulce cases achieved adherence to ADA standards with respect to HbA1c testing, lipid panels, and foot examinations. By comparison, clinic control cases were far less successful at meeting those targets: 28 percent for HbA1c tests, 46

**Exhibit 10: Hawaii Medical Services Association Diabetes Care Connection–Clinical Measures**

| | Base Period 1999-2000 (%) | Year 1 2000-2001 (%) | *P* value |
|---|---|---|---|
| LDL cholesterol screening | 66.5 | 72.8 | <0001 |
| Monitoring for diabetic nephropathy | 23.4 | 41.4 | <0001 |
| At least one $HbA_{1c}$ test | 73.1 | 80.7 | <0001 |
| At least one dilated retinal examination | 46.7 | 51.6 | <0001 |

percent for lipid panels, and 33 percent for foot examinations. Annual retinal exams were performed in 47 percent of Project Dulce participants, compared with only 6 percent of clinic controls.

This culturally sensitive approach yielded marked changes in measurable diabetes-related outcomes. Considerable improvements were observed in numerous clinical parameters, including mean HbA1c levels,mean total cholesterol levels, and blood pressure control.

The participating partners in Project Dulce assessed educational outcomes to evaluate how a culturally sensitive approach to diabetes management changed patients' viewpoints about their disease. It was determined that participants in Project Dulce learned and retained information pertaining to diabetes through the culturally appropriate educational component of the program.Improvement in participants' internal locus of control was noted. People with an external locus of control are more likely to believe that external forces dictate what will happen in their lives, whereas those with an internal locus of control feel that they have the power to change their own lives. Patients with an internal locus of control will more likely feel empowered and capable of managing and controlling their diabetes. A marked shift to a stronger internal locus of control was observed over the course of one year in Project Dulce. Overall,participants in Project Dulce indicated that they were significantly more satisfied with the treatment they received than was indicated by control patients.

Using pilot data that include 153 high-risk patients with diabetes, the impact of clinical outcomes from Project Dulce on three-year medical care costs was assessed.The cost of the intervention,exclusive of medication, was $229,500 per year. The three-year cost savings as a result of Project Dulce were projected to be $744,075. Because of these beneficial results, Project Dulce will be expanded to include all medically indigent adults with diabetes (approximately 60,000) throughout San Diego County. To meet the diverse needs of this wider population group, project coordinators are training promotoras from other ethnic groups to ensure delivery of culturally sensitive diabetes education. Project leaders expect to effectively reach patients with diabetes in Filipino, African American, Vietnamese, Latino, and Caucasian communities. Project Dulce has shown that a dedicated multidisciplinary team and culturally appropriate peer educators empower patients with diabetes to take control of health-related issues, resulting in measurable changes in outcomes.

## Conclusions and Recommendations

Optimizing outcomes for patients with type 2 diabetes means reducing symptoms and preventing or reducing the development of long-term microvascular and macrovascular complications of this disease. Patients with the metabolic syndrome are at markedly increased risk of cardiovascular disease, and the features of central adiposity, insulin resistance, dyslipidemia, and hypertension are present in most patients with type 2 diabetes. Therapeutic strategies to correct these defects may include the use of glitazones to improve glycemic control and increase insulin sensitivity, as well as other glucose-lowering agents, hypertension medications, and agents to improve lipid profiles. Lifestyle modifications, including increased physical activity and weight loss, are necessary for most patients. Disease management programs involving multidisciplinary teams facilitate patient adherence to pharmacologic and lifestyle interventions. All outcomes are enhanced when patients feel empowered by culturally sensitive programs that provide both intensive clinical care and education. **JMCM**

*Rachel I. Brody, MD, PhD, is president of Molecular Perspectives Inc., Jupiter, Fla., which provides medical and scientific guidance to medical education companies, advertising agencies, and pharmaceutical companies.*

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# NAMCP Develops Tools to Assist Physicians and Their Diabetes Patients

THE DISEASE Management Institute of the National Association of Managed Care Physicians (NAMCP) has developed three new tools to monitor patient health: the Diabetes Patient Report Card, the Diabetes Physician Audit Tool, and the Preventive Health Maintenance Schedule.

**Diabetes Patient Report Card**

This tool aims to actively engage diabetes patients in their own care and involve them as a partner with the physician in charge of their treatment. The end goal is to help manage the disease in a more effective manner.

"Disease management is the medical management of the future. It fosters collaboration among healthcare providers, payers, plans, and patients," says Ron Hunt, MD, president of NAMCP's Disease Management Institute and medical director of Blue Cross Blue Shield of Georgia. "As patients (employees, members) are required to assume a greater financial stake in their healthcare, they will be given the knowledge, skills, and tools to assume a greater accountability for their health as well."

Diabetes is one of the fastest growing disease epidemics in the country, and the medical profession is continually seeking new management options for this chronic disease. "The patient report card is simply a tool to assist the patient and his or her physician in seeking the very best clinical outcome," Hunt says. "In giving the patient the accountability for a degree of self-management, the physician office is for the first time actually relieved of some of the administrative burden normally associated with managed care."

By using the report card, patients can better understand their condition as well as help monitor and treat their disease. "The development of a patient report card is an exciting way for patients to follow their progress over time, and also to provide them with goals of therapy," says Tom Morrow, MD, president of NAMCP and vice president and medical director of One Health Plan of Georgia.

The Diabetes Patient Report Card is the first of several patient report cards under development for chronic illnesses. "We look forward to offering report cards as tools not only for diabetes but also for many other conditions as well," says Hunt. "This may include report cards tailored to individuals based on their health risk assessments."

Sean Sullivan is president and CEO of the Institute for Health and Productivity Management (IHPM), whose mission is to educate employers that an investment in keeping employees healthy leads to more productive employees, who in turn add more to the corporate bottom line.

"The IHPM commends NAMCP for giving physicians and their patients a critical tool for managing diabetes—a disease on the verge of becoming an epidemic," Sullivan says. "We encourage development of similar report cards for other chronic diseases that create huge costs for employers in terms of medical care and lost productivity."

The Diabetes Patient Report Card aims to actively engage diabetes patients in their own care and involve them as a partner with the physician in charge of their treatment. The end goal is to help manage the disease in a more effective manner.

**Diabetes Physician Audit Tool**

Also available from NAMCP is a measurement tool for physicians to use in evaluating their own examination of diabetic patients. "Socrates once said, 'The unexamined life is not worth living.' We may be coming to the point where we can say 'The unexamined health care is not worth providing,'" Hunt notes. "Physicians and other healthcare providers can

no longer afford to provide healthcare without carefully examining whether or not they are achieving the desired results. The Physician Audit Tool is simply one means by which the self-examination process can begin."

Physicians are "reluctantly getting used to being examined or audited by outside agencies such as healthcare plans, accrediting agencies (NCQA, JCAHO), or the federal government via Medicare," Hunt notes. "Much of the reason for this external review is the fact that physicians have historically been unwilling or unable to review their own provision of care outside the academic centers. Going forward, we must be both willing and able to make these internal reviews, using such tools as the Diabetes Physician Audit Tool."

Hunt adds, "Brent James at Intermountain Health Care in Salt Lake City once said 'What gets measured gets managed.' We physicians must look at our practices and ask ourselves 'What is getting measured, clinically?' To improve the quality of care we render to our patients, we must take measurements of our clinical performance so that the proper improvements may be made. Using tools like the NAMCP's Diabetes Physician Audit Tool can help us measure our clinical quality."

The Disease Management Institute of NAMCP (comprised of medical directors and physicians, purchasers, plans, and providers) is working proactively to improve the management of all disease states. "This innovative approach offers the hope to improve the overall outcome of care for diabetes and, in the future, of other diseases," says Morrow.

### Preventive Health Maintenance Schedule

In addition to developing diabetes disease management tools, NAMCP has created a general wellness "preventive maintenance" guide for healthcare consumers. The two-page schedule, adapted from the U.S. Preventive Services Task Force guidelines for children, adolescents, and adults, conveniently outlines which preventive measures are necessary for every checkup (yearly for adults and adolescents; more often for children).

Physicians can provide the schedule to patients as an educational tool and use it as a point of departure for counseling patients on healthy lifestyles and disease prevention.

"Our economy and healthcare system cannot continue to support treating diseases that are largely preventable," notes Pamella D. Thomas, MD, MPH, CMCM, director of wellness and health promotion at Lockheed Martin Aeronautics.

"We need to understand that policy makers, the healthcare community, and the public must work together to make even small incremental steps to move from disease care to a preventive healthcare system," Thomas continues. "As physicians, we need to adopt the Preventive Health Maintenance Schedule, which will encourage our patients to take personal responsibility to support behavior changes that encourage healthier lifestyles. By using proven interventions and existing science, we can facilitate this change to reduce disease burden and its cost to our nation."

### Access NAMCP Tools Online

NAMCP is an organization of dedicated medical directors, physicians, medical students, residents, and other healthcare professionals involved in various healthcare delivery systems, including health plans, group practices, IPAs, PHOs, PSOs, MSOs, and IDSs. Its mission is focused on providing education and developing tools in managed healthcare.

To receive a free copy of the Diabetes Patient Report Card, the Diabetes Physician Audit Tool, and the Preventive Health Maintenance Schedule, visit www.namcp.org. Click on the corresponding titles for each document. **JMCM**

Visit www.namcp.org for a free copy of the Diabetes Patient Report Card, the Diabetes Physician Audit Tool, and the Preventive Health Maintenance Schedule. Click on the corresponding titles for each document.

# The End of an Era? Results of the 2002 Medical Directors Survey

Peter G. Goldschmidt, MD, DrPH, DMS, and Kristin Hollingsworth

**Summary**

What changes lie ahead for the field of managed care? The sixth annual survey of medical directors offers a unique look at today's trends and managed care's future. The survey's joint sponsors, consulting firm Medical Care Management Corp. llc and the National Association of Managed Care Physicians, sent questionnaires to 1,791 medical directors identified through their client and member databases. Based on the results of the survey (a 5.4 percent response rate), the future of managed care appears uncertain at best. With costs rising at an alarming rate, consumer demand for ever-increasing services (with no incentive for cost-effectiveness), and increasing political pressure in every aspect of healthcare financing and delivery, the system appears destined to crash. According to this survey analysis, the era of managed care is over. The form and substance of a reshaped landscape have yet to become apparent.

**Key Points**

- Cost increase was the most significant trend for 2002, cited by 91 percent of respondents.
- Lack of incentives for cost-effective healthcare was the system's biggest problem.
- The practical change that would most improve America's healthcare system is patient accountability for costs.
- The public's greatest concern about healthcare services are cost and affordability; the patients' concerns are the complexity of health plan rules and restrictions.
- Respondents disagreed over managed care's most important goal: cost containment, quality of care, or optimizing trade-offs among goals.
- Respondents agreed that
  - under a defined contribution health plan (DCHP), employers must insist that employees purchase minimal catastrophic health insurance.
  - frivolous lawsuits are a significant problem.
  - employers will pass on cost increases to employees.
  - a substantial portion of care does not materially improve health outcomes.
  - double-digit increases in annual healthcare costs will continue in the future.

**Read More Online**

Visit www.namcp.org for survey methodology and complete survey results.

HAS THE ERA OF MANAGED CARE ENDED? At the beginning of the last decade healthcare costs were increasing at an unprecedented rate. These cost increases led to a number of public and private initiatives, including sweeping reforms proposed by the Clinton administration in 1993 (which were rejected) and "managed care," which was then embraced by employers. An increasing number of employees were enrolled in Health Maintenance Organizations (HMOs), Preferred Provider Organizations (PPOs), and

other forms of Managed Care Organizations (MCOs). Managed care has several defining characteristics,[1] which imply a commitment to manage both cost and quality.[2] However, from the start, managed care has been synonymous with cost containment. In the past, it has been credited with arresting the seemingly unstoppable growth in healthcare expenditures.[3,4]

Historically, managed care plans implemented various strategies to contain costs. They instituted stringent utilization controls, cut payments to providers, and undertook to improve the efficiency of health delivery. Health plan members and providers balked at the types of restrictions imposed by managed care. This backlash resulted in various "patients' bills of rights," a loosening of utilization controls, and promotion of consumer choice. As a result, healthcare costs increased. Consolidations among institutional providers strengthened their negotiating power with health plans. Again, costs increased, as health providers fought to gain back some of what they had previously given up. Healthcare providers also passed wage hikes due to personnel shortages, increases in malpractice insurance premiums, and other operating expenses. Health plans have yet to come to grips with the question of how to regulate effectiveness and efficiency of medical practice. Additional days in hospitals, increased visits to specialists, expanded use of technology, and burgeoning drug prescriptions have all contributed to growing healthcare expenditures. At the same time, the number of elderly people has continually increased. The predictable result of this confluence of trends is accelerating healthcare costs.

In 2001 the latest year for which data are available, U.S. healthcare spending rose faster than in any year since 1991 (when the run-up in cost increases of the 1980s peaked prior to the ensuing economic recession). Expenditures reached about $5,035 per person and accounted for 14.1 percent of GDP—the highest of any country in the world. Total expenditures rose 8.7 percent to $1.42 trillion.[5] In real terms, in 2001 per capita healthcare expenditures increased 3.8 percent, three times the average annual rate experienced in the preceding decade. The cost of health insurance rose 12.7 percent between spring 2001 and spring 2002, and 14.7 percent for all of 2002.[6] The cost increases in 2002 were worse than expected,[7] and the trend is shocking. In 2003, healthcare premiums are expected to rise 15 percent on average.[8] Many small businesses will see increases in the 24 to 40 percent range.[9] In 2002, the number of small companies (those with fewer than 200 employees) offering healthcare coverage dropped from 67 percent to 62 percent. Only half of the smallest employers (those with three to nine employees) continue to offer coverage.[10] Because of rising healthcare costs, declining tax revenues, and other spending priorities, one county will eliminate health benefits for its employees in 2003.[11]

In response to rapidly rising health benefit costs, employers are raising prices, shaving salaries, trimming wage increases, or redesigning benefits plans to shift a greater proportion of costs to employees. They are raising premium contributions, deductibles, and co-payments; introducing tiered payment structures; and exploring consumer-driven health plans. These strategies have the goal of making employees more conscious of the cost of healthcare and also of making employees responsible for some of the difficult choices ahead. In some instances, employers are dropping coverage altogether.[12-16] For unions, shifting costs to employees threatens to destroy the long-cherished benefit of employer-paid healthcare, unraveling overnight what they have fought hard to achieve over decades. In response, unions have called protest strikes.[17,18] What will be the effects of rapidly rising healthcare costs? Who will pay them? How much healthcare are people willing to buy?

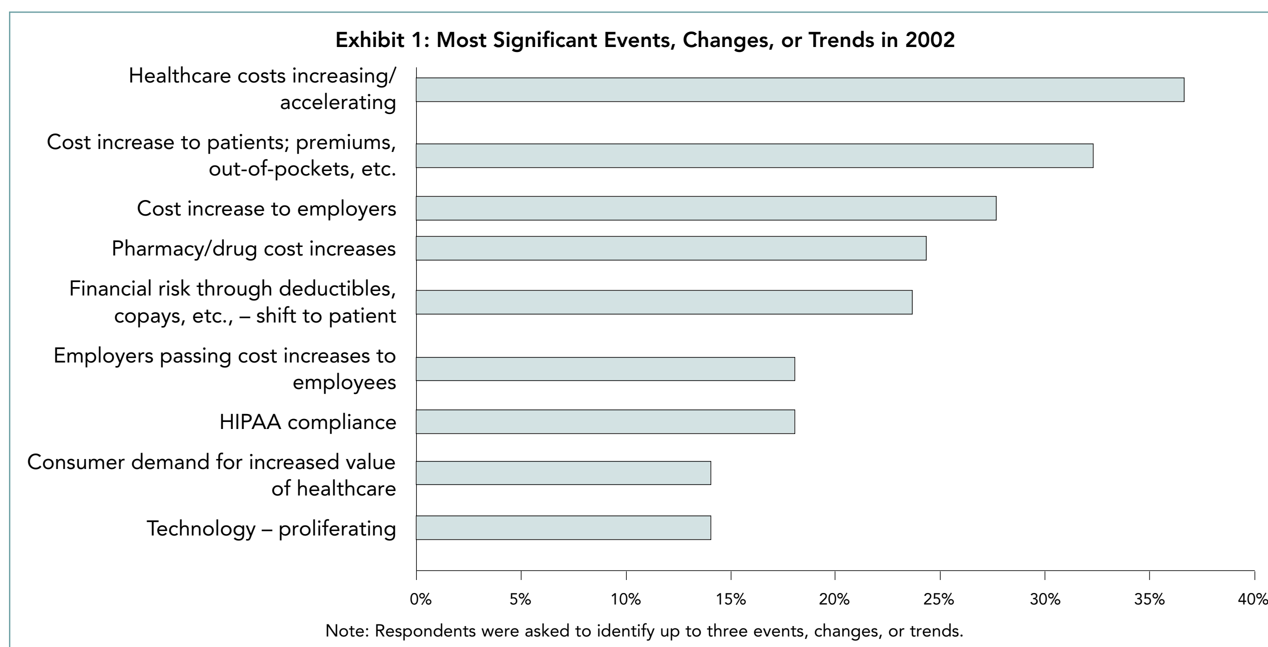
Medical directors play an important—and often unheralded—role in managed care plans' efforts to ensure and improve the quality of care, contain costs, and achieve managed care's myriad other goals, including politically acceptable trade-offs. The purpose of the Medical Directors Survey is to find out what the nation's medical directors are thinking. The results reported here pertain to the sixth annual survey, for 2002. MCMC and NAMCP[19] sponsor these surveys jointly.

## Results

### Trends

The most significant trend for 2002 was increasing/accelerating costs, mentioned by 91 percent of respondents when they were asked to identify the three most significant events, changes, or trends that would emerge in 2002 that would most affect America's healthcare system in the next five years. Thirty-two percent mentioned cost increases to employers; 62 percent, to employees/consumers; and 58 percent mentioned costs generally, including pharmacy/drug cost increases. Far behind were other trends, such as compliance with the Health Insurance Portability and Accountability Act of 1996 (HIPAA—18 percent); consumer demand for increased value of healthcare (14 percent); and proliferating technology (14 percent). In 2002, 71 percent (20 of 28 trends listed) were mentioned by at least five percent of respondents; the same percentage as in 2001. Only the following seven specific trends were mentioned by about 20 percent of respondents. (*See Exhibit 1*)

• Healthcare costs increasing/accelerating (mentioned by 37 percent of respondents in both 2002 and 2001;




not among the most significant trends before that)

• Cost increases to patients: premiums, out of pockets, etc. (32 percent in 2002; 20 percent in 2001; 32 percent and 41 percent in years before that)

• Pharmacy/drug cost increases (25 percent in 2002; 29 percent in 2001; 31 percent the year before that)

• Cost increases to employers (28 percent in 2002; 25 percent in 2001; 21 percent the year before that)

• Employers passing cost increases to employees (18 percent in 2002; 17 percent in 2001; not among the most significant trends before that)

• HIPAA compliance (18 percent in 2002; not among the most significant trends previously).

Concerns about increasing/accelerating costs dominated 2002's most important trends. HIPAA compliance was a new concern (18 percent). Cost increases to patients and to employers rose in importance from the previous year. Many trends seen in previous surveys did not make the list in 2002. They included increased government regulation; consolidations, acquisitions, and mergers among MCOs; HMO's or health plans' accountability or liability; and patients' right to sue.

Lack of incentives for cost-effective healthcare and healthcare cost increases are the health system's most important problems, according to respondents. In 2002, as in 2001, seven problems were mentioned by at least 5 percent of respondents. These items accounted for 89 percent of all responses. In 2001, they accounted for 82 percent; the previous year, 77 percent; and the year before that, 71 percent, indicating a greater consensus than ever before (*See Exhibit 2*). Problems mentioned by more than 5 percent of respondents were as follows:

• Alignment of incentives/arrangements to encourage cost-effective healthcare (27 percent; 20 percent in 2001; not among the most important problems before that)

• Healthcare cost increases (17 percent; 11 percent in 2001; 8 percent and 9 percent in years before that)

• Unrealistic expectations about healthcare/system (14 percent; 12 percent in 2001; 11 percent in the year before that)

• Discrepancy between patient wants and needs (11 percent; 14 percent in 2001; 8 percent and 14 percent in years before that)

• Uninsured increasing or lack of universal access (nine percent; 21 percent in 2001, 11 percent and 6 percent in years before that)

• Lifestyle issues, e.g., tobacco use, obesity (6 percent; 8 percent in 2001; not among the most important problems before that)

• Prescription drug increases (5 percent; 6 percent in 2001; not among the most important problems before that).

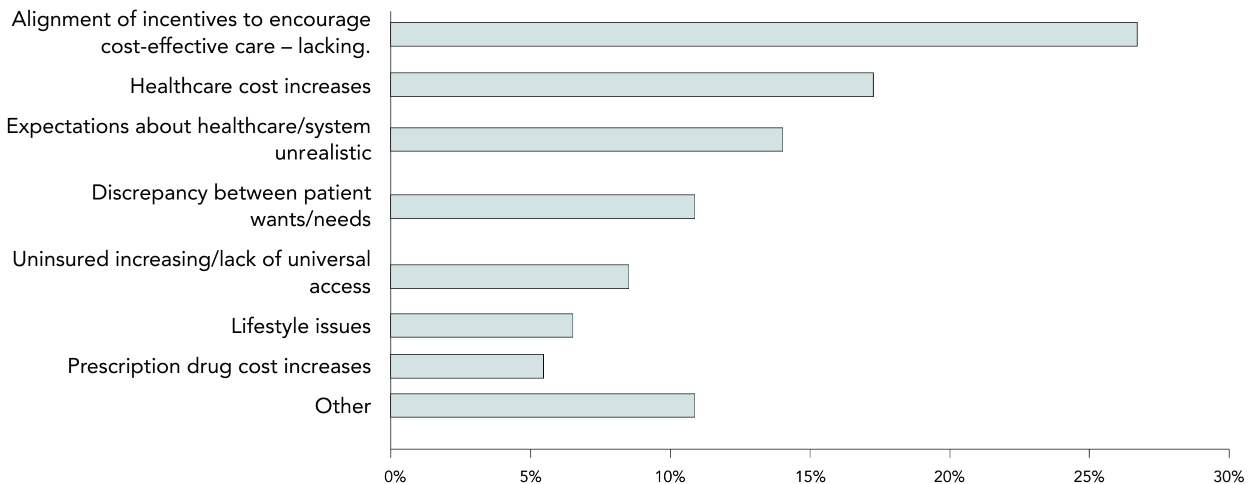
The most important problems identified in 2002 were identical to those mentioned most often in the previous year's survey. Misalignment of incentives and healthcare cost increases again topped the list. Unrealistic expectations about the healthcare system continued to rise in importance. Fewer HMO respondents (13 percent) than those from other organizations (25 percent) mentioned health cost increases.

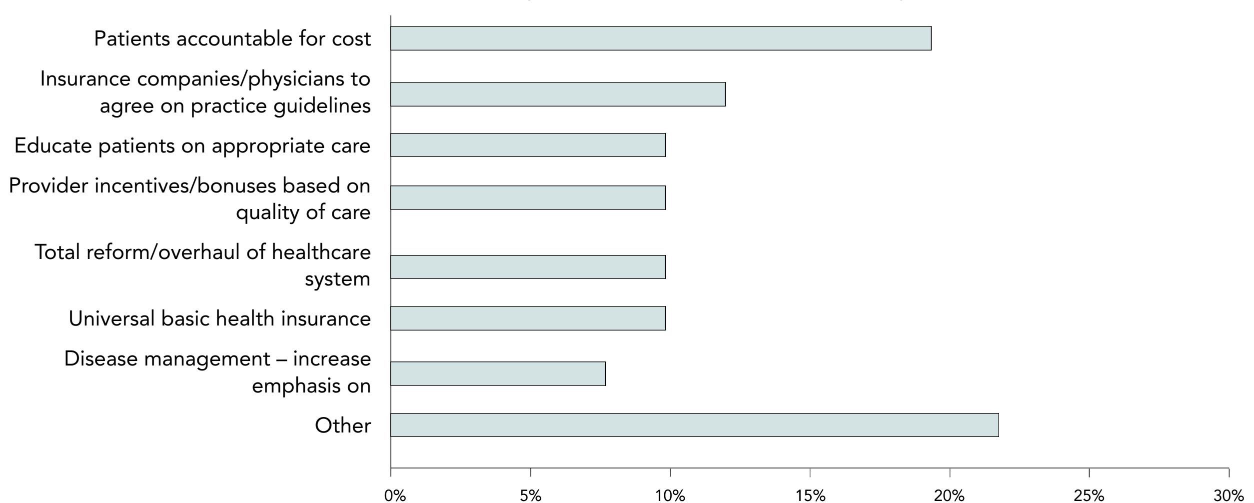
## Recommended Changes to Improve the System

The seven practical changes that would most improve America's healthcare system, according to at

least 5 percent of respondents, are shown in *Exhibit 3*. In 2002, as in 2001, making patients accountable for costs topped the list (20 percent; 23 percent including increasing patient deductibles and co-pays for non-urgent care). It was followed by agreement on practice guidelines (12 percent; 18 percent including more information on interventions' cost-effectiveness). Next was educating patients on appropriate care (10 percent); followed by provider incentives/bonuses based on quality of care (10 percent);total reform/overhaul of healthcare system (10 percent); and universal basic health insurance (10 percent).In general, financing reforms,such as a single payer system;tax relief or tax credits to buy health insurance; total reform/overhaul of healthcare system; and universal basic health insurance were chosen by 25 percent of all respondents. In 2002, increased emphasis on disease management made the list (8 percent); however, defined contribution health plans did not.

The nation's most important healthcare problems would be largely aided by certain solutions, many of which were chosen by respondents in previous years, as well. The problem of misalignment of incentives would be solved by financing reforms, patients' accountability for costs, provider incentives/bonuses based on quality of care, and education of patients on appropriate care. The discrepancy between patient wants and needs could be solved primarily by making patients accountable for costs and implementing practice guidelines/information on interventions' cost-effectiveness. Healthcare and prescription drug cost increases might be moderated by making patients



accountable for costs; implementing practice guidelines/information on interventions' cost-effectiveness; and implementing financing reforms. Not surprisingly, financing reforms would help most in reducing the number of uninsured. The most important changes indicated for lifestyle issues were increased emphasis on disease management and practice guidelines/information on interventions' cost-effectiveness.

### Public and Patient Concerns

Medical directors who responded to the survey thought that the public's greatest concern about healthcare services today was

- Cost/affordability of healthcare (33 percent of responses; 37 percent in 2001; 30 percent the previous year; 35 percent and 21 percent in years before that)
- Access to care (19 percent; 22 percent in 2001; 31 percent the previous year; 17 percent,20 percent,and 18 percent in years before that)
- Loss of trust in physician/system (11 percent; not among greatest concerns in 2001 survey)
- Health plan benefits, coverage exclusions (10 percent; not among greatest concerns in 2001)
- Choice/continuity of care (6 percent; 8 percent in 2001; 19 percent previous year; 32 percent, 24 percent,and 26 percent in years before that).

The above-mentioned concerns accounted for 79 percent of responses (compared to 75 percent for the previous year's top responses) mentioned by more than five percent of respondents. Although cost and access remained the greatest concerns, both receded in strength. Health plan benefits/coverage exclusions, after including denials of coverage/service, was chosen by 13 percent of respondents as the public's greatest concern.

Patients' most pressing concern about managed care continues to be complexity of health plan rules/restrictions, according to almost one-quarter of respondents. Access to care, which was the number one concern in previous years, was a close second. Patients' most pressing concerns, according to the survey, are

- Complexity of health plan rules and restrictions (24 percent; 28 percent in 2001; 12 percent the previous year; 9 percent and 13 percent in years before that)
- Access to care (22 percent; 31 percent in 2001; 48 percent the previous year; 35 percent,25 percent,and 24 percent in years before that)
- Getting what they want, not what they need (18 percent; not among the most pressing concerns previously)
- Cost of care, exclusions (13 percent; 12 percent in 2001 and the previous year; 20 percent, 19 percent, and 11 percent in years before that)
- Prescription drug costs shifting to patients (7 percent; not among the most pressing concerns previously)
- Health plan benefits/coverage exclusions (6 percent; not among the most pressing concerns previously).

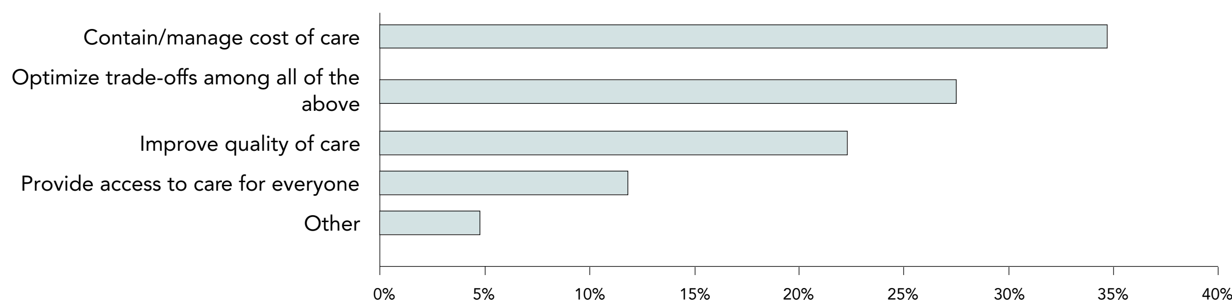
### Goal(s) of Managed Care

Respondents continued to split into three main groups over what they thought was managed care's most important goal (*see Exhibit 4*).The respondents chose the following:

- Contain/manage cost of care (34 percent of respondents mention;33 percent in 2001;24 percent the previous year; 33 percent,23 percent,and 25 percent in years before that)
- Optimize trade-offs among goals (28 percent; 24 percent in 2001; 35 percent the previous year; 23 percent, 37 percent, and 38 percent in years before that)
- Improve quality of care in terms of patient outcomes (22 percent; 27 percent in 2001; 25 percent the previous year; 28 percent,33 percent,and 31 percent in years before that).

More HMO respondents (32 percent) than those from other types of organizations (16 percent) selected "improve the quality of care" as managed care's most important goal. Fewer (19 percent) selected "optimize trade-offs"(32 percent).The top choice of both groups was "contain/manage cost of care," but

**Exhibit 4: Most Important Goal of Managed Care**



it was followed closely by two other goals: quality of care for HMO respondents; and optimizing tradeoffs for those from other types of organizations. More part-time medical directors (30 percent) selected "improve quality of care" than did full-time medical directors (18 percent).

### Consequences of Costs

In the 1990s, concern about the affordability of healthcare and the increasing cost of employer-based health plans prompted healthcare reforms—which essentially fizzled—and led to the rise of managed care as we have come to know it. Managed care transformed the financing and delivery of US healthcare. For a few years in the middle of the decade, managed care seemed to be holding down health cost increases, but the slowdown was only temporary. By the turn of the century, growth in healthcare costs had again reached double-digit levels. We have not seen this magnitude of increase for more than a decade; moreover, the increased rate of growth applies to a much larger base of expenditures than ever before. Will we see employers abandon their health plans? Will they switch to some type of defined contribution health plan (DCHP) that caps their expenditures? Will consumer-directed, consumer-driven health plans improve the healthcare system's efficiency? The survey asked respondents to rate their agreement or disagreement with 34 separate statements about the potential consequences of rising healthcare costs.

Respondents agreed most strongly with the following five statements (in order of strength of agreement, based on mean score of a five-point scale, in which one represents "disagree strongly," five indicates "agree strongly":

- Under a DCHP, employers will have to insist that employees purchase at least a minimal catastrophic health insurance plan. Otherwise, some individuals will be tempted to trust to providence and suffer potentially catastrophic consequences (4.28).
- Frivolous lawsuits and their potential consequences (such as out-of-proportion settlements and awards to plaintiffs) are a significant problem (4.17).
- For the foreseeable future, employers will pass most increases in healthcare costs (insurance premiums) to employees, either directly, or by adopting multi-tier arrangements for hospital care, prescription drugs, etc. (4.16).
- A substantial proportion of healthcare wanted or demanded by patients does not materially improve patient health outcomes (4.10).
- Double-digit increases in the cost of healthcare are to be expected through the end of 2005) (4.01).

Respondents disagreed most strongly with the following five statements (in order of strength of disagreement based on mean score):

- There is no need to control healthcare costs. If people want more healthcare, they will simply spend more to get it (2.09).
- Present-day managed care organizations, HMOs, PPOs, and similar organizations have no useful role in a world of DCHPs (2.15).
- We should adopt a national single-payer system, e.g.,to reduce the cost of healthcare "administration" (marketing health plans, paying claims,etc.) (2.38).
- DCHP will result in higher quality healthcare (2.39).
- There is no practical way to control healthcare costs (2.44).

Additional findings included the following:

- A majority of respondents (69 percent) disagreed that, "Present-day managed care organizations, HMOs, PPOs, etc., have no useful role in a world of DCHPs." Not surprisingly, HMO medical directors disagreed with this statement more frequently than did non-HMO medical directors (84 percent versus 61 percent).
- A majority of all respondents (80 percent) agreed that, "Frivolous lawsuits and their potential consequences (such as out-of-proportion settlements with and awards to plaintiffs) are a significant problem." Non-HMO medical directors agreed with this statement far more frequently than HMO medical directors (89 percent versus 63 percent).
- Respondents were split regarding the statement that,"Large employers or coalitions will increasingly bypass health plans and contract directly with providers."Thirty-four percent agreed with the statement; 28 percent disagreed; and the rest chose the midpoint of the five-point scale. HMO medical directors tended to disagree (47 percent),while medical directors from other types of organizations tended to agree (45 percent).
- A majority of respondents (62 percent) disagreed with the statement that,"We should adopt a national single-payer system, e.g., to reduce the cost of healthcare 'administration' (marketing health plans, paying claims, etc)."Twenty-four percent agreed,and the rest chose the five-point scale mid-point. Respondents working full-time as medical directors disagreed with this statement less often than part-time medical directors (57 percent versus 71 percent).
- A majority of all respondents (56 percent) disagreed that, "Health plans are driven by costs; they only pay lip service to quality." Not surprisingly, HMO medical directors disagreed with this statement far more frequently than non-HMO medical directors (71 percent versus 47 percent).

• A majority of all respondents (81 percent) agreed with the statement that,"A substantial proportion of healthcare wanted/demanded by patients does not materially improve patient health outcomes." Full-time medical directors agreed with this statement more frequently than part-time medical directors (88 percent versus 68 percent).
• A majority of all respondents (75 percent) agreed with the statement that "A substantial proportion of medical interventions delivered by providers does not materially improve patient health outcomes." Again, full-time medical directors agreed with this statement more frequently than part-time medical directors (81 percent versus 64 percent). Non-HMO medical directors agreed with this statement more frequently than HMO medical directors (82 percent versus 63 percent).
• Sixty-one percent of all respondents agreed that, "By the end of 2010, most patient records for most purposes will be electronic." While the majority of non-HMO medical directors agreed with this statement (70 percent), only 44 percent of HMO medical directors did so. Full-time medical directors were more likely to disagree than part-time medical directors (22 percent versus 9 percent). Full-time medical directors were more optimistic than part-time medical directors that, "By the end of 2010, we will know the cost-effectiveness of the most frequently used medical treatments" (32 percent agreed versus 9 percent), and less pessimistic that,"By the end of 2010, people of a given age will be healthier than they were in 2000" (37 percent disagreed versus 59 percent).
• Respondents were split regarding the statement that,"By the end of 2010, managed care as we knew it in 2000 will no longer exist." Thirty-eight percent agreed with the statement; 40 percent disagreed; and the rest chose the five-point scale mid-point. HMO medical directors tended to disagree (53 percent), while medical directors from other types of organizations tended to agree (44 percent). A smaller percentage of HMO than non-HMO medical directors disagreed that,"By the end of 2010, the U.S. healthcare landscape will be significantly different from that of today" (50 percent versus 72 percent).

## Discussion

The survey results may represent a biased view for two reasons. First, only a small fraction of the identified medical directors responded to the survey (5.4 percent). Second, the authors may have failed to identify all of the nation's medical directors. Respondents' profiles were remarkably similar for all five surveys conducted to date. Nevertheless, comparisons must be interpreted cautiously because it is not known what percentage of respondents who completed the 2002 questionnaire also participated in previous years' surveys.

Increasing and accelerating costs were the most significant trend. It was mentioned by 91 percent of respondents (including those who mentioned cost increases to employers, employees, and pharmacy and drug cost increases). Far behind were consumer demand for increased value of healthcare, and proliferating technology. HIPAA compliance made the list in 2002. Cost increases to patients increased in importance from the previous year; and increased government regulation, which had continued to recede in importance in the past, did not make the 2002 list.

There was more agreement than ever among respondents about the nation's most important problems. The two top problems are lack of incentives for cost-effective healthcare and healthcare cost increases. The top problems cited in 2002 were virtually identical to those mentioned most often in the previous year's survey. Unrealistic expectations about healthcare/system continued to increase in importance, while problems such as lifestyle issues and prescription drug cost increases continued to decrease in importance. According to respondents, all of the nation's most important healthcare problems would be aided by certain practical changes, many of which have been mentioned in prior years. In 2002, as in 2001, respondents believed that making patients accountable for costs was the practical change that would most improve America's healthcare system. This was followed by the need to establish agreement on practice guidelines. Educating patients on appropriate care faded to third place.

Cost and affordability of healthcare continues to be the public's greatest concern, in medical directors' minds. Complexity of health plan rules and restrictions has supplanted access to care as patients' greatest concern, according to respondents. Access to care was both the public's and patients' second most important concern, followed, for the public, by loss of trust in physician/system (a new top concern). Next in line, for patients, was getting what they want, not what they need.

Again in 2002, respondents split almost equally into three main groups, indicating a continued divergence of views on managed care's most important goal. A plurality of medical directors selected cost containment. Given the overwhelming trend toward cost increases, it is remarkable that almost two-thirds of respondents do *not* view managed care's most important goal to be cost containment. Optimizing trade-offs was mentioned second most often, and improving the quality of care in terms of patient outcomes was mentioned third most often (it was men-

tioned second most often in 2001). Once again, few respondents chose providing access to care for everyone as managed care's most important goal. This finding remains remarkably constant.[20-25]

An interesting picture emerges from respondents' opinion regarding rising healthcare costs and their consequences. First, we can expect double-digit increases in healthcare costs to continue for the foreseeable future. Employers will pass most of these increases on to employees. A substantial proportion of healthcare demanded by patients (and delivered by providers) does not materially improve health outcomes. Fraud, frivolous lawsuits, and out-of-proportion settlements are also significant problems. Complying with HIPAA will significantly increase healthcare costs. Costs must be controlled—and there must be a practical way to do it. Defined-contribution health plans (DCHPs) simply shift costs to employees. Nevertheless, a single-payer system does not seem to be the way forward.What's next?

For the first time since the early 1990s we are experiencing a sustained period of double-digit increases in annual healthcare costs.In 2002,the cost of employee health benefits rose almost 15 percent, the largest increase since 1990:seven times the rate of general inflation.[26] Costs have increased in each of the last five years,and they are accelerating.Costs are expected to grow at 12 to 15 percent per year until at least 2005. This time around, such increases are built on a substantially larger base of healthcare expenditures. By 2011, health expenditures are projected to reach $2.8 trillion (twice their current level), growing at a mean annual rate of 7.4 percent (half of the current rate), to reach 17.0 percent of GDP (compared to 14.1 percent in 2001).[27]

Unlike in the mid-1990s, when employees seized on managed care as the way to contain costs (following the failure of the Clinton administration's proposed healthcare reforms),there are few proposals for a short-term fix, and even fewer for a long-term solution. Employers have been quick to pass increased costs on to employees but slow to adopt DHCPs or other types of so-called consumer-driven health plans, which usually involve high deducible coverage with an annual employer contribution to employees'healthcare spending account. Shifting the increased costs of healthcare to employees is provoking labor unrest.Some, especially small employers,are dropping heathcare coverage. Shifting costs to employees is also increasing the number of uninsured workers and families.In 2001,1.4 million people lost their health insurance.[28]

Skyrocketing Medicaid costs threaten to swamp state budgets. In Florida, for example, if costs continue to increase at the current pace, Medicaid is projected to consume the entire state budget by 2015.[29] States can be expected to respond by trimming Medicaid rolls, which currently total about 26 million people. Cuts being contemplated could strip coverage from one million low-income people, creating a tidal wave of uninsured.[30] Medicare, which currently covers about 40 million people, also expects to cut payments to providers.[31] The net result may be fewer providers seeing these patients, which will reduce the availability of care; and providers demanding the right to balance-bill, which will further reduce financial access to services. Failing that, providers who continue to see Medicaid and Medicare patients may attempt to pass on costs in the form of higher charges to non-government patients, fueling increases in employee benefit costs.[32]

The rising tide of the uninsured and under-insured is only one of many problems in the system pressuring politicians. Healthcare inequity is also growing rapidly. By 2005, workers who earn $25,000 per year could be paying twice as many dollars out-of-pocket as those earning $60,000: five times the amount as a proportion of salary.[33] Providers are offering platinum practices—for those who can afford to pay for them.[34] Rising medical malpractice rates are adding more fuel to the political fire as they reduce availability of and access to care, and contribute to rising healthcare costs.[35] There is no end in sight for medical errors,[36] and the increasing complexity of medical practice might intensify this problem. Aggressive efforts to cut costs may be hazardous to health.[38] Fraud is rampant in the system.[37] Perhaps the scariest problem of all is that there is no solution in sight.

Annual increases in healthcare costs are growing at historically high levels and show no signs of abating. Managed care is no longer slowing medical inflation. Surging costs make it difficult to implement disease management, which is the type of program that medical directors say is needed to help resolve problems in the system. Some employers believe that improving the quality of care will lower costs. It might improve cost-effectiveness, but, by itself, this strategy will not contain costs.[39] Consumer-driven healthcare plans have not yet been shown to reduce the rise in healthcare costs. They may result initially in people delaying treatment, which, in turn, might result in a temporary cost-containing effect, only to rebound later as small health problems become big—and more expensive —healthcare problems, in much the same way that managed care's original controls on patient utilization and provider payment produced a temporary cost-containing effect.[40-44] Increasing government intervention—the historic and obvious solution—might create more prob-

lems than it solves. There are no easy answers to the myriad problems confronting the healthcare system.

Rising employee health benefit costs threaten to overwhelm existing employer-based health care financing mechanisms. Managed care has failed to provide sustained control of healthcare expenditures, the reason underlying its rapid rise in popularity in the mid-1990s. Perhaps this is not surprising. In each of our annual surveys, only one-third of medical directors considered containing costs as managed care's most important goal. According to MCO executives, only about one-third of their organizations are well prepared to meet the challenges they face.[45] Many driving forces are beyond MCOs' control.

The era of managed care is over. In 10 years or so, the healthcare landscape will be different from what it is today. Inexorable increases in healthcare costs will drive this change. They represent an irresistible force. People's limitless desire for services, and their quest for perfect healthcare—with no delays, no errors, and no hassles—represent a seemingly immoveable object. The inevitable clash will produce political friction, tremors, and, ultimately, the reshaping of the healthcare landscape.

Rising healthcare costs will be in our future for years to come. To address them rationally, we must find ways to sustain the mechanisms that determine interventions' cost-effectiveness. We must then disseminate this information to providers and the public in a useful way, in order to ration healthcare interventions and provide acceptable incentives for responsible choices. Ultimately, we may have to learn to live with less of other goods and services to pay for the healthcare we need or desire, and learn to tolerate the politics involved in every aspect of healthcare financing and delivery. What are the prospects for success? It is far too early to tell. Medical directors will both affect and be affected by events. As these events unfold, the Medical Directors Survey will chart their progress. **JMCM**

*Peter G. Goldschmidt, MD, DrPH, DMS is chief executive officer of MCMC llc, a medical consulting company based in Bethesda, Md. Kristin Hollingsworth is a senior associate at MCMC llc.*

*If you are a medical director and did not participate in the 2002 Medical Directors Survey and would like to fill out future surveys, please e-mail or fax your name, affiliation, address, telephone and fax numbers, and e-mail address to Matthew Prins, mprins@namcp.org; fax, 804-747-5316.*

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