Traditionally, discussions of women’s health were limited to conditions that are unique to women, such as contraception, fertility, and menopause. Yet very little was known about even these issues, as illustrated by an article written in 1967, which described menopause as a chronic and incapacitating deficiency disease. A menopausal woman was considered a castrate, with all the inherent physical and psychic disorders observed in patients who have undergone bilateral oophorectomy. The understanding of menopause, and of women’s health in general, has grown tremendously since that time.

Because gender differences in medicine have become clear, we realize that we cannot treat males as the norm; thus, the definition of women’s health has expanded. Traditionally, discussions of women’s health were limited to conditions more prevalent or more serious in women; or conditions that have different risk factors or require different interventions for women, and thus deserve special attention.

The purpose of this article is to increase recognition of the importance of women’s health issues and the role that managed care pharmacists can play in women’s health care.

++ Women’s Health Issues in Managed Care

Financial Issues

The cost of care is a general issue for managed care organizations (MCOs), as well as for government agencies and many employers. An integrated database of medical and pharmacy claims reported that nearly 60% of total health plan expenditures are attributed to women and 59% of all prescription drugs are prescribed to women. Reproductive issues—menopausal symptoms, menstrual disorders, and contraceptive management—accounted for 16% of all health plan expenditures, more than cardiovascular disease, diabetes, and asthma combined.

One factor that contributes to the increased cost of medical care for women is that they visit their doctors more often than men do. Women are more likely than men to suffer health problems associated with their reproductive systems. Prenatal care and routine cervical and breast cancer screening bring women into the health care system often. Another contributing factor is that women are more susceptible than men to certain diseases, among them rheumatoid arthritis, osteoporosis, urinary incontinence, anxiety, depression, and Alzheimer’s disease.

In addition, some diseases have more significant consequences in women. Among females attending family planning clinics, the prevalence of chlamydia ranges from 4%–12%. Complications of chlamydia in women are severe and frequent. Once infected, women are more susceptible to reproductive cancers and infertility.

The sheer number of women in government programs (Medicare and Medicaid) presents significant financial concerns. In 1999, 57% of the 39 million people enrolled in Medicare were women, as were 57% of Medicaid enrollees. Of the Medicare members older than 85 years, 75% were women. Medicaid is a major payor for nursing home care; three quarters of nursing home residents covered by Medicaid are women. Medicaid is also America’s largest single purchaser of maternity care (prenatal, delivery, and postpartum services). In 1995, Medicaid paid for 39% of the more than 3.1 million live births in the United States.

Marketing

The phrase “women’s health” is often used in marketing, especially within the managed care and employer markets, because women make 75%–90% of the health care decisions for themselves and their families. Some managed care plans have found that promoting preventive care to women increases the likelihood of their re-enrollment by as much as 28%. Employers may also benefit from promoting women’s health care because women now make up 44% of the paid U.S. workforce.

Quality of Care

Some conditions that may affect a woman’s...
quality of life have received little attention, in part because they are not central to the reproductive role. Osteoporosis, incontinence, and dysmenorrhea are often cited as areas of neglect. Uterine fibroids (uterine leiomyomata), benign tumors of the uterus, are exceptionally common in women aged 25–45 years old (30%).10 Uterine fibroids are the most common indication for hysterectomy, accounting for 30% of hysterectomies in white women and over 50% in black women.11 However, a recent report from AHRQ stated that, “with the exception of trials of gonadotropin-releasing hormone agonist therapy (e.g., goserelin, leuprolide, nafarelin) as an adjunct to surgery, there is a remarkable lack of randomized trials data demonstrating the effectiveness of therapies with nonsteroidal, progestins, or oral contraceptives in the management of women with symptomatic fibroids.”12 It is surprising that so little data are available on therapies for a very common condition.

Hormonal changes play a role in some disease exacerbations. A significant percentage of women with asthma, migraine, diabetes, depression, or epilepsy experience worsening of their disease premenstrually. Little is known about how oral contraceptives and hormone replacement therapy affect the course of many diseases or the response to therapy. Additionally, women have often been excluded from or seriously underrepresented in clinical trials (e.g., major studies of coronary heart disease). Lack of understanding surely affects quality of care.

In order to remedy this disparity in research and assure that the care of women is adequate, it is necessary that women be included in the study populations of federally funded clinical research and clinical trials on medications submitted to the Food and Drug Administration (FDA). One notable trial, designed to address the gap in knowledge, is the Women’s Health Initiative, which will evaluate strategies for preventing heart disease, breast cancer, colorectal carcinoma, and osteoporosis in postmenopausal women. This will be the first trial to provide disease data on hormone therapy for minority women. Through advocacy by women’s organizations, federal funding has become available, particularly for breast cancer research.

The National Committee for Quality Assurance (NCQA) evaluates and reports on the quality of the nation’s MCOs. One of its measures, the Health Plan Employer Data and Information Set (HEDIS), will soon account for 25% of an MCO’s NCQA accreditation. HEDIS measures the following women’s health indicators: chlamydia screening, management of menopause, breast cancer screening, cervical cancer screening, prenatal care in the first trimester, and check-ups after delivery (see Table 1, left). Future HEDIS measures are likely to include osteoporosis and family planning counseling.

**Opportunities for Managed Care Pharmacy**

Women’s health care is also important to managed care pharmacy. In terms of finances only, women represent 62% of prescription drug use and 58% of total prescription costs.11 Approximately 70% of all prescriptions for antidepressants and anti-anxiety agents and 80% for migraine drugs are filled for women.12 Several other classes of medications (e.g., gastrointestinal drugs, pain medications, antihistamines) are more commonly filled for women.

In the past decade, a dramatic 75% increase in pharmaceutical industry research on areas of women’s health has led to a full pipeline of drugs to help meet the special health needs of women.12 U.S. pharmaceutical companies are developing 348 new medicines directed at women’s health needs (see Table 2, page 265). Many are for diseases that disproportionately afflict women, but for some gender-based research is being conducted. With all these medications in the pipeline, managed care will face the challenge of improving care while managing costs.

The significant opportunities to improve the care of women are illustrated by the wide variation of care in HEDIS measures, especially chlamydia screening (see Table 1). Smoking rates are declining more slowly for women, and obesity and physical inactivity are more prevalent in women than men. Recently, the Centers for Disease Control and Prevention revealed that clinicians are missing opportunities for

![Table 1](image)

<table>
<thead>
<tr>
<th></th>
<th>Results of Plans in the 10th Percentile</th>
<th>Average Health Plan Results</th>
<th>Results of Plans in the 90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast cancer screening</td>
<td>64%</td>
<td>73%</td>
<td>82%</td>
</tr>
<tr>
<td>Cervical cancer screening</td>
<td>60%</td>
<td>72%</td>
<td>83%</td>
</tr>
<tr>
<td>Checkups after delivery</td>
<td>54%</td>
<td>71%</td>
<td>87%</td>
</tr>
<tr>
<td>Chlamydia screening, ages 16–20 years</td>
<td>5%</td>
<td>18.5%</td>
<td>32.6%</td>
</tr>
<tr>
<td>Chlamydia screening, ages 21–26 years</td>
<td>4.6%</td>
<td>16%</td>
<td>28%</td>
</tr>
<tr>
<td>Management of menopause counseling (composite of subscres)</td>
<td>48.7%</td>
<td>56.6%</td>
<td>63.7%</td>
</tr>
<tr>
<td>Prenatal care in the first trimester of pregnancy</td>
<td>71%</td>
<td>85%</td>
<td>95%</td>
</tr>
</tbody>
</table>

Note: HEDIS is the Health Plan Employer Data and Information Set.
heart-disease-prevention counseling. In a study of 29,273 routine office visits, women were counseled less often than men about exercise, nutrition, and weight reduction. Managed care pharmacists have an opportunity to work toward improving the care of women by educating members and providers (see Table 3, page 266).

Managed care pharmacists must recognize differences in the safety of medications between men and women. A recent report by the General Accounting Office stated that 8 out of 10 prescription drugs pulled from the U.S. market since 1997 posed greater health risks for women than for men. Four of these (Rezulin, Redux, Pondimin, and Lotronex) may have had more adverse events in women than in men because they were prescribed more often to women. The other four (Posicor, Seldane, Hismanal, and Propulsid) had more adverse events in women even though they were widely prescribed to men as well as women. Women in particular have a higher incremental risk of suffering an arrhythmia after taking these drugs, probably because the interval between heart muscle contractions is naturally longer for women than for men and because male sex hormones moderate the heart muscle's sensitivity to these drugs.

Gender differences in efficacy may also exist. Because phenytoin is cleared more rapidly in women during the luteal phase of
Women's Health: Issues and Opportunities for Managed Care Pharmacy

![TABLE 3](ssri.png)

Some Educational Opportunities For Managed Care Pharmacy

- The National Osteoporosis Foundation recommends that all adults receive at least 1,200 mg/day of elemental calcium. However, the typical American diet provides less than half that amount.
- 30%-70% of women who start estrogen therapy discontinue therapy within the first year. Of women who start alendronate, 35% of patients discontinue it within eight months.
- Other than hormone replacement therapy, women receive very little information on ways to manage menopause. Less than 2% of women received information on calcium, other medications, vitamins, exercise, nutrition, or vaginal creams for managing menopause.
- Only 42% of women of reproductive age (18-44) take a multivitamin or folic acid supplement daily. Only 30% of women are aware that taking folic acid during early pregnancy might prevent neural-tube defects.

the menstrual cycle, serum concentrations may be reduced below the therapeutic window. Decreased serum phenytoin concentrations correlate with increased seizure activity in women with catamenial epilepsy (an increase in seizure activity four days prior to menses and six days after onset). Generally, women tend to respond less well than men to tricyclics but better than men to selective serotonin reuptake inhibitors (SSRIs) and monoamine oxidase inhibitors.

Managed Care Implications

Benefit Design

Women's health issues cross all areas of managed care pharmacy, including benefit design, formulary management, and clinical programs. A survey of more than 14,000 women demonstrated that the inclusion of prescription drug benefits has important ramifications for customer satisfaction. The survey found that 51% of women made their health plan decision based on whether there was a prescription drug benefit and 33% stated that their decision was based on medical and pharmacy copayment differences between health plans.

Managed care pharmacists should be able to defend the economic and health rationale for including contraceptives within the pharmacy benefit. For example, reportedly because of the increased use of contraceptives, from 1987 to 1994 the rate of unplanned pregnancies dropped 16%, abortions declined 11%, and unplanned births declined 22%.

Express Scripts' oral contraceptive model, based on actual use of oral contraceptives in 1996 by 1.8 million employer lives, can estimate the cost of contraceptive coverage based on the age demographics of a group's female population. The model is based on average wholesale price (AWP), and thus does not include discounts or copayments. Overall, the cost of oral contraceptives is $0.77 per member per month or $1.48 per female member per month. Payors should also be made aware that they may already be covering some oral contraceptives to treat medically appropriate conditions such as endometriosis or dysfunctional uterine bleeding.

An analysis of contraceptive coverage is beyond the scope of this article, but one reference that does describe the cost to employers of adding all contraceptive options is available on the Alan Guttmacher Institute Web site at www.agi-usa.org/pubs/kaiser_0698.html.

Coverage of fertility medications within the pharmacy benefit is another issue that may seem to specifically affect women. Thirteen states have now mandated some form of infertility coverage, yet there are no national standardized protocols. Managed care pharmacists may be involved in designing infertility medication benefits or developing protocols for their use. For example, the expense of one of the treatments, gonadotropins, may be compounded by waste (e.g., cycles are often cancelled, patients may have remaining gonadotropins after a cycle). Therefore, a distribution system or benefit design strategy that reduces gonadotropin waste can reduce costs. A resource that describes some issues in developing infertility treatment algorithms is an article by Gleicher in Human Reproduction Update.

Clinical Programs

Care of chronic disease is one of the fastest-growing and costliest segments of women's health care. Conditions that lend themselves to clinical/educational programs or multidisciplinary guidelines in women include chronic headaches, chronic rheumatologic conditions, obesity, coronary artery disease, osteoporosis, and depression. Effective therapy adherence programs are needed for osteoporosis and hormone replacement therapies. Clinical programs that strive to improve women's knowledge of menopausal therapies, both pharmacologic and nonpharmacologic, would also fill a gap in member education.

Formulary Management

There are at least two perspectives of how the care of women falls into formulary management. One is the need for safety and efficacy information specifically directed at women. A second is the safety and efficacy of how a medication is to be used in combination with oral contraceptives or hormone replacement therapy products.

Case Examples

Below we describe programs that contribute to understanding women's health, improving the quality of care, or reducing costs of pharmaceuticals.

Accurate Health Statistics

A World Health Organization technical paper states that, first and most importantly, it is essential that the situation of women be more accurately reflected in routinely collected health statistics. It has been a frequent complaint that most statistics are not separated by gender. Express Scripts' Drug Trend Report now has a chapter that describes use of medication in men and women across the lifespan.
One important finding was that there was a greater percentage change in cost per prescription for females (+10.96%) than for males (+7.24%) as they aged. Mean AWP per prescription increased 18.2% for women in their seventh decade of life and 20.25% for women at age 80 years of age and older. Increases in cost per prescription hit elderly females disproportionately hard.

Patient Counseling

A pharmacist-to-patient counseling program focuses on members who are most at risk for negative outcomes related to polypharmacy. Two-thirds of the members contacted are women. These services promote formulary or generic and lower-cost medicines as well as prevention of adverse drug events and interactions. Members are educated about their medications, including dosing schedules and contraindications, via letters and telephone counseling. All members are encouraged to discuss pharmacist recommendations and any additional questions with their physician. The top five interventions discussed with women are (1) calcium requirements; (2) bisphosphonates, including proper use, calcium requirement, and side effects; (3) bone-density tests for osteoporosis risk assessment; (4) incontinence/bladder control; and (5) management of menopause.

One example highlights the value of pharmacist counseling. During a phone consultation, a pharmacist noticed that the female patient that she was speaking with was having difficulty breathing and talking at the same time. The pharmacist noted two similar heart medications (metoprolol and atenolol) on the patient’s record and notified the patient immediately about the duplicate therapy. One of the medications was then discontinued.

Osteoporosis

A recent National Institutes of Health report stated that fewer than 5% of patients with osteoporotic fractures are referred for medical evaluation and treatment. This is worrisome because up to 20% of postmenopausal women with a vertebral fracture will have a second fracture within a year. A program being designed by Express Scripts will use integrated pharmacy and medical claims to target postmenopausal women diagnosed with osteoporosis or who have had a hip, vertebral, or radial fracture and have not received a medication for osteoporosis. Letters will be sent to the patients and their physicians, discussing prevention and treatment of osteoporosis, lifestyle modifications, and therapy options. Patients who start on medication will be enrolled in a compliance program. The goal is to promote evaluation and treatment of patients at risk for osteoporotic fractures.

† Conclusion

Women’s health is a priority for many health care systems for financial, marketing, and quality-of-life reasons. Significant advances in women’s health care have been made in the past 30 years. The inclusion of women in clinical trials will continue this effort to understand gender-specific differences in medicine.

Managed care pharmacists have opportunities to improve the care of women by incorporating the information from clinical trials into their practice. They are well positioned to improve quality of care through educating providers and members.

Lastly, managed care faces the challenge of managing the potential costs presented by a vast pipeline of new drugs specifically designed for women.

References