

# Health Care Spending Was 16.2% of 2007 GDP

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WASHINGTON — Growth in U.S. health care spending slowed in 2007 to 6.1%, the lowest annual growth rate since 1998.

But at \$2.2 trillion, or \$7,421 per person, health care spending still represented 16.2% of the nation's overall gross domestic product and was an in-

crease from 16% in 2006, according to data published by a group of statisticians and economists from the Center for Medicare and Medicaid Services' Office of the Actuary.

"Do we feel glad that the cost growth overall in 2007 was the lowest in quite some time, since 1998?" asked Richard Foster, CMS chief actuary.

"Sure, we're happy about that. But it was still 6.1%. How much did GDP grow

that year? How much did your wages increase? We still have this affordability problem," he said.

The data indicate that most of the spending slowdown in 2007 was a result of the markedly lower 4.9% rate of growth in retail prescription drug spending, which amounted to \$227.5 billion (10% of total spending) and represented the slowest rate since 1963, said Mr. Foster.

In 2006, by contrast, spending on prescription drugs grew by 8.6% (Health Aff. 2009;28:246-61).

The slowing in retail prescription drug spending was deemed to be a result of three factors: the growth in generic prescription drugs (67% of filled prescriptions in 2007 were generic, up from 63% in 2006); a slower price growth in all drugs (thanks both to the increased use of generics and also the introduction of drug discount programs at national retailers such as Walmart), and increased safety concerns related to numerous black-box warnings issued this year (68 compared with 58 in 2006 and 21 in 2005).

Growth in spending on physician and clinical services remained stable from 2006 to 2007 with a 6.5% increase, ac-

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counting for \$478.8 billion or 21% of the total health care bill. Taken separately, the increase was mostly sustained by a growth in spending for clinics, which grew at an average annual rate of 8.5% from 2004 to 2007. ("Clinics" were defined as outpatient care centers and ambulatory service centers.)

As a result of cuts in imaging reimbursement and flat or very small payment updates, payments to physicians grew at an average of 6.4% over the same period.

Hospital spending accounted for \$696.5 billion or 31% of the total in 2007, with an increase of 7.3%. Nursing home care comprised 6% of the total, or \$131.3 billion, with an increase of 4.8%, up slightly from 4.0% in 2006.

The nation's health care tab in 2007 was split nearly evenly between public and private payers, with 46% coming from the public side—about the same as in 2006, according to Anne Martin, an economist at the CMS Office of the Actuary and a coauthor on the report.

Medicare spending increased 7.2% in 2007, following an 18.5% increase in 2006 that resulted from the implementation of the Part D program that year. Meanwhile, private health insurance premiums grew at a more modest 6.0%.

Lead author and CMS statistician Micah Hartman said that although the current recession did not overlap enough with data reported in this study to have an effect—only 1 month—a set of health spending projections for 2008-2018 will be released some time this month.

Mr. Foster predicted that the projections will have much less of an upside. "I wouldn't expect the 6.1% to stay that low," he said. "I wouldn't expect the good news to continue." ■

## DIFFERIN® (adapalene) Gel, 0.3% BRIEF SUMMARY

Rx only

For topical use only. Not for ophthalmic, oral or intravaginal use.

**INDICATIONS AND USAGE:** DIFFERIN® Gel, 0.3% is indicated for the topical treatment of acne vulgaris in patients 12 years of age and older.

**CONTRAINDICATIONS:** DIFFERIN® Gel, 0.3% should not be administered to individuals who are hypersensitive to adapalene or any of the components in the gel vehicle.

### PRECAUTIONS:

**General:** Certain cutaneous signs and symptoms of treatment such as erythema, scaling, dryness, and stinging/burning may be experienced with use of DIFFERIN® Gel, 0.3%. These are most likely to occur during the first four weeks of treatment, are mostly mild to moderate in intensity, and usually lessen with continued use of the medication. Depending upon the severity of these side effects, patients should be instructed to either use a moisturizer, reduce the frequency of application of DIFFERIN® Gel, 0.3% or discontinue use.

If a reaction suggesting sensitivity or chemical irritation occurs, use of the medication should be discontinued. Exposure to sunlight, including sunlamps, should be minimized during use of adapalene. Patients who normally experience high levels of sun exposure, and those with inherent sensitivity to sun, should be warned to exercise caution. Use of sunscreen products and protective clothing over treated areas is recommended when exposure cannot be avoided. Weather extremes, such as wind or cold, also may be irritating to patients under treatment with adapalene.

Avoid contact with the eyes, lips, angles of the nose, and mucous membranes. The product should not be applied to cuts, abrasions, eczematous or sunburned skin. As with other retinoids, use of "waxing" as a depilatory method should be avoided on skin treated with adapalene.

**Information for Patients:** Patients using DIFFERIN® Gel, 0.3%, should receive the following information and instructions:

1. This medication is to be used only as directed by the physician.
2. It is for external use only.
3. Avoid contact with the eyes, lips, angles of the nose, and mucous membranes.
4. Cleanse affected area with a mild or soapless cleanser before applying this medication.
5. Moisturizers may be used if necessary; however, products containing alpha hydroxy or glycolic acids should be avoided.
6. Exposure of the eye to this medication may result in reactions such as swelling, conjunctivitis, and eye irritation.
7. This medication should not be applied to cuts, abrasions, eczematous, or sunburned skin.
8. Wax epilation should not be performed on treated skin due to the potential for skin erosions.
9. During the early weeks of therapy, an apparent exacerbation of acne may occur. This may be due to the action of the medication on previously unseen lesions and should not be considered a reason to discontinue therapy.

**Drug Interactions:** As DIFFERIN® Gel, 0.3% has the potential to induce local irritation in some patients, concomitant use of other potentially irritating topical products (medicated or abrasive soaps and cleansers, soaps and cosmetics that have a strong drying effect, and products with high concentrations of alcohol, astringents, spices, or lime) should be approached with caution. Particular caution should be exercised in using preparations containing sulfur, resorcinol, or salicylic acid in combination with DIFFERIN® Gel, 0.3%. If these preparations have been used, it is advisable not to start therapy with DIFFERIN® Gel, 0.3%, until the effects of such preparations have subsided.

**Carcinogenesis, Mutagenesis, Impairment of Fertility:** Carcinogenicity studies with adapalene have been conducted in mice at topical doses of 0.4, 1.3, and 4.0 mg/kg/day, and in rats at oral doses of 0.15, 0.5, and 1.5 mg/kg/day. These doses are up to 3 times (mice) and 2 times (rats) in terms of mg/m<sup>2</sup>/day the potential exposure at the maximum recommended human dose (MRHD), assumed to be 2.5 grams DIFFERIN® Gel, 0.3%. In the oral study, increased incidence of benign and malignant pheochromocytomas in the adrenal medullas of male rats was observed.

No photocarcinogenicity studies were conducted. Animal studies have shown an increased risk of skin neoplasms with the use of pharmacologically similar drugs (e.g., retinoids) when exposed to UV irradiation in the laboratory or to sunlight. Although the significance of these studies to human use is not clear, patients should be advised to avoid or minimize exposure to either sunlight or artificial UV irradiation sources.

Adapalene did not exhibit mutagenic or genotoxic effects *in vitro* (Ames test, Chinese hamster ovary cell assay, mouse lymphoma TK assay) and *in vivo* (mouse micronucleus test).

Reproductive function and fertility studies were conducted in rats administered oral doses of adapalene in amounts up to 20 mg/kg/day (up to 26 times the MRHD based on mg/m<sup>2</sup> comparisons). No effects of adapalene were found on the reproductive performance or fertility of the F<sub>0</sub> males or females. There were also no detectable effects on the growth, development and subsequent reproductive function of the F<sub>1</sub> offspring.

**Pregnancy: Teratogenic effects. Pregnancy Category C.** Retinoids may cause fetal harm, when administered to pregnant women. Adapalene has been shown to be teratogenic in rats and rabbits when administered orally (see Animal Data below). There are no adequate and well-controlled studies in pregnant women. DIFFERIN® Gel, 0.3% should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. The safety and efficacy of DIFFERIN® Gel, 0.3% in pregnancy has not been established.

### 1. Human Data

In clinical trials involving DIFFERIN® Gel, 0.3% in the treatment of acne vulgaris, women of child-bearing potential initiated treatment only after having had a negative pregnancy test and used effective birth control measures during therapy. However, 6 women treated with DIFFERIN® Gel, 0.3% became pregnant. One patient elected to terminate the pregnancy, two patients delivered healthy babies by normal delivery, two patients delivered prematurely and the babies remained in intensive care until reaching a healthy state and one patient was lost to follow-up.

### 2. Animal Data

- No teratogenic effects were seen in rats at oral doses of 0.15 to 5.0 mg/kg/day adapalene representing up to 6 times the maximum recommended human dose (MRHD) based on mg/m<sup>2</sup> comparisons. Adapalene has been shown to be teratogenic in rats and rabbits when administered orally at doses  $\geq$  25 mg/kg representing 32 and 65 times, respectively, the MRHD based on mg/m<sup>2</sup> comparisons. Findings included cleft palate, microphthalmia, encephalocele and skeletal abnormalities in the rat and umbilical hernia, exophthalmos and kidney and skeletal abnormalities in the rabbit.
- Cutaneous teratology studies in rats and rabbits at doses of 0.6, 2.0, and 6.0 mg/kg/day exhibited no fetotoxicity and only minimal increases in supernumerary ribs in both species and delayed ossification in rabbits. Systemic exposure (AUC<sub>0-24h</sub>) to adapalene 0.3% gel at topical doses of 6.0 mg/kg/day in rats and rabbits represented 5.7 and 28.7 times, respectively, the exposure in acne patients treated with adapalene 0.3% gel applied to the face, chest and back (2 grams applied to 1000 cm<sup>2</sup> of acne involved skin).

**Nursing Mothers:** It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when DIFFERIN® Gel, 0.3% is administered to a nursing woman.

**Pediatric Use:** Safety and effectiveness in pediatric patients below the age of 12 have not been established.

**Geriatric Use:** Clinical studies of DIFFERIN® Gel, 0.3% did not include subjects 65 years of age and older to determine whether they respond differently than younger subjects. Safety and effectiveness in geriatric patients age 65 and above have not been established.

**ADVERSE REACTIONS:** In the multi-center, controlled clinical trial, signs and symptoms of local cutaneous irritation were monitored in 258 acne patients who used DIFFERIN® Gel, 0.3% once daily for 12 weeks. Of the patients who experienced cutaneous irritation (erythema, scaling, dryness, and/or burning/stinging), the majority of cases were mild to moderate in severity, occurred early in treatment and decreased thereafter. The incidence of local cutaneous irritation with DIFFERIN® Gel, 0.3% from the controlled clinical study is provided in the following table:

Table 2: Physician assessed local cutaneous irritation with DIFFERIN® Gel

	Incidence of Local Cutaneous Irritation with DIFFERIN® Gel, 0.3% from Controlled Clinical Study (N=253*)		
	Maximum Severity Scores Higher Than Baseline		
	Mild	Moderate	Severe
Erythema	66 (26.1%)	33 (13.0%)	1 (0.4%)
Scaling	110 (43.5%)	47 (18.6%)	3 (1.2%)
Dryness	113 (44.7%)	43 (17.0%)	2 (0.8%)
Burning/Stinging	72 (28.5%)	36 (14.2%)	9 (3.6%)

\* Total number of subjects with local cutaneous data for at least one post-Baseline evaluation.

Table 3: Patient reported local cutaneous adverse events with DIFFERIN® Gel

	DIFFERIN® (adapalene) Gel, 0.3%	Vehicle Gel
	N=258	N=134
Related* Adverse Events	57 (22.1%)	6 (4.5%)
Dry Skin	36 (14%)	2 (1.5%)
Skin Discomfort	15 (5.8%)	0 (0.0%)
Desquamation	4 (1.6%)	0 (0.0%)

\* Selected adverse events defined by investigator as Possibly, Probably or Definitely Related

Related adverse events from the controlled clinical trial that occurred in greater than 1% of patients who used DIFFERIN® Gel, 0.3% once daily included: dry skin (14.0%), skin discomfort (5.8%), pruritus (1.9%), desquamation (1.6%), and sunburn (1.2%). The following selected adverse events occurred in less than 1% of patients: acne flare, contact dermatitis, eyelid edema, conjunctivitis, erythema, pruritus, skin discoloration, rash, and eczema. In a one-year, open-label safety study of 551 patients with acne who received DIFFERIN® Gel, 0.3%, the pattern of adverse events was similar to the 12-week controlled study.

**OVERDOSAGE:** DIFFERIN® Gel, 0.3% is intended for topical use only. If the medication is applied excessively, no more rapid or better results will be obtained and marked redness, scaling, or skin discomfort may occur. Chronic ingestion of the drug may lead to the same side effects as those associated with excessive oral intake of vitamin A.

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**References:** 1. Data on file. Galderma Laboratories, L.P. A phase 2, 12-week, multicenter, controlled clinical study of patients 12 to 40 years of age with acne vulgaris (N=214). 2. Thiboutot D, Arsonnaud S, Soto P. Efficacy and tolerability of adapalene 0.3% gel compared to tazarotene 0.1% gel in the treatment of acne vulgaris. *J Drugs Dermatol.* 2008;7(suppl 6):S3-S10.

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