

Contribution of health care factors to the burden of skin disease in the United States



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The American Academy of Dermatology has developed an up-to-date national Burden of Skin Disease Report on the impact of skin disease on patients and on the US population. In this second of 3 manuscripts, data are presented on specific health care dimensions that contribute to the overall burden of skin disease. Through the use of data derived from medical claims in 2013 for 24 skin disease categories, these results indicate that skin disease health care is delivered most frequently to the aging US population, who are afflicted with more skin diseases than other age groups. Furthermore, the overall cost of skin disease is highest within the commercially insured population, and skin disease treatment primarily occurs in the outpatient setting. Dermatologists provided approximately 30% of office visit care and performed nearly 50% of cutaneous surgeries. These findings serve as a critical foundation for future discussions on the clinical importance of skin disease and the value of dermatologic care across the population. (J Am Acad Dermatol 2017;76:1151-60.)

Key words: burden of skin disease; burden of skin disease report; claims-based prevalence; dermatology; direct cost; economic driver; health care economics; indirect cost; inpatient cost; insurer cost; medical cost; office visit cost; outpatient cost; over-the-counter drug cost; prescription drug cost; skin health care provider; surgery; workforce.

Skin disease affects millions of people worldwide and is a leading cause of global disease burden.¹ The past decade has brought therapeutic innovations to medicine but also many changes to the delivery of health care.²⁻⁴ With finite resources available for research, clinical care, and public health initiatives, it is imperative to accurately quantify the overall burden of skin disease for the US population.

Abbreviations used:

AAD: American Academy of Dermatology
BSD: burden of skin disease

The last national Burden of Skin Disease (BSD) Report was published over 10 years ago.⁵ The American Academy of Dermatology (AAD) has

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developed an up-to-date BSD Report to provide a comprehensive assessment of the prevalence and economic burden of 24 skin disease categories through the use of 2013 medical claims data tabulation.⁶ This report estimates that 85 million Americans were seen by a physician for at least 1 skin disease in 2013. This led to an associated direct health care cost of nearly \$75 billion and resulted in \$11 billion in lost productivity.⁷ In this second of 3 manuscripts, these data have been further analyzed related to patient age, skin disease, insurance status, and other health care factors. These data yield further insights to inform discussions on dermatologic health care access, treatment selection, care coordination, and policy decisions.

METHODS

In 2014, the AAD appointed a BSD Work Group* to develop a current BSD report. Milliman (New York, NY) was selected to work with the BSD Work Group. Detailed methodology can be found in the AAD BSD Report.⁶ US population data and prevalence measurement methodology, identification and categorization of skin diseases, and definitions of health care cost categories have been described in detail in the first manuscript of this series.⁷ They are briefly summarized below.

Skin disease category classification

Twenty-four skin disease categories were identified for inclusion in this report and were assigned corresponding skin-related 2013 International Classification of Disease, Ninth Edition, diagnosis codes. The identification and assignment of skin conditions and International Classification of Disease, Ninth Edition, codes followed a set of key principles.

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US population by age and insurance status

Medical Expenditure Panel Survey data were used to estimate the US 2013 population by age and insurance status. Specifically, the participants' primary payer as of July 1, 2013, was used, resulting in assignment to 1 of 4 insurance statuses: commercial, Medicare, Medicaid, and uninsured. The following databases were used for the development of 2013 prevalence and cost estimates: commercial (Truven Health Analytics MarketScan Commercial Database [MarketScan]), Medicare (Medicare 5% sample and Milliman Medicare Part D Claims Database [Milliman PDCD]), Medicaid (Kaiser Family Foundation report), and uninsured (Kaiser Family Foundation report).^{8,9} As described in the first manuscript, a set of data selection rules for each data source was established to ensure representative and quality data.⁷

Prevalence measurement methodology

Prevalence in this report refers to the portion of the population having at least 1 of the 24 skin disease categories recorded on a health insurance claim during 2013. A skin disease diagnosis during 2013 may reflect both newly diagnosed skin disease and chronic skin disease requiring ongoing treatment. Prevalence, therefore, excludes people with a skin disease who did not file insurance claims in 2013, regardless of reason. To estimate the number of individuals diagnosed with skin disease in 2013, the specific prevalence for each skin disease category was converted to the number of individuals on the basis of the total population for each insured status. The prevalence for a specific skin disease category was compared on the basis of age groups by averaging the relative prevalence ratio between successive age groups.

Medical cost tabulation and dimensions

Medical costs associated with skin disease were determined through the use of diagnosis codes, procedure codes, national drug codes, and physician specialty codes to identify skin disease-associated claims. When a claim had diagnoses for skin and nonskin diseases, costs were divided among the conditions such that only the skin disease portion

CAPSULE SUMMARY

- The prevalence of most skin diseases increases with age; prevalence is highest among Medicare patients, nearly half of whom have skin disease.
- The direct and per-person costs for the 24 skin disease categories studied here vary by disease and by insurer and are often higher for those with commercial insurance.
- Dermatologists provide the majority of care for serious and chronic skin diseases, including skin cancer, psoriasis, acne, rosacea, and vitiligo.

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