Cost of Diagnosing Psoriasis and Rosacea for Dermatologists Versus Primary Care Physicians

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PRACTICE **POINTS**

- Growing health care costs are causing accountable care organizations (ACOs) to reconsider how to best manage skin disease.
- There is little difference in average diagnosis-related cost between primary care physicians and dermatologists in diagnosing psoriasis or rosacea.
- With diagnosis costs essentially equal and increased dermatologist diagnostic accuracy, ACOs may encourage skin disease to be managed by dermatologists.

Growing incentives to control health care costs may cause accountable care organizations (ACOs) to reconsider how skin disease is best managed. Limited data have suggested that disease management by a primary care physician (PCP) may be less costly than seeing a specialist, though it is not clear if the same is true for the management of skin disease. This study assessed the cost of seeing a dermatologist versus a PCP for diagnosis of psoriasis and rosacea.

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Growing incentives to control health care costs may cause accountable care organizations (ACOs) to reconsider how diseases are best managed. Few studies have examined the cost difference between primary care providers (PCPs) and specialists in managing the same disease. Limited data have suggested that management of some diseases by a PCP may be less costly compared to a specialist[1,2]; however, it is not clear if this finding extends to skin disease. This study sought to assess the cost of seeing a dermatologist versus a PCP for diagnosis of the common skin diseases psoriasis and rosacea.

Methods

Patient data were obtained from the Humana database, a large commercial data set for claims and reimbursed costs encompassing 18,162,539 patients covered between January 2007 and December 2014. Our study population consisted of 3,944,465 patients with claims that included *International Classification of Diseases, Ninth Revision (ICD-9)*, codes for dermatological diagnoses (680.0–709.9). We searched by *ICD-9* code for US patients with primary diagnoses of psoriasis (696.1) and rosacea (695.3). We narrowed the search to include patients aged 30 to 64 years, as the diagnoses for these diseases are most common in patients older than 30 years. Patients who were older than 64 years were not included in the study, as most are covered by Medicare and therefore costs covered by Humana in this age group would not be as representative as in younger age

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groups. Total and average diagnosis-related costs per patient were compared between dermatologists and PCPs. Diagnosis-related costs encompassed physician reimbursement; laboratory and imaging costs, including skin biopsies; inpatient hospitalization cost; and any other charge that could be coded or billed by providers and reimbursed by the insurance company. To be eligible for reimbursement from Humana, dermatologists and PCPs must be registered with the insurer according to specialty board certification and practice credentialing, and they are reimbursed differently based on specialty. Drug costs, which would possibly skew the data toward providers using more expensive systemic medications (ie, dermatologists), were not included in this study, as the discussion is better reserved for long-term management of disease rather than diagnosis-related costs. All diagnoses of psoriasis were included in the study, which likely includes all severities of psoriasis, though we did not have the ability to further break down these diagnoses by severity.

Results

We identified 30,217 psoriasis patients and 37,561 rosacea patients. Of those patients with a primary diagnosis of psoriasis, 26,112 (86%) were seen by a dermatologist and 4105 (14%) were seen by a PCP (Table). Of those patients with a primary diagnosis of rosacea, 34,694 (92%) were seen by a dermatologist and 2867 (8%) were seen by a PCP (Table). There was little difference in the average diagnosis-related cost per patient for psoriasis in males (dermatologists, $638; PCPs, $657) versus females (dermatologists, $592; PCPs, $586) or between specialties (Figure). Findings were similar for rosacea in males (dermatologists, $179; PCPs, $168) versus females (dermatologists, $157; PCPs, $161). For these skin diseases, it was concluded that it is not more cost-effective to be diagnosed by a PCP versus a dermatologist.

Comment

For the management of common skin disorders such as psoriasis and rosacea, there is little cost difference in seeing a dermatologist versus a PCP. Through extensive training and repeated exposure to many skin diseases, dermatologists are expected to be more comfortable in diagnosing and managing psoriasis and rosacea. Compared to PCPs, dermatologists have demonstrated increased diagnostic accuracy and efficiency when examining pigmented lesions and other dermatologic diseases in several studies.[3-6]

Diagnosis-Related Cost for Psoriasis and Rosacea by Specialty

Diagnosis by Specialty	No. of Diagnoses, n	Total Annual Cost, US $	Average Cost Per Patient, US $
Psoriasis			
Dermatologist			
Male patients	12,459	7,951,217	638
Female patients	13,653	8,087,785	592
PCP			
Male patients	2197	1,444,351	657
Female patients	1908	1,119,134	586
Rosacea			
Dermatologist			
Male patients	8527	1,534,248	179
Female patients	26,167	4,130,784	157
PCP			
Male patients	942	158,502	168
Female patients	1925	310,106	161

Abbreviation: PCP, primary care physician.

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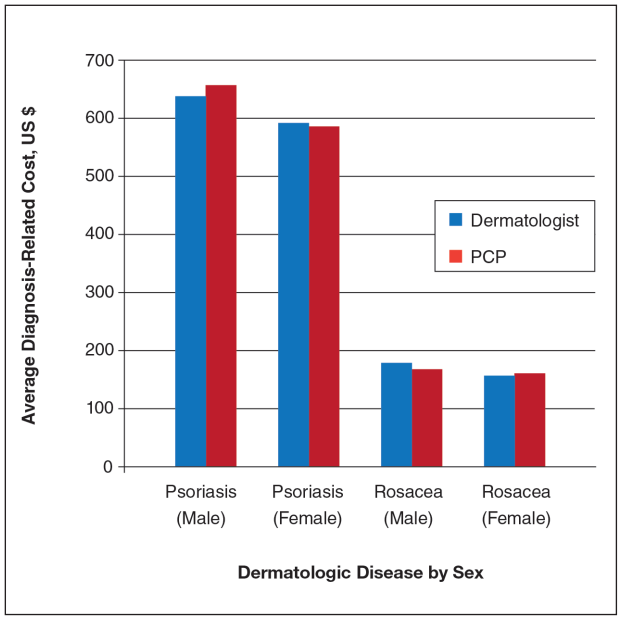

Comparison of average diagnosis-related costs for psoriasis and rosacea among dermatologists versus primary care physicians (PCPs). There was little cost difference by specialty or patient sex.

Although the current study shows that diagnosis-related costs for psoriasis and rosacea are essentially equal between dermatologists and PCPs, it actually may be less expensive for patients to see a dermatologist, as unnecessary tests, biopsies, or medications are more likely to be ordered/prescribed when there is less clinical diagnostic certainty.[7,8] Additionally, seeing a PCP for diagnosis of a skin disease may be inefficient if subsequent referral to a dermatologist is needed, a common scenario that occurs when patients see a PCP for skin conditions.[9]

Our study had limitations, which is typical of a study using a claims database. We used *ICD-9* codes recorded in patients' medical claims to determine diagnosis of psoriasis and rosacea; therefore, our study and data are subject to coding errors. We could not assess the severity of disease, only the presence of disease. Further confirmation of diagnosis could have been made through searching for a second *ICD-9* code in the patient's history. Our data also are from a limited time period and may not represent costs from other time periods.

Conclusion

Given the lack of cost difference between both specialties, we conclude that ACOs should consider encouraging patients to seek care for dermatologic diseases by dermatologists who generally are more accurate and efficient skin diagnosticians, particularly if there is a shortage of PCPs within the ACO network.

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