

# Association of Dermatology Wait Times With Insurance Coverage in Michigan

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**B**y 2017, the Affordable Care Act (ACA) had reduced the percentage of uninsured persons to 9.1% from 16.0% in 2010.<sup>1</sup> One component of the ACA was expansion of Medicaid eligibility to people earning annual incomes up to 138% of the federal poverty level<sup>2</sup>: \$16,060 for a single individual or \$20,420 for a family of 3 in 2017.<sup>3</sup> Although the expansion was intended for the entire country, a 2012 Supreme Court decision made Medicaid expansion optional for states; subsequently, 39 states and the District of Columbia independently elected to expand their Medicaid programs, although 12 states have yet to enact this expansion.<sup>4</sup> A total of 16.6 million additional Americans have enrolled in Medicaid since the enactment of the ACA.<sup>5</sup> Despite the expanded coverage, acceptance rates for Medicaid among dermatology clinics are historically lower than those for private insurance and Medicare.<sup>6</sup> Based on published estimates from an ongoing survey conducted in 15 large cities by physician recruitment firm Merritt Hawkins, in 2017, Medicaid was accepted in only 32% to 33% of dermatology clinics.<sup>7</sup> This lags behind the average rate of Medicaid acceptance in major metropolitan markets among all physicians (53%).<sup>7</sup>

Several studies have examined wait times for dermatology visits; average wait times regardless of insurance status range from 32.3 days to 45.5 days.<sup>6-10</sup> A 2007 study found that patients seeking cosmetic botulinum toxin appointments with dermatologists experienced shorter wait times, with a mean of 16 days.<sup>11</sup> For dermatologists who employed a physician extender, such as a physician assistant or nurse practitioner (approximately 23.3%), the mean wait times for these extenders were significantly shorter than for the physicians supervising them (27.9 vs 45.8 days;  $P < .001$ ).<sup>9</sup> When considering insurance status, compared with patients with private insurance, those with Medicaid, when they could get an appointment, had to wait 34% longer (50 vs 37 days) to obtain a routine initial visit to see a dermatologist.<sup>7</sup> There is also dramatic geographic variation; in regions where Medicaid payments are low relative to commercial payers, Medicaid rejection rates and wait times were higher.<sup>7</sup>

Michigan's Medicaid expansion is called the Healthy Michigan Plan (HMP). Under the HMP, as of September 4, 2017, an additional

## ABSTRACT

**OBJECTIVES:** Although the Affordable Care Act has greatly expanded coverage, the physician workforce has not increased commensurately. Data on wait times, especially among dermatologists who accept Medicaid, are lacking. The objective of this study was to evaluate wait times in dermatology clinics by insurance coverage and chief complaint.

**STUDY DESIGN:** A "secret shopper" survey was conducted.

**METHODS:** Between June and July 2016, 186 dermatology clinics in Michigan were contacted to determine the earliest available appointment for a patient seeking an evaluation of a changing mole, a chronic rash, and botulinum toxin administration.

**RESULTS:** The mean [standard error (SE)] wait time regardless of insurance or chief complaint was 28.8 (1.29) days. Clinics that accept Medicaid had longer wait times (32.9 [2.19] vs 25.4 [1.50] days;  $P = .024$ ). The mean (SE) wait time for a mole or rash was longer for patients with Medicaid compared with those with private insurance (40.0 [4.08] vs 27.7 [1.54] days;  $P = .003$ ). The mean (SE) wait time for Medicaid patients compared with patients with private insurance was also longer, even within the same clinic (39.1 [4.11] vs 27.5 [1.57] days; median, 23.5 vs 16.0 days). Patients with Medicaid were able to obtain appointments sooner for botulinum toxin administration (22.5 [2.10] days) compared with evaluation of a mole (40.0 [6.63] days) or rash (40.1 [4.99] days) ( $P = .004$ ).

**CONCLUSIONS:** Wait times for clinic appointments were longer for patients with Medicaid, especially when requesting an evaluation for a medical dermatologic issue compared with a cosmetic consultation. Delay in medical dermatologic care, especially among Medicaid patients, must be addressed.

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642,963 individuals who were not previously eligible are now covered by Medicaid.<sup>12</sup> It has been estimated that 4 dermatologists are necessary per 100,000 people.<sup>13</sup> This means an additional 9 to 20 dermatologists would be required solely to accommodate the patient increase from the HMP.<sup>14</sup> However, based on existing data on wait times, physician perception, use of physician extenders, searches for new employees, and experience of recent graduates entering the workforce, there is an inadequate supply of dermatologists to meet the demand for dermatologic services.<sup>8</sup> To better delineate disparities in and barriers to dermatologic care, we conducted an extensive survey of dermatology offices within the state of Michigan to compare wait times between patients with Medicaid and patients with private insurance seeking medical and cosmetic dermatology services.

## METHODS

### Study Design

A telephone survey was conducted using a simulated patient (“secret shopper”). To ensure caller anonymity, random phone numbers from Google Voice that did not have Michigan area codes were used. A standard script for a 40-year-old male patient was used. Each call had a unique identity consisting of a hypothetical name, birth date, address, and call-back number. Race and ethnicity were not asked and therefore were never provided. The secret shopper first found out which plans were accepted at each clinic. Separate calls were subsequently made by the secret shopper requesting an appointment with Blue Cross Blue Shield (BCBS) insurance, as well as Medicaid or a Medicaid managed care plan, for clinics that accept them. If the clinic accepted fee-for-service (FFS) Medicaid, the clinic was told that he had FFS Medicaid. If the clinic did not accept FFS Medicaid, the clinic was told that he had one of the Medicaid managed care plans. Inactive Medicaid and BCBS of Michigan insurance identification numbers were provided when requested. Because no human subject intervention was performed, the study was considered exempt by the University of Michigan

### TAKEAWAY POINTS

- ▶ Disparities exist in dermatologic care for patients with Medicaid.
- ▶ This study investigated such disparities in an entire state rather than limited to major metropolitan areas.
- ▶ Clinics accepting Medicaid had longer overall wait times than clinics that did not, especially for medical dermatologic needs compared with cosmetic appointments.
- ▶ Delay in medical dermatologic care, especially among Medicaid patients, must be addressed.

Institutional Review Board. Calls were made between June 7, 2016, and July 25, 2016.

The survey used 3 unique dermatologic scenarios differing by caller identity and insurance type. During the survey, the caller described 1 of the 3 scenarios in the same manner for each phone call. Each scenario description was constructed to resemble a case of a changing mole concerning for melanoma (script A), a rash consistent with chronic eczematous dermatitis (script B), or a cosmetic consultation for botulinum toxin (script C) (Table 1). For scenario C, insurance status was not provided.

A list of dermatologists practicing in the state of Michigan was compiled from the American Academy of Dermatology (AAD) registry. Because many dermatologists practice in groups, an anonymous preliminary call was made to every physician listed to consolidate physicians practicing in groups to a single clinic reference number and to determine whether the clinic accepted Medicaid or any Medicaid health maintenance organization. All calls were made by a single caller.

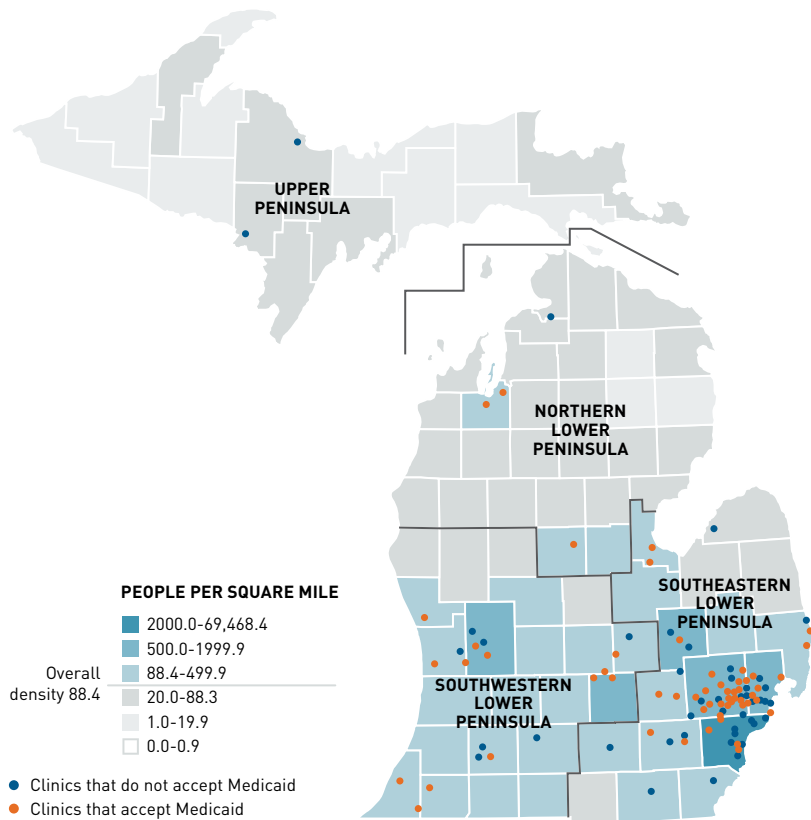
### Statistical Analysis

All variables were summarized with standard descriptive assessments including mean, standard error (SE), and range. Differences between clinics and presenting complaint were assessed using parametric general linear models such as Student’s *t* test and analysis of variance (ANOVA). Instances when cube root transformation was necessary to improve data normality are indicated as such. Welch’s ANOVA was reported when variance was considered nonhomogeneous, and post hoc analysis was performed using Tukey-Kramer multiple comparison adjustments where appropriate. Paired *t* tests were

**TABLE 1.** The Presenting Complaint and Script for Each Scenario

Scenario and presenting complaint	Standardized script	Additional details provided if asked to elaborate
A. Mole	I have a mole on my left palm that has grown significantly over the past month and is bleeding.	I’ve had a mole on my hand for years. It has gotten bigger over the past 4 months. The mole was small and smooth, but now it is the size of a pencil eraser and appears rough. It also hurts to touch it and has bled 4 or 5 times.
B. Rash	I have a red itchy rash on the backs of my hands and on my arms that keeps coming back.	This is the third time the rash has reappeared. My hands and arms begin itching and small red bumps appear shortly after. I’ve tried over-the-counter treatments like cortisone, but it only stops the itching, not the rash itself. The rash usually lasts for about 2 or 3 days.
C. Botulinum toxin	I am interested in getting Botox treatment to get rid of some wrinkles on my forehead and around my eyes.	Over the past few years the wrinkles have become more prominent and I would like Botox to make me look a bit younger.

**FIGURE.** Distribution of Dermatology Clinics in Michigan by Medicaid Acceptance and County Population Density\*



\*Each dot may represent more than 1 clinic.

used to compare wait times by the presenting complaint within the same clinic. An overall  $\alpha$  level of 0.05 was used to determine statistical significance, and all statistical tests were 2-sided. All data were analyzed using SAS version 9.4 (SAS Institute Inc) software.

## RESULTS

### Study Population and Medicaid Acceptance

The AAD website identified 450 dermatologists practicing in Michigan, representing 4.23% of an estimated 10,633 practicing US dermatologists in 2016.<sup>1</sup> The AAD website represents approximately 94% of all practicing dermatologists.<sup>12</sup> From these, 186 unique dermatology clinics were identified after consolidating dermatologists who work in the same practice. A total of 578 calls were made to 186 unique dermatology clinics. Sixty-one (32.8%) of these accepted Medicaid and 117 (62.9%) only accepted private insurance including BCBS. Of the 186, 8 (4.3%) did not accept any insurance and only accepted self-pay for appointments for botulinum toxin. A map was created to show geographic differences in Medicaid acceptance using ArcGIS Online (Esri) (Figure). The map shows population density and clinics accepting Medicaid and/or BCBS by zip code. The Figure reveals not

only “dermatology deserts” but also “Medicaid deserts,” large areas with no dermatology clinics that accept Medicaid, in Michigan. Additionally, some counties have a higher population density but fewer dermatology clinics than the rest of southeast Michigan.

### Wait Times by Insurance

The mean (SE) wait time regardless of insurance or chief complaint was 28.8 (1.29) days. In clinics that accepted both BCBS and Medicaid, the mean wait time for a dermatology visit among all scenarios was 32.9 (2.19) days, whereas clinics that accepted only BCBS but not Medicaid had a mean wait time of 25.4 (1.50) days, 7.5 days fewer than those clinics that accepted Medicaid ( $P = .024$ ). In some clinics that accepted Medicaid, the wait time for the first available appointment was as long as 203 days (more than 6.5 months), whereas the longest wait time for the clinics that did not accept Medicaid was 125 days (4.2 months). When considering wait times for appointments for only scenarios A (a changing mole) and B (a chronic rash), the wait time was also longer for clinics that accepted Medicaid compared with those that did not, but this finding was not statistically significant ( $P = .066$ ) (Table 2).

Medicaid patients waited a mean (SE) of 40.0 (6.63) days (median, 22.0 days) and 40.1 (4.99) days (median, 27.0 days) for scenarios A and B, respectively. The mean (SE) overall wait time for Medicaid patients among scenarios A and B was 40.0 (4.08) days (median, 23.0 days). Patients with BCBS waited a mean (SE) of 26.1 (2.03) days (median, 15.0 days) for scenario A and 29.3 (2.32) days (median, 15.0 days) for scenario B, with an overall mean (SE) wait time of 27.7 (1.54) days (median, 16.0 days). For scenario A, the approximate 14-day difference in wait time between Medicaid and BCBS patients was statistically significant ( $P = .049$ ). For scenario B, the approximate 11-day difference in wait times between Medicaid patients and BCBS patients was also significant ( $P = .026$ ).

Within the same clinic that accepts both Medicaid and BCBS, patients with Medicaid experienced longer mean (SE) wait times compared with those with BCBS insurance regardless of their chief complaint (39.1 [4.11] days [median, 23.5 days] vs 27.5 [1.57] days [median, 16.0 days]). Whereas patients with Medicaid waited a mean (SE) of 37.7 (6.09) days (median, 22.0 days) to be evaluated for a changing mole (scenario A), patients with BCBS waited a mean (SE) of 27.8 (4.27) days (median, 19.0 days). This difference was statistically significant ( $P = .048$ ). Similarly, patients with Medicaid waited a mean (SE) of 39.3 (5.01) days (median, 27.0 days) to be evaluated for a rash (scenario B), whereas patients with BCBS waited a mean

**TABLE 2.** Average Wait Times in Days Depending on the Types of Insurance Accepted at the Clinic

Insurance status	Overall		Scenarios A and B <sup>a</sup>		Scenario C <sup>a</sup>
Clinics that accept Medicaid	Mean (SE), 32.9 (2.19) Range, 0-203 Median, 19.5 n=260	<i>P</i> = .024 <sup>b</sup>	Mean (SE), 34.5 (2.48) Range, 0-203 Median, 19.0 n=223	<i>P</i> = .066 <sup>b</sup>	Mean (SE), 22.5 (2.10) Range, 0-121 Median, 17.5 n=128
Clinics that do not accept Medicaid	Mean (SE), 25.4 (1.50) Range, 0-125 Median, 15.0 n=318		Mean (SE), 26.8 (1.81) Range, 0-125 Median, 17.0 n=227		
All clinics	Mean (SE), 28.8 (1.29) Range, 0-203 Median, 17.0 n=578				

SE, standard error.

<sup>a</sup>Scenario A: a changing mole; scenario B: a chronic rash; scenario C: botulinum toxin.

<sup>b</sup>Cube root transformation was necessary to improve data normality.

(SE) of 32.0 (4.43) days (median, 15.0 days), which is significantly shorter (*P* = .030) (Table 3).

When comparing wait times for BCBS patients in clinics accepting both types of insurance and the wait times for patients in clinics accepting only private insurance, there was no significant difference in mean wait times (mean [SE], 29.4 [2.87] days [median, 15.0 days] vs mean [SE], 26.7 [1.81] days [median, 17.0 days]; *P* = .84) (findings not shown in tables).

When considering clinics that offer botulinum toxin, wait times for patients requesting botulinum toxin administration (scenario C) were overall shorter than for patients with a chief complaint of a changing mole (scenario A) or a chronic rash (scenario B). Overall, patients covered by either Medicaid or BCBS were able to obtain appointments sooner for botulinum toxin administration (mean [SE], 22.5 [2.10] days) compared with those with Medicaid for an evaluation of a mole (40.0 [6.63] days) or rash (40.1 [4.99] days) (*P* = .004). However, these differences were not statistically significant overall and within patients with BCBS insurance (*P* = .139 and *P* = .591, respectively).

## DISCUSSION

Since the implementation of the ACA, access to medical care has expanded significantly; however, the physician workforce has not increased commensurately. Dermatology has a known access problem; only one-third of skin diseases in this country are addressed by dermatologists,<sup>14</sup> and some parts of the country are dermatology deserts with a dearth of dermatology providers.<sup>15</sup> It has been estimated that 20,000 dermatologists would be needed to treat all the skin disease in the United States; however, only approximately 10,000 dermatologists are currently in practice.<sup>16</sup> This study aimed to investigate the differences in access to dermatologic care by insurance coverage (Medicaid vs private insurance) and chief complaint (a medical dermatologic issue of a changing mole or chronic rash vs cosmetic evaluation for botulinum toxin injections) in the state of Michigan.

**TABLE 3.** Average Wait Times in Days by Presenting Complaint and Patient's Insurance Coverage Among and Within Clinics That Accept Both Medicaid and BCBS

Scenario	Patient's insurance		Difference
	Medicaid	BCBS	
<b>A. Mole</b>			
Among clinics	Mean (SE), 40.0 (6.63) Range, 0-203 Median, 22.0 n=51	Mean (SE), 26.1 (2.03) Range, 0-125 Median, 15.0 n=171	<i>P</i> = .049 <sup>a</sup>
Within the same clinic n=48	Mean (SE), 37.7 (6.09) Range, 0-177 Median, 22.0	Mean (SE), 27.8 (4.27) Range, 1-125 Median, 19.0	<i>P</i> = .048 <sup>a</sup>
<b>B. Rash</b>			
Among clinics	Mean (SE), 40.1 (4.99) Range, 1-174 Median, 27.0 n=56	Mean (SE), 29.3 (2.32) Range, 0-125 Median, 17.0 n=172	<i>P</i> = .026 <sup>a</sup>
Within the same clinic n=55	Mean (SE), 39.3 (5.01) Range, 1-174 Median, 27.0	Mean (SE), 32.0 (4.43) Range, 0-125 Median, 15.0	<i>P</i> = .030 <sup>a</sup>
<b>A. Mole or B. Rash</b>			
Among clinics	Mean (SE), 40.0 (4.08) Range, 0-203 Median, 23.0 n=107	Mean (SE), 27.7 (1.54) Range, 0-125 Median, 16.0 n=343	<i>P</i> = .003 <sup>a</sup>
Within the same clinic n=103	Mean (SE), 39.1 (4.11) Range, 1-203 Median, 23.5	Mean (SE), 27.5 (1.57) Range, 0-125 Median, 16.0	<i>P</i> = .024 <sup>a</sup>
<b>C. Botulinum toxin<sup>b</sup></b>			
All clinics	Mean (SE), 22.5 (2.10) Range, 0-121 Median, 17.5 n=128		N/A

BCBS, Blue Cross Blue Shield; N/A, not applicable; SE, standard error.

<sup>a</sup>Cube root transformation necessary to improve data normality.

<sup>b</sup>Values for Medicaid and BCBS are the same because insurance status was not given when making an appointment for botulinum toxin administration.

Previous studies on wait times in dermatology have focused primarily on major metropolitan areas<sup>6-10</sup>; we elected to examine an entire state. In 2016, although Michigan ranked 10th in terms of health insurance coverage for people younger than 65 years and those below 138% of the poverty line, Michigan reflects the entire United States in terms of poverty rate, unemployment rate, and income inequality,<sup>17</sup> offering an ideal survey study population.

Overall, the current study found that wait times for clinic appointments were longer for patients with Medicaid, especially when requesting an evaluation for a medical dermatologic issue compared with a cosmetic consultation. Medicaid typically pays much less than commercial providers or Medicare. Consequently, many practices do not see Medicaid patients. In Michigan, although 64% of primary care practices accept Medicaid, only 31% of dermatologists accept Medicaid.<sup>6</sup> In alignment with these data, our study found that clinics that accept Medicaid had a longer overall wait time for medical dermatologic conditions (rash or changing mole) than clinics that do not accept Medicaid. The average overall wait time regardless of insurance or chief complaint of 28.8 days is consistent with and perhaps on the lower end of previous estimates of average wait times in dermatology.<sup>6-10</sup>

Our study also found that, across all clinics, among both those accepting Medicaid and those that do not, patients complaining of a bleeding, changing mole were offered appointments only marginally sooner than those with a chronic rash. This finding highlights the importance of training clinic staff to prioritize appointments to such patients with serious dermatologic conditions. Furthermore, our results are also consistent with earlier publications demonstrating shorter wait times for patients seeking botulinum toxin injection, although the average wait time of 22.5 days in our study population is longer than the average of 16 days previously reported.<sup>11</sup> Several reasons have been postulated for earlier appointments for a cosmetic appointment, such as dedicated separate appointment blocks for cosmetic procedures, resulting in a more efficient clinic workflow and higher relative payments.<sup>11</sup> In some clinics, a different group of providers offers cosmetic services from those offering medical services. Additionally, as botulinum toxin may be an “impulse” buy, some physicians may believe that these patients need to be scheduled quickly before they lose interest.<sup>11</sup>

Although we found that wait times for Medicaid patients were longer than wait times for those with commercial insurance, a median wait time of 22 days for a changing mole among Medicaid patients is surprisingly short given the overall long wait times to see a dermatologist in the United States and low Medicaid payment rates. More troubling, however, is the finding of large geographic areas without Medicaid-accepting practices (Medicaid deserts). This finding implies that Medicaid patients in some areas have to travel long distances to see a dermatologist. Some areas are similarly underserved for commercially insured patients in Michigan.

Although there are numerous advantages of increasing health care coverage, when making policy decisions, it is important to be aware of the numerous disparities in the growing segment of the

population now covered by Medicaid. According to the US Census Bureau American Community Survey, African Americans, Latinos, and Asian Americans are disproportionately overrepresented in Michigan within lower socioeconomic status (SES) groups.<sup>17</sup> Furthermore, although melanoma is more common in non-Hispanic Whites and people of high SES, more advanced disease and increased mortality due to melanoma are more common in Blacks, Hispanics, people of lower SES, and older patients.<sup>18</sup> If policy makers impose additional cuts to Medicaid reimbursements, we predict that wait times will increase further and access to health care, including potentially life-altering medical dermatologic services, will concomitantly decrease.

As a specialty, the dermatology field should be cognizant of the public perception of such data. When patients are able to be seen much earlier for a cosmetic visit than for a potential malignancy, this reflects poorly on the specialty as a whole. This emphasizes the importance of flexibility in clinic scheduling, such as creation of earlier, more urgent visit slots for evaluation of concerning lesions that may be life-threatening. Dermatology practices should consider “urgent” slots in the scheduling grid to accommodate patients who need more urgent appointments. Office staff should be trained to recognize key words such as “bleeding, changing moles,” which might be indicative of concerning medical dermatologic conditions, and to schedule these patients earlier to avoid delays in diagnosis and treatment.

### Limitations

Although the population of Michigan is overall reflective of the United States in terms of poverty rate, unemployment rate, and income inequality, the single-state nature of this study limits generalizability, and it is unclear whether the findings reflect national trends. Because of the low number of dermatology clinics in the Upper Peninsula and northern Lower Peninsula, we were unable to compare wait times by region. A multistate study is needed to better evaluate variations among rural, urban, and suburban regions.

## CONCLUSIONS

This study found that wait times for a dermatology appointment for evaluation of medical dermatologic complaints such as a changing mole and a chronic rash are longer for patients with Medicaid compared with those with private insurance. Wait times for cosmetic appointments (botulinum toxin administration) were overall shorter. This study underscores the importance of addressing delays in treatment and mitigating disparities in dermatologic care. Our results are consistent with previous studies demonstrating disparities in health care for Medicaid and low-SES patient populations, whereas there is easier access to cosmetic botulinum toxin administration regardless of insurance status. This reflects poorly on the specialty as a whole. Particularly with the expanding coverage for underinsured populations, delays in evaluation of medical dermatologic conditions, especially potentially life-threatening diagnoses such as melanoma, should be addressed. The field of

dermatology, as a specialty, should focus on prioritizing the medical needs of our patients, especially underserved populations such as Medicaid patients, and implement changes to allow for the urgent evaluation of patients with medical dermatologic needs. ■

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