Generational Differences in Practice Patterns of Dermatologists in the United States

Implications for Workforce Planning

Christine C. Jacobson, MD; Jack S. Resneck, Jr, MD; Alexa Boer Kimball, MD, MPH

Objective: To examine the effect of age and other demographic factors on dermatologists’ practice characteristics.

Design: Anonymous practice profile survey.

Participants: Dermatologist members of the American Academy of Dermatology Association.

Main Outcome Measures: Analyzed survey questions included information about legal practice entity, geographic area served, weekly patient care hours, patients seen per hour, and scope of patient care activities.

Results: Of 4090 surveys sent, 1425 (35%) were returned. As the age of the cohorts increased, the percentage practicing in solo practices increased (range, 21%-39%), as did the percentage serving urban areas (range, 31%-46%). Measures of physician productivity increased in the older age cohorts; however, age was not a significant factor after controlling for other variables. More patient-hours per week were associated with male sex (P < .001), solo practices (P < .001), and non–urban-based practices (P = .04), whereas a greater number of patients per hour was associated with non–rural-based practices (P = .02) and male sex (P = .03). As the cohorts progressed in age, more time was spent practicing medical dermatology. The number of hours spent practicing cosmetic dermatology peaked in the 41- to 50-year-old cohort (P = .03).

Conclusions: Practice patterns differ significantly among dermatologists of different ages. As the current cohorts age and new dermatologists emerge from training, changes in scope of practice and generational differences in productivity are likely to cause a contraction in the effective supply of dermatologists, which has important implications for dermatology workforce planning.

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DIFFERENCES IN PRACTICE patterns have been noted across age groups of physicians in several areas of medicine, although parallel differences have not been well characterized in the field of dermatology. Because medicine has undergone profound changes in the past half century, it is likely that generations of dermatologists who entered practice in different eras with different expectations and training experiences developed distinct practice patterns. Such practice patterns have important implications for patient care and workforce planning; therefore, delineating generational trends may create a better understanding of workforce dynamics in the 21st century.

METHODS

In July 2002, the American Academy of Dermatology Association mailed an 8-page practice profile survey to 4090 members, almost half of academy membership. Members from membership lists for each of the 50 states were selected at random to ensure that the geographic distribution of the sample matched that of the general membership. The survey was designed by the American Academy of Dermatology Association with input from many of its councils, committees, and task forces. Our analyses were performed under the approval of the institutional review board of the University of California, San Francisco.

Because those younger than 31 years or older than 70 years comprised only 2% of all respondents, the analyses based on age cohorts include only respondents aged 31 to 70 years. Responses reported for any given item are based on the valid number of responses to the item (sometimes less than the full complement of potential respondents). The response rate has been included when the percentage of eligible respondents fell below 75%. Calculations of the average weekly hours spent working in the different dermatology specialties (eg, cosmetic dermatology, dermatopathology, noncosmetic surgical dermatology) were based on...
the number of respondents who answered each question; weekly hours spent on dermatology specialties were viewed as independent questions.

When comparing discrete variables, χ² tests were performed to determine statistical significance. Two-tailed unpaired t tests were used when comparing means. P values comparing age cohort data represent t tests performed between the age cohort mentioned and respondents from all other age cohorts. Multivariate regression analyses using analysis of variance were performed to evaluate the influence of multiple variables in the continuous variables. Linear regressions were also performed to evaluate the significance of different independent variables on each of 2 measures of physician productivity. The statistical analysis was completed using SPSS statistical software, version 11.5 (SPSS Inc, Chicago, Ill).

Results

Fourteen hundred twenty-five (34.8%) of the 4090 surveyed members responded. The mean age of respondents was 49 years, and the percentage of the respondents in each age cohort was normally distributed (Figure 1). Thirty percent of the respondents were women, and female respondents were younger than their male counterparts (45 vs 52 years; P < .001, Table 1). Of those who responded and provided their age, 1388 (98%) reported that they were between 31 and 70 years old.

Practice Type and Location

Most dermatologists practiced in professional corporations or associations or solo practices (Table 2). As the cohorts increased in age, an increasing percentage worked in solo practices (range, 21%-39%), peaking with the 51- to 60-year-old cohort (39%, P < .001). Correspondingly, there was a decreasing percentage of involvement in partnerships with increasing age (range, 16%-7%); the 31- to 40-year-old cohort was the most likely to be employed in this setting (16%, P < .001).

The type of geographic area served also differed by age (Table 3). Older dermatologists more often worked in urban locations (range, 31%-46%), peaking with the oldest cohort (46%, P < .001). Correspondingly, there was a decreasing tendency to serve suburban locations with increasing age (range, 60%-46%); the youngest age cohort was most likely to work in a suburban community (60%, P < .001).

Productivity

On average, dermatologists saw patients 32 hours per week at a rate of 4.5 patients per hour (Table 4). Mean practice hours increased with advancing age, although the differences were not large. Those aged 51 to 60 years saw patients the most hours per week (34 hours, P < .001), whereas the youngest age cohort saw patients the fewest hours (31 hours). These relatively small differences seem to be due to factors other than age, because controlling for sex, practice type, and practice area eliminated significant differences among age cohorts. In order of decreasing magnitude of coefficients, practice hours were most affected in a multiple regression model by sex (P < .001), legal entity (P < .001), and area served (P = .04).

Overall, women dermatologists who responded to this survey saw patients fewer hours per week than men (28 vs 34 hours, P < .001). Although younger female dermatologists (aged 31-50 years) saw patients the fewest hours per week (28 hours), women’s patient-hours increased with advancing age (Figure 2). Male dermatologists, however, decreased patient work hours starting in their 60s.Solo practitioners saw patients more hours per week than those who worked in other types of practices (34 vs 32 hours, P < .001), and urban-based dermatologists saw patients fewer hours per week (31 vs 33 hours, P < .001) than those in rural or suburban areas.

Similarly, productivity of physicians as measured by the number of patients seen per hour increased on average as the cohorts progressed in age (range, 4.44-4.78 patients per hour; Table 4). However, in multiple regression analyses, the effect of age was again eliminated as a confounder. Area served (P = .02) and sex (P = .03) most strongly affected this measure of productivity. Dermatologists who served rural areas saw fewer patients per hour than those who served other areas (4.25 vs 4.56 patients per hour, P = .03), and on average, men saw more patients per hour than women (P < .001) (Table 4).

Scope of Practice

Dermatologists in general spent the bulk of their time practicing medical dermatology (28 hours per week). As the cohorts progressed in age, more time was spent on medical dermatology (range, 26-31 hours per week; Figure 3). Dermatologists in the oldest cohort spent more time practicing medical dermatology than those from other cohorts (31 vs 27 hours per week, P = .02). Noncosmetic surgical care was the next most time-consuming activity, in which dermatologists worked an average of 12 hours per week. The amount of time spent in noncosmetic surgical care was similar across age groups. The differences in hours practicing cosmetic dermatology between age cohorts were also small (range, 4.6-7 hours per week; response rate, 65%), although the 41- to 50-year-old age group spent the most time on cosmetic dermatology (6 hours per week, P = .03).
There are significant practice profile differences among age cohorts of dermatologists in terms of practice type, practice location, measures of productivity, and scope of practice. Some of these differences can be explained by the changing demographic composition of the age cohorts, whereas others are likely due to social and economic factors that have influenced generational practice choices over time. Because this study only looks at these age groups at a single point in time, the question of whether the influence of generational differences or life cycle is more important will have to be left to other longitudinal studies. However, because a workforce shortage in dermatology has been established in previous studies, and because the practice characteristics of those leaving the workforce differ from those entering the workforce, workforce planners will have to respond accordingly.

Table 1. Demographic Composition of Age Cohorts Included in the Analysis

<table>
<thead>
<tr>
<th>Sex</th>
<th>31-40</th>
<th>41-50</th>
<th>51-60</th>
<th>61-70</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>169 (56)</td>
<td>278 (60)</td>
<td>327 (80)</td>
<td>198 (92)</td>
<td>972 (70)</td>
</tr>
<tr>
<td>Female</td>
<td>124 (42)</td>
<td>186 (40)</td>
<td>80 (20)</td>
<td>17 (8)</td>
<td>407 (30)</td>
</tr>
<tr>
<td>Total</td>
<td>293 (100)</td>
<td>464 (100)</td>
<td>407 (100)</td>
<td>215 (100)</td>
<td>1379 (100)</td>
</tr>
</tbody>
</table>

Table 2. Legal Definitions of Respondents’ Dermatology Practice by Age Cohort

<table>
<thead>
<tr>
<th>Practice Type</th>
<th>31-40</th>
<th>41-50</th>
<th>51-60</th>
<th>61-70</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional corporation or association</td>
<td>119 (43)</td>
<td>180 (40)</td>
<td>166 (43)</td>
<td>94 (46)</td>
<td>559 (42)</td>
</tr>
<tr>
<td>Solo practice</td>
<td>56 (21)</td>
<td>143 (32)</td>
<td>151 (39)</td>
<td>76 (37)</td>
<td>428 (32)</td>
</tr>
<tr>
<td>Partnership</td>
<td>45 (16)</td>
<td>51 (11)</td>
<td>30 (8)</td>
<td>15 (7)</td>
<td>141 (11)</td>
</tr>
<tr>
<td>NFP</td>
<td>21 (8)</td>
<td>47 (10)</td>
<td>16 (5)</td>
<td>7 (3)</td>
<td>93 (7)</td>
</tr>
<tr>
<td>Other or NA</td>
<td>38 (13)</td>
<td>30 (7)</td>
<td>23 (6)</td>
<td>11 (5)</td>
<td>100 (8)</td>
</tr>
<tr>
<td>Total</td>
<td>279</td>
<td>451</td>
<td>368</td>
<td>203</td>
<td>1321 (100)</td>
</tr>
</tbody>
</table>

Table 3. Geographic Type of Area Served by Practice by Age Cohort

<table>
<thead>
<tr>
<th>Area Served</th>
<th>31-40</th>
<th>41-50</th>
<th>51-60</th>
<th>61-70</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>90 (31)</td>
<td>168 (37)</td>
<td>157 (39)</td>
<td>96 (46)</td>
<td>511 (38)</td>
</tr>
<tr>
<td>Suburban</td>
<td>173 (60)</td>
<td>232 (51)</td>
<td>206 (51)</td>
<td>96 (46)</td>
<td>707 (52)</td>
</tr>
<tr>
<td>Rural</td>
<td>25 (9)</td>
<td>56 (12)</td>
<td>39 (10)</td>
<td>18 (9)</td>
<td>138 (10)</td>
</tr>
<tr>
<td>Total</td>
<td>288</td>
<td>456</td>
<td>402</td>
<td>210</td>
<td>1356 (100)</td>
</tr>
</tbody>
</table>

Table 4. Patient-Hours per Week and Patients Seen per Hour by Age Cohort and Sex

<table>
<thead>
<tr>
<th>Variable</th>
<th>31-40</th>
<th>41-50</th>
<th>51-60</th>
<th>61-70</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient-hours per week</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>31 (n = 283)</td>
<td>32 (n = 446)</td>
<td>34 (n = 384)</td>
<td>32 (n = 200)</td>
<td>32 (n = 1313)</td>
</tr>
<tr>
<td>Female</td>
<td>34 (n = 163)</td>
<td>34 (n = 267)</td>
<td>34 (n = 310)</td>
<td>32 (n = 186)</td>
<td>34 (n = 926)</td>
</tr>
<tr>
<td>Patients seen per hour</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>28 (n = 117)</td>
<td>28 (n = 177)</td>
<td>30 (n = 72)</td>
<td>33 (n = 13)</td>
<td>28 (n = 379)</td>
</tr>
<tr>
<td>Female</td>
<td>4.44 (n = 282)</td>
<td>4.51 (n = 446)</td>
<td>4.50 (n = 377)</td>
<td>4.78 (n = 197)</td>
<td>4.53 (n = 1302)</td>
</tr>
</tbody>
</table>

There are significant practice profile differences among age cohorts of dermatologists in terms of practice type, practice location, measures of productivity, and scope of practice. Some of these differences can be explained by the changing demographic composition of the age cohorts, whereas others are likely due to social and economic factors that have influenced generational practice choices over time. Because this study only looks at these age groups at a single point in time, the question of whether the influence of generational differences or life cycle is more important will have to be left to other longitudinal studies. However, because a workforce shortage in dermatology has been established in previous studies, and because the practice characteristics of those leaving the workforce differ from those entering the workforce, workforce planners will have to respond accordingly.

First, our findings are consistent with nondermatology studies showing that solo practitioners tend to be older, whereas younger practitioners more often join large...
group practices. Older dermatologists entered medical practice at a time when traditional indemnity insurance was widespread and before contracting with managed care organizations was common. The increasing complexity of contracting with insurance providers, the bargaining power associated with group practices, and the tax advantages of incorporating may have made the establishment of new solo practices more difficult. Furthermore, increasing requirements to comply with new safety, privacy, billing, and employee regulations may have also made joining group practices more appealing.

If these health care provision trends are the primary drivers of the generational differences observed in this study, the proportion of solo practitioners will likely continue to decline as the older cohort begins to retire. On the other hand, it is also possible that life stage has some effect on practice choices and that some of the younger physicians may spend more time with each patient. It is unclear to what extent this reflects different services being provided by younger physicians, different patient populations (such as more new patients in a young physician’s practice), or simply an efficiency learning curve.

Factors other than age alone seem to explain most of these differences. Sex had the greatest impact on hours seeing patients; on average, female dermatologists saw patients 6 fewer hours per week than their male counterparts. This trend has a larger impact on the younger cohorts, in which the percentage of female physicians is highest.

Although most women worked fewer hours than their male counterparts, the small cohort of older women was an exception. The average number of hours female dermatologists saw patients increased with advancing age, overtaking the men in the 61- to 70-year-old age cohort (although this does not reach statistical significance due to small numbers of older female dermatologists in the survey). It is unclear whether this finding is attributable to generational differences (unlikely to be repeated as the current cohort of younger women ages) or predictable life-cycle patterns. It is possible that women who became dermatologists at a time when they were a relative rarity view the tradeoffs of part-time and full-time work differently than younger generations. Alternatively, women may be increasing their hours once their family responsibilities have lessened.

Sex also strongly influenced the average number of patients seen per hour in our study. In all age ranges, women consistently reported seeing fewer patients per hour than men. Previous studies of efficiency and sex in other specialties have shown inconsistent patterns. However, in studies in which women’s productivity is lower than men’s, the difference has been attributed to women spending more time with each patient or increased complexity of visit content. Additional research is needed to better address questions relating to the interaction of physician sex with length of career, career interruptions, hours spent performing other forms of work (eg, domestic activities), parenting status, and other measures of productivity.

Another influence on physician productivity was the type of practice. Solo practitioners saw patients 2 more hours per week than those from other types of practices. Although the current study did not query respondents about their employment status (ie, self-employed vs salaried), this factor likely influences hours worked per week, because greater economic incentives may exist for self-employed physicians to work longer hours.

Second, we observed differences in physician productivity across age cohorts. Advancing age was associated with increased work hours in contrast with older studies in other specialties. However, labor economists have noted that the general workforce has recently been re-evaluating the relative importance of work and family time and that younger physicians may have different lifestyle needs and practice expectations than their older counterparts, including a desire to work fewer hours.

The increasing efficiency (measured in patients seen per hour) we observed in older dermatologists is consistent with studies of other specialties. Younger physicians may spend more time with each patient. It is unclear to what extent this reflects different services being provided by younger physicians, different patient populations (such as more new patients in a young physician’s practice), or simply an efficiency learning curve.

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Studies of other specialties demonstrate that both solo practitioners and self-employed physicians work longer hours. Last, this study confirms that although the scope of practice within dermatology has significantly expanded, it has been adopted eagerly across all age cohorts. Although older dermatologists had far less surgical and cosmetic exposure in their residencies than current trainees, they have clearly found educational opportunities on their own. Older age cohorts spend more time practicing nonsurgical care than their younger counterparts, while also contributing substantial hours to cosmetic dermatology. The 41- to 50-year-old physicians practice cosmetic dermatology more than the other age cohorts by 1 to 2 hours per week.

Older dermatologists seem to be effectively competing with their younger counterparts for nonsurgical surgery and cosmetic patients. Perhaps they have greater seniority in their group practice or more capital invested in their solo practices and thus are able to practice a broad spectrum of their own choosing. Some may have increased surgical or cosmetic activities in an effort to maintain income at a time when reimbursement for treating the medical dermatologic problems of managed-care patients is perceived to have fallen.

The self-reported responses to this survey were not validated, although many of our results are consistent with other physician surveys. It is possible that the subset of surveyed dermatologists who responded to the survey is not representative of the total population of dermatologists. A notable discrepancy between total work hours and the sum of subspecialty hours in medical, surgical, and cosmetic areas occurred because some respondents reported fewer total work hours than the sum of their subspecialty hours worked per week. It is unclear whether total hours were underreported or subspecialty hours were overreported in these cases. In addition, further analysis suggested that people who worked more hours per week were more likely to respond to questions on subspecialty hours.

CONCLUSIONS

As this study demonstrates, there are significant differences in the ways that older and younger physicians practice medicine. Whether these changes are primarily generational or due to life cycle is difficult to determine, but it is likely that the changing health care system, shifting demographics, legal and tax incentives, and generational preferences all play important roles.

In particular, the observed effects of sex and practice type on the productivity of different age cohorts have important implications for workforce planning. The increased proportion of women in dermatology and the move away from the solo practice seem to be permanent changes, both of which negatively affect productivity. The suburbanization of dermatology practices may incrementally offset these influences, but it is likely that the decrement in productivity among dermatologists will remain as the existing cohorts age and are eventually replaced with new residency graduates.

Repeating workforce pattern surveys over time will help characterize work trends as dermatologists age and will assist in teasing out the factors that most directly drive observed findings. In the meantime, given the lack of notable changes in the number of dermatologists trained annually during the past 3 decades, the effective supply of dermatologists will likely decline in the future due to trends of decreasing productivity and broadening scope of practice.

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