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 ORIGINAL ARTICLE

A Systematic Review: Landscape of Private Equity in Dermatology From Past to Present

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ABSTRACT

The primary objective of this abstract is to define the growing trend of private equity (PE) backed consolidation of dermatology practices and explore its impact on patient care. The secondary objective is to better inform dermatologists of the acquisition process as well as how practices are valued in the event of a leveraged buyout. A systematic review was conducted using PRISMA guidelines using PubMed/MEDLINE and Web of Science in July 2021. Studies included were graded using the Oxford Center for Evidence-Based Medicine 2011 Levels of Evidence.[1] A total of 18 articles met the inclusion/exclusion criteria. With the current environment of low interest rates combined with increasing cost of medical operations and non-clinical administrative burdens, PE is positioned to expand exponentially in total value through leveraged buyouts of solo and small dermatology groups.[2] Selling dermatologists receive payment in form of upfront cash, and equity in escrow incentivizes them to continue the growth of their clinic so that it can be consolidated into a larger portfolio of practices to be sold to another buyer in 3-7 years at a far higher valuation. Within the fragmented $8.4 billion-dollar dermatology space, PE-backed practices represent approximately 10-15% of all private practices.[3-5] Dermatologists should be aware of both the risks and the rewards of acquisition by PE given the fiduciary responsibility to shareholders and their patients.

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INTRODUCTION

Private equity-backed dermatology groups (PEGs) have been a subject of much interest among the dermatology community throughout the country. Recent trends indicate a growing number of physician-owned dermatology practices being acquired by private equity firms, with a 349% growth rate from 2012 to 2018.[1] It is estimated that over 10.0% of dermatology practices in the United States are owned by private equity firms.6 It is difficult to quantify the quality of patient care delivered by private equity owned practices due to lack of objective discussion and awareness. This calls for a systematic review to examine all available literature to provide dermatologists with a better understanding of how current trends have prompted private-equity owned practices to gain popularity and how leverage buyout deals are structured. This study also compares PE and non-PE owned practices and their utilization of mid-level providers, accessibility to care for new patients, and sentiments among the next generation of providers entering the workforce, namely dermatology residents. More importantly, this paper seeks to call to attention the need for increased communication and focus among dermatologists to stay informed and updated at the forefront of this shift in paradigm of patient and practice ownership.

MATERIALS AND METHODS

This systematic review was conducted according to PRISMA guidelines.[4] A literature search was conducted using the bibliographical databases PubMed/MEDLINE and Web of Science in July 2021 using the following search terms: "private equity OR consolidation OR corporatization OR venture capital OR outlier practice patterns OR private equity-based group OR acquisitions) AND dermato*" according to PRISMA reporting guidelines for systematic reviews. All available studies prior to July 2021 were considered for inclusion. Given the focus of this article, the inclusion criteria were: (1) relevant studies analyzing private equity acquisitions of dermatology practices and (2) articles analyzing corporatization and consolidation of private equity-based groups. Exclusion criteria included studies written in languages other than English, articles not pertaining to both private equity and dermatology, and articles discussing only private equity or dermatology. Original investigations and opinion articles were included, as no case-control, cohort, case series, cross-sectional studies, or randomized controlled trials were available. Studies included for review were graded using the Oxford Center for Evidence-Based Medicine 2011 Levels of Evidence.[7]

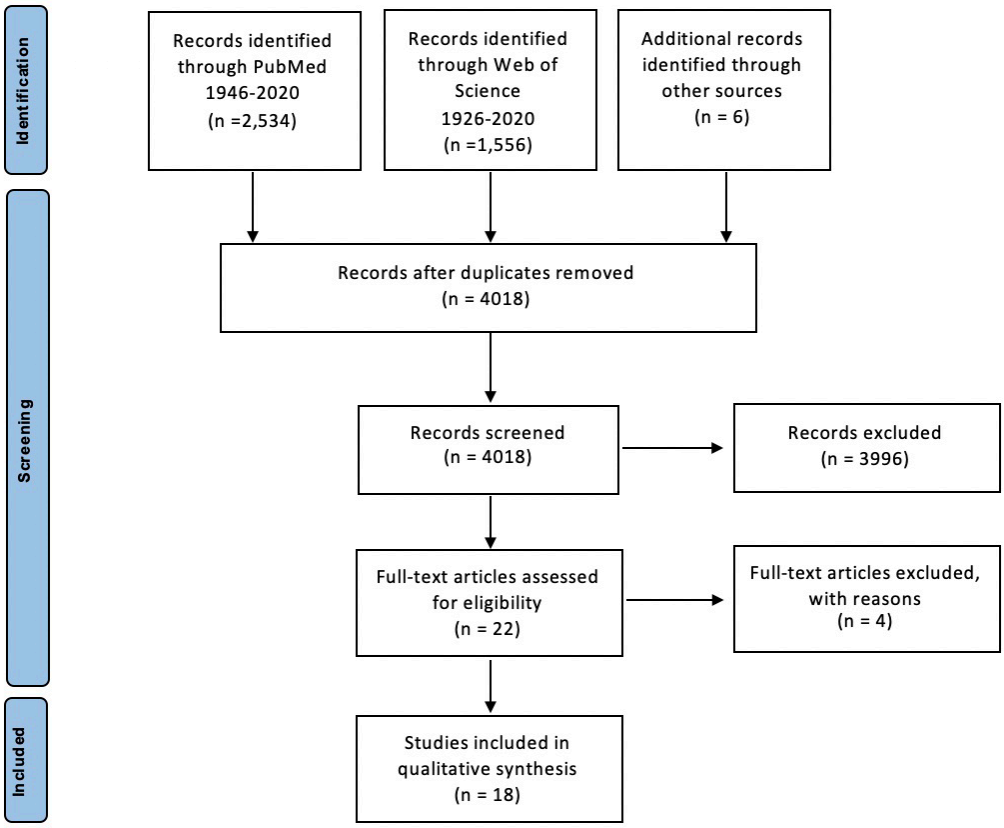
RESULTS

A total of 22 non-duplicated article citations were reviewed in their entirety; 18 articles (Figure 1) met the inclusion/exclusion criteria. Of these articles, 8 were original investigations and 10 were opinion articles (Table 1).[1]

Growth of Private Equity Within the Dermatology Space

Solo and small group practices have become a target for PE groups during the past decade, with dermatology-related

FIGURE 1. Flowchart depicting the Preferred Reporting Items for Systematic Reviews and Meta-Analyses search algorithm used for this systematic review.



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practices accounting for 15% of practice acquisitions by PE firms from 2015 to 2016 within the healthcare space.[8] From July 2018 to July 2019, PE-backed dermatology groups (PEGs) increased by 10.1%, from 765 to 842 locations.7 Of those, 469 were acquired clinics and 373 were clinics created de-novo.[7]

Increasing costs, care metrics, administrative burden, and lack of negotiating power for reimbursement compared to large consolidated healthcare systems are cited among top reasons why solo practitioners and small dermatology groups are decreasing in popularity.[9] Private equity firms promise to alleviate administrative burdens by centralizing non-clinical operations through a united practice management service organizations (MSOs) while providing capital for expanding clinical care.[10] Increased administrative burden in the face of decreased revenue and profit margins is one of the most cited reasons for dermatologists for the decision to sell their practice.[10] Given the ability to reduce overhead by the economics of scale with a centralized back-end management service organization for multiple practices, PE firms may significantly diminish administrative duties and maximize patient care time. Administrative tasks are often time consuming and contribute heavily to physician burnout. A 2014 survey of 1,774 physicians conducted by the Massachusetts General Physicians Organization found that 24% of hours were spent attending to administrative tasks with two-thirds stating it had a negative impact on their quality of care.[21] These same physicians also indicated taking on fewer patients in the future would lead to reduced access to healthcare.[21] Further, a survey in Canada found that physicians with clinical and administrative responsibilities reported higher levels of distress compared to their clinical and academic colleagues without administrative responsibilities.[22] Therefore, it would be expected that physicians would experience lower levels of distress if these administrative tasks were no longer their responsibility.

Leveraged Buyout

Additional incentives for dermatologists to sell their practices to PE firms include upfront payments ranging from 3 to 5 times "adjusted" earnings before interest, taxes, depreciation, and amortization (EBITDA) for solo practices, 4 to 7 times EBITDA for small groups.[11] Large groups with multiple locations depending on location and growth potential may receive up to 8 to 13 times EBITDA.[11] Specifically, this EBITDA multiple is "adjusted" by projecting how much the clinic can generate assuming the selling dermatologist becomes a staff member being

TABLE 1.

Summary of the Articles Included in a Systematic Review of Private Equity and Dermatology

Article	Article Type (Evidence Level)	Findings
Tan et al 2019	Original Investigation	PE firms have an increasing stake in private dermatology clinics. Further research is needed to assess the impact that PE acquisitions have on clinical outcomes.
Konda et al 2019	Original Investigation	In-office ancillary services exemption of the Stark law allows physicians to self-refer to an entity in which the physician has financial relationships. Some DMG's negotiate for lower-than-market rates with insurance groups in exchange for exclusivity.
Gilreath et al 2019	Original Investigation	PE groups typically invest in markets that are highly fragmented, where the competitive landscape is shifting, leadership is under-resourced, companies lack scale, and capital is scarce.
Konda et al 2020	Original Investigation	Acquisitions of dermatology practices occur in stages with the preliminary stage being dependent on an entrepreneurial dermatologist and following stages dependent on subsequent PE firm buyouts.
Skaljic et al 2020	Original Investigation	PEGs employ both a greater number of APPs and a higher ratio of APPs to physicians. Further study is necessary to appreciate clinical impact of potential differences in practice.
Seiger et al 2020	Original Investigation	Dermatology management groups have expanded, and clinic locations have increased by 10.1% from 2018 to 2019.
Novice et al 2020	Original Investigation	An anonymous survey sent to dermatology residents revealed that 65% of them were not open to working for PEGs.
Creadore et al 2021	Original Investigation	Private equity-owned clinics had increased appointment availability with non-physician providers and decreased appointment availability with dermatologists for patients with Medicaid.
Gondi et al 2020	Opinion	Value of private equity deals reached $42.6 billion from 2010-2017. PE groups target dermatology practices because of economies of scale, resistance to recession, present inefficiencies, an aging population, and increasing prevalence of chronic diseases.
Hsu et al 2018	Opinion	Potential problem with PE acquisitions is the loss of healthcare dollars to non-healthcare entities that have little incentives to reinvest in their healthcare practices.
Resneck et al 2018	Opinion	Dermatologists are typically attracted to extraordinary cash offers that are taxed at lower capital gain rates. Practice acquisitions at inflated prices in a competitive quest to quickly consolidate fragmented markets and sell practices at a profit to future investors may eventually lead to bankruptcies, leaving dermatologists without practices and patients without services.
Frances et al 2019	Opinion	Surveys have shown an 80% positive or neutral view by clinical staff and 90% overall positive view by healthcare executives of private equity on their business.
Bennett et al 2019	Opinion	The expansion of university and non-university medical groups into communities may drive the force of private equity acquisitions of dermatology groups.
Francis et al 2019	Opinion	Due to the fiduciary responsibility of PEGs groups to their investors, there is potential corruption to the doctor-patient relationship.
Waldman et al 2019	Opinion	PE owned practices are not obligated to disclose ownership to patients, however, the Center for Medicare and Medicaid Services requires disclosure of physician-owned hospitals to patients.
Casalino et al 2019	Opinion	Movement towards value-based purchasing programs has compelled physicians to sell their practices to PEGs.
Sharfstein et al 2019	Opinion	PE firms are likely to take out multiples on their initial investment even with bankruptcy, making them unlikely to invest in quality services.
Bennett et al 2020	Opinion	Posits the question of whether physicians who sell their practices to PEGs should be trusted to prioritize patient care over profits.

A total of 22 non-duplicated article citations were reviewed in their entirety; 18 articles met the inclusion/exclusion criteria. Of these articles, seven were original investigations and ten were opinion articles.

TABLE 2.

Residency/Fellowship Programs Associated With Private Equity-Backed Dermatology Groups	
Program	**Number of Residents**
Advanced Dermatology and Cosmetic Surgery (ADCS)-Orlando Program	9
Larkin South Miami Dermatology Program	15
Beaumont Health (Trenton) Program	8
Wright State University Program	6
Larkin Community Hospital Palm Springs Campus Program	12
The Skin Institute of South Florida Program	Not available
Campbell University Program	6

compensated at average market rates.[11] Furthermore, the selling dermatologist's payout is often structured to include equity to be realized when the practice is successfully sold to another buyer, usually within 3-7 years. This ensures the selling dermatologist continues to meet and exceed current productivity levels while being employed or partnered to fund the cost of their buyout and secure investor profitability.[11]

Utilization of Mid-Level Providers

Private equity owned groups have been found to employ both a greater number and greater ratio (0.83) of dermatology mid-level providers (physician assistants and nurse practitioners) to dermatology physicians.[12] Studies comparing the accessibility of care between PE owned versus dermatologist-owned clinics revealed that PE owned clinics were more likely to offer new patient appointments with mid-level providers rather than dermatologists, which translates to an overall increase in accessibility to dermatological care.[10,18]

Other studies suggest that PE owned clinics are incentivized to benefit financially from mid-level providers performing greater numbers of biopsies compared with dermatologists.[14,15] The number needed to biopsy (NNB) is a metric used to calculate the total number of lesions biopsied before a malignant lesion is detected. A recent study showed that the NNB for dermatologists was 2.82 while the NNB for mid-level providers was 4.69.[10] One study showed that dermatologists were more accurate with their degree of suspicion of an atypical nevus that had features beyond the classic benign presentation compared to advanced practice providers (APPs).[16] This same study also found that dermatologists mistook a malignant tumor for a benign nevus at a lower rate compared to non-dermatologists by 2.5%.[16] Another study demonstrated that patients with melanoma were less likely to experience surgical delay when being diagnosed or surgically treated by dermatologists compared to non-dermatologists.[17] Collectively, these studies show that dermatologists are more timely, accurate, and cost effective in the diagnosis of skin cancers. Further studies need to be conducted to explore the cost and quality of patient care, and how increased access to care translates to decreased healthcare burden.

Dermatology Residents and Private Equity

One of the major inhibitors for even more rapid PE expansion within the dermatology space is the annual supply of graduating dermatology residents per year. Another potential source of financial benefit for PE firms includes having residency or fellowship programs associated with their offices and the offer of loan forgiveness to residents in conjunction with an additional yearly stipend (Table 2). Upon graduation, the residents are given the choice to either repay the loan entirely or sign an employment contract with a restrictive covenant agreement.[18] This phenomenon is not limited to dermatology. A recent survey conducted amongst dermatology residents across the country revealed that 65% of the participants were not open to working for a PE owned practice due to a perceived negative impact of PEs on physician autonomy, long-term salary, and quality of patient care.[19] However, there is limited available information stratifying the number of graduating residents who join dermatologists versus private equity owned dermatology practices on an annual basis.

DISCUSSION

Healthcare currently accounts for 18.2% of Gross Domestic Product (GDP) as percentage of GDP, nearly twice the percentages of the next First World countries such as Germany, Japan, Sweden, and the United Kingdom.[3] This raises an economical concern considering that PE practices typically divert approximately 20% of revenue generated from an already constrained healthcare sector in the form of investor returns for both general partners (PE fund managers) and limited partners (investors).[8,20] Given a 15-20% return on investment benchmark, the remaining 80% of revenue generated will be applied towards clinical operations (ie, physicians, mid-level providers pay) and nursing, non-clinical staff. This phenomenon is attributable to private equity's fiduciary responsibility to its investors, who often expect return on investment benchmarks upwards of 20% annually. As a result, PE owned clinics must make up for this profit margin by having physicians focus solely on delivering patient care and relinquishing all other administrative aspects of practice ownership and operations. Additionally, the (sold) practice will also need to contribute a percentage of its revenue in the form of "management fees" towards the management service organization that PE utilizes to bypass corporatization of medicine statutes in many states. PE owned practices have gained much popularity while raising many concerns including quality of patient care delivered, and overutilization of healthcare resources and mid-level providers.

The way that PE-backed deals are structured and the calculation behind the leveraged buyout deserves more attention and awareness among the dermatology community at large. The adjusted EBITDA is utilized as a way to value a practice. While net income generated by the practice is often synonymous with the physician's take home distribution, the physician's compensation should be included in the operational cost to determine the true earning potential and efficiency of the practice reflected by EBITDA. Revenue and the seller's discretionary earnings, which calculates the total financial benefit that a single full-time owner-operator would derive from a business on an annual basis, are inaccurate ways for dermatologists to value their practices. The payout to the physician is often structured in a combination of upfront cash and equity exercisable upon the closure of the fund in which the practice is sold. Every deal will contain a different set of contingencies that must be met before the deal is closed. With upwards of half of the payout in the form of equity, the selling dermatologist is incentivized to remain in the practice for the remainder of the fund's life. For the remainder of the term that the selling physicians will continue working at the same practice, they will need to re-negotiate a percentage on collection vs salaried model. This model not only ensures investors' returns but also allows PE to organically grow the valuation of the management service organization utilized to control all of the non-clinical operations of every clinic within the portfolio.

While there is an indisputable role for mid-level providers in bridging patient care, there is a rising concern among both PE and dermatologist owned practices in overextending their use regarding the diagnosis and treatment plan for new patients. One concern that may affect the quality of patient care is the difference in duration of training between mid-level providers, who often have less than one-year on-site training prior to seeing patients (with minimal oversight), and dermatologists who have at least four years of post-doctorate training in addition to four years of medical school. This difference is most apparent when dealing with the diagnosis and management of potentially malignant skin lesions or other life-threatening conditions. Mid-level providers have a higher number of NNB cases compared to dermatologists, likely related to dermatologists having had more training.[9] This could potentially expose patients to unnecessary procedures and payors to increased costs. Quantifying the harm associated with time-sensitive ailments such as melanoma is difficult.

The role of the physician as the patient's advocate calls for dermatologists to remain informed about private equity acquisitions of dermatology practices and their impact on patient care. Increased communication amongst dermatologists should take place regarding the way leveraged buyouts are conducted and the realities of practice after for sellers to make a properly informed decision. Physicians should be encouraged to maintain professional independence by including language in contracts that expressly acknowledge that the private equity firm should not impinge on the physician's duty to practice with their best medical judgment. "If it's in the patient's interest, it's the right thing to do."

DISCLOSURES

The authors have no conflict of interest to declare.

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