

Physicians' perspectives regarding private equity transactions in outpatient health care – a scoping review and qualitative analysis

Tim N. Nolte ¹, Felix Miedaner ² and Sandra Sülz ^{1,*}

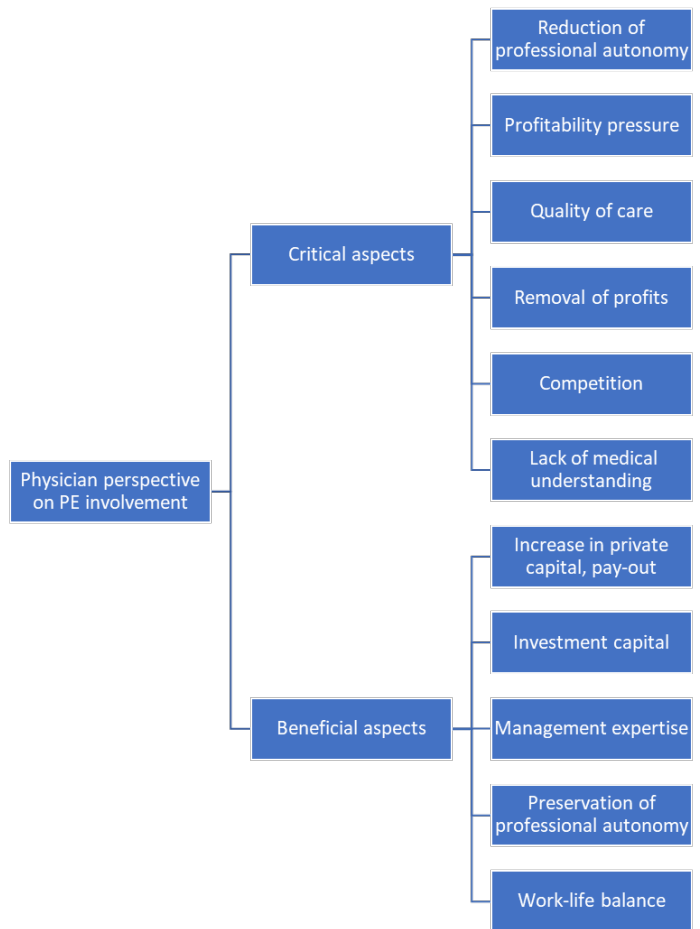
- Supplementary Material -

Characteristics of interview participants

Individual characteristics	N (<i>Mean</i>)	% (<i>SD</i>)
Age	<i>40.0</i>	<i>12.4</i>
Practicing time	<i>12.5</i>	<i>10.6</i>
Gender		
Male	12	85.7
Female	2	14.3
Specialty		
Dentistry	9	64.3
Oral and maxillofacial surgery	2	14.3
Dermatology	1	7.1
Paediatrics	1	7.1
Ophtalmology	1	7.1
Organization		
Group practice	9	64.3
Solo practice	2	14.3
University hospital, outpatient care	2	14.3
Practice group	1	7.1
Employment status		
Self-employed	6	42.9
Employed	8	57.1
Knowledge about PE		
Yes	12	85.7
No	2	14.3
Contact to PE		
Yes	4	28.6
No	10	71.4

SD: standard deviation; Means and standard deviations are displayed in italic; Due to rounding, percentages may not add up to 100%. Group practice (Gemeinschaftspraxis) and practice group (Praxisgemeinschaft) are different cooperation forms in the German outpatient sector.

Coding Tree



Literature Table

References	Themes					
	Physician autonomy	Quality of care	Work-life-balance	Sustainability	Lack of expertise	Taxation
aerzteblatt.de. Zahnärzte warnen vor MVZ-Übernahmen durch Kapitalinvestoren. <i>Dtsch. Ärzteblatt</i> 2018,. Available online: https://www.aerzteblatt.de/treffer?mode=s&wo=1041&typ=1&nid=99030&s=Private&s=equity (accessed on 15 November 2022).	x	x			x	
aerzteblatt.de. Wir kennen keinen Fall, in dem Kapitalinteressen die ärztliche Entscheidung infrage gestellt hätten. <i>Dtsch. Ärzteblatt</i> 2018,. Available online: https://www.aerzteblatt.de/treffer?mode=s&wo=1041&typ=1&nid=98076&s=Private&s=equity (accessed on 15 November 2022).	x		x			
aerzteblatt.de. Gesundheitssektor zieht Investoren an. Deutsches Ärzteblatt. 2019. Available online: https://www.aerzteblatt.de/treffer?mode=s&wo=1041&typ=1&nid=102620&s=Private&s=equity (accessed on 15 November 2022).		x				x
aerzteblatt.de. Hartmannbund ruft zum Dialog über demografischen Wandel bei Ärzten auf. Deutsches Ärzteblatt. 2019. Available online: https://www.aerzteblatt.de/treffer?mode=s&wo=1041&typ=1&nid=107278&s=hartmannbund&s=ruft (accessed on 15 November 2022).		x				
aerzteblatt.de. Union hat keine Bedenken bei Beteiligungen Renditeorientierter Kapitalanleger an MVZ. Deutsches Ärzteblatt. 2019. Available online: https://www.aerzteblatt.de/treffer?mode=s&wo=1041&typ=1&nid=107370&s=Kapitalanleger&s=MVZ&s=Union (accessed on 15 November 2022).		x		x		
aerzteblatt.de. Gesundheitsexperten Stehen Fremdinvestoren Überwiegend Kritisch Gegenüber. Deutsches Ärzteblatt. 2020. Available online: https://www.aerzteblatt.de/treffer?mode=s&wo=&typ=1&nid=110813&s=Gesundheitsexperten&s=fremdinvestoren&s=kritisch (accessed on 15 November 2022).		x		x		
Allroggen, S. Veränderung der Zahnmedizinischen Versorgungsstruktur aus Sicht einer Kassenzahnärztlichen Vereinigung. <i>MKG Chir.</i> 2020, 13, 10–19. https://doi.org/10.1007/s12285-019-00236-3 .	x	x	x	x		
Appelbaum, E.; Batt, R. <i>Private Equity Buyouts in Healthcare: Who Wins, Who Loses?</i> ; Institute for New Economic Thinking Working: New York, NY, USA, 2020. https://doi.org/10.36687/inetwp118 .	x	x		x		
arzt-wirtschaft.de. Pflegeheime und Praxen: Finanzinvestoren Greifen nach der Gesundheitsbranche. A&W Online 2019. Available online: https://www.arzt-wirtschaft.de/finanzen/geldanlagen/pflegeheime-und-praxen-finanzinvestoren-greifen-nach-der-gesundheitsbranche/ (accessed on 15 November 2022).				x		x
Arzt-wirtschaft.de. Bundeszahnärztekammer fordert Stopp von Fremdkapital in der Zahnmedizin. A&W Online. 2020. Available online: https://www.arzt-wirtschaft.de/finanzen/honorare/bundeszahnarztekkammer-fordert-stopp-von-fremdkapital-in-der-zahnmedizin/ (accessed on 15 November 2022).	x	x		x		x
Bennett, R.G. Further thoughts on dermatology and equity-owned dermatology practices. <i>J. Am. Acad. Dermatol.</i> 2019, 81, e11–e12. https://doi.org/10.1016/j.jaad.2018.11.055 .		x				

References	Themes					
	Physician autonomy	Quality of care	Work-life-balance	Sustainability	Lack of expertise	Taxation
Bennett, R.G. Conflicts of interest for physician owners of private equity—Owned medical practices. <i>J. Am. Acad. Dermatol.</i> 2020 , <i>82</i> , e35. https://doi.org/10.1016/j.jaad.2019.09.033 .		x				
Bobsin, R. <i>Finanzinvestoren in der Gesundheitsversorgung in Deutschland: 20 Jahre Private Equity—Eine Bestandsaufnahme</i> , 4th ed.; Offizin-Verlag: Hannover, Germany, 2019.	x	x		x		x
Bruch, J.D.; Borsa, A.; Song, Z.; Richardson, S.S. Expansion of Private Equity Involvement in Women’s Health Care. <i>JAMA Intern. Med.</i> 2020 , <i>180</i> , 1542–1545. https://doi.org/10.1001/jamainternmed.2020.3567 .		x		x	x	
Casalino, L.P.; Saiani, R.; Bhidya, S.; Khullar, D.; O'Donnell, E. Private equity acquisition of physician practices. <i>Ann. Intern. Med.</i> 2019 , <i>170</i> , 114–115. https://doi.org/10.7326/M18-2363 .	x	x			x	
DeCamp, M.; Sulmasy, L.S. Ethical and Professionalism Implications of Physician Employment and Health Care Business Practices: A Policy Paper From the American College of Physicians. <i>Ann. Intern. Med.</i> 2021 , <i>174</i> , 844–851. https://doi.org/10.7326/m20-7093 .	x	x		x	x	
DeWane, M.E.; Mostow, E.; Grant-Kels, J.M. The corporatization of care in academic dermatology. <i>Clin. Dermatol.</i> 2020 , <i>38</i> , 289–295. https://doi.org/10.1016/j.clindermatol.2020.02.003 .	x	x		x	x	
Engel, P. Profit auf Kosten der Patientinnen und Patienten? <i>MKG Chir.</i> 2020 , <i>13</i> , 6–9. https://doi.org/10.1007/s12285-019-00230-9 .	x	x	x	x		x
Ennenbach, R. Ist Private Equity für die ambulante Versorgung notwendig, ein Fortschritt oder eine Gefahr? <i>MKG Chir.</i> 2020 , <i>13</i> , 3–5. https://doi.org/10.1007/s12285-020-00241-x .	x	x	x	x		x
Francis, J.; Konda, S.; Motaparathi, K.; Grant-Kels, J.M. Response to letter to the editor from Bennett and further thoughts on the corporatization of dermatology and private equity-backed dermatology groups. <i>J. Am. Acad. Dermatol.</i> 2019 , <i>81</i> , e13–e14. https://doi.org/10.1016/j.jaad.2019.03.024 .	x	x		x		
Gilreath, M.; Patel, N.C.; Suh, J.; Brill, J.V. Gastroenterology Physician Practice Management and Private Equity: Thriving in Uncertain Times. <i>Clin. Gastroenterol. Hepatol.</i> 2021 , <i>19</i> , 1084–1087. https://doi.org/10.1016/j.cgh.2021.03.015 .	x			x	x	
Glöser, S. Gesundheitswesen wird für Investoren immer attraktiver. <i>Dtsch. Ärzteblatt</i> 2019 , <i>116</i> , 4. Available online: https://www.aerzteblatt.de/treffer?mode=s&wo=1041&typ=16&aid=206759&s=Gesundheitswesen&s=Investoren&s=attraktiver&s=f%FCr&s=immer&s=wird (accessed on 15 November 2022).				x		x
Gondi, S.; Song, Z. Private Equity Investment in Health Care. <i>JAMA J. Am. Med. Assoc.</i> 2019 , <i>322</i> , 468–469. https://doi.org/10.1001/jama.2019.7844 .		x			x	
Gondi, S.; Song, Z. Potential Implications of Private Equity Investments in Health Care Delivery. <i>JAMA J. Am. Med. Assoc.</i> 2019 , <i>321</i> , 1047–1048. https://doi.org/10.1001/jama.2019.1077 .		x		x	x	
Haaß, F.A.; Ochmann, R.; Julia, G.; Albrecht, M.; Nolting, H.-D. <i>Investorenbetriebene MVZ in der Vertragszahnärztlichen Versorgung: Entwicklung und Auswirkungen</i> ; Duncker Humblot GmbH: Berlin, Germany, 2021.	x	x		x		

References	Themes					
	Physician autonomy	Quality of care	Work-life-balance	Sustainability	Lack of expertise	Taxation
Hilienhof, A. Gesundheitsmarkt: Finanzinvestoren auf dem Vormarsch. <i>Dtsch. Ärzteblatt</i> 2019 , 116, A340. Available online: https://www.aerzteblatt.de/treffer?mode=s&wo=1041&typ=16&aid=205710&s=Investoren&s=Vormarsch&s=auf&s=dem (accessed on 15 November 2022).				X		X
Hsu, A.; Kohli, N. YPS Report: The Role of Private Equity in Medicine. <i>Mo. Med.</i> 2018 , 115, 333. Available online: http://www.ncbi.nlm.nih.gov/pubmed/30228757 (accessed on 15 November 2022).	X	X		X		X
Khetpal, S.; Lopez, J.; Steinbacher, D.M. Trends in Private Equity Deals in Oral and Maxillofacial Surgery and Dentistry. <i>J. Oral Maxillofac. Surg.</i> 2021 , 79, 513–515. https://doi.org/10.1016/j.joms.2020.10.010 .	X	X			X	
Kirsh, G.M.; Kapoor, D.A. Private Equity and Urology: An Emerging Model for Independent Practice. <i>Urol. Clin. N. Am.</i> 2021 , 48, 233–244. https://doi.org/10.1016/j.ucl.2020.12.004 .				X	X	
Konda, S.; Francis, J. The evolution of private equity in dermatology. <i>Clin. Dermatol.</i> 2020 , 38, 275–283. https://doi.org/10.1016/j.clindermatol.2020.02.007 .	X	X		X	X	
Konda, S.; Francis, J.; Motaparthy, K.; Grant-Kels, J.M. Future considerations for clinical dermatology in the setting of 21st century American policy reform: Corporatization and the rise of private equity in dermatology. <i>J. Am. Acad. Dermatol.</i> 2019 , 81, 287–296.e8. https://doi.org/10.1016/j.jaad.2018.09.052 .		X		X	X	
Korzilius, H. Ambulante Versorgung: Investoren auf Einkaufstour. <i>Dtsch. Ärzteblatt</i> 2018 , 115, A1688–1692. Available online: https://www.aerzteblatt.de/archiv/201014/Ambulante-Versorgung-Investoren-auf-Einkaufstour (accessed on 15 November 2022).		X	X	X		
Laschet, H. Investoren im Gesundheitswesen: Plage oder Partner fürs Gemeinwohl? <i>Ärzte Zeitung</i> . 2020. Available online: https://www.aerztezeitung.de/Politik/Investoren-im-Gesundheitswesen-Plage-oder-Partner-fuers-Gemeinwohl-413318.html (accessed on 15 November 2022).				X		X
Laschet, H. Versorgung: Private Equity ist auch eine Chance. <i>Ärzte Zeitung</i> . 2021. Available online: https://www.aerztezeitung.de/Politik/Private-Equity-ist-auch-eine-Chance-417854.html (accessed on 15 November 2022).	X	X	X	X		X
Laschet, H. Finanzierung: Private Equity in MVZ? Mehr Evidenz täte der Debatte gut. <i>Ärzte Zeitung</i> . 2021. Available online: https://www.aerztezeitung.de/Wirtschaft/Private-Equity-in-MVZ-Mehr-Evidenz-taete-der-Debatte-gut-419020.html (accessed on 15 November 2022).		X	X	X		
Lundy, D.W. A Day at the Office: Private Practice and Private Equity. <i>Clin. Orthop. Relat. Res.</i> 2019 , 477, 955–957. https://doi.org/10.1097/CORR.0000000000000758 .		X		X	X	
Maibach-Nagel, E. Fremdinvestoren im Gesundheitssystem: Ungesunder Wettbewerb. <i>Dtsch. Ärzteblatt</i> 2018 , 115, A-1675. Available online: https://www.aerzteblatt.de/archiv/201003/Fremdinvestoren-im-Gesundheitssystem-Ungesunder-Wettbewerb (accessed on 15 November 2022).				X	X	
Miller, L.E.; Rath, V.K.; Naunheim, M.R. Implications of Private Equity Acquisition of Otolaryngology Physician Practices. <i>JAMA Otolaryngol. Head Neck Surg.</i> 2020 , 146, 97–98. https://doi.org/10.1001/jamaoto.2019.3738 .	X	X	X	X	X	

References	Themes					
	Physician autonomy	Quality of care	Work-life-balance	Sustainability	Lack of expertise	Taxation
Montgomery, U.F. Investoren in der ambulanten Versorgung: Erst der Patient, dann die Ökonomie. <i>Dtsch Ärzteblatt</i> 2018 , <i>115</i> , A1692. Available online: https://www.aerzteblatt.de/treffer?mode=s&wo=1041&typ=16&aid=201048&s=Private&s=equity (accessed on 15 November 2022).		x		x		x
Moses, M.J.; Weiser, L.G.; Bosco, J.A. The Corporate Practice of Medicine. <i>J. Bone Joint Surg.</i> 2020 , <i>102</i> , e53. https://doi.org/10.2106/JBJS.19.01404 .	x	x		x		
Novice, T.; Portney, D.; Eshaq, M. Dermatology resident perspectives on practice ownership structures and private equity-backed group practices. <i>Clin. Dermatol.</i> 2020 , <i>38</i> , 296–302. https://doi.org/10.1016/j.clindermatol.2020.02.008 .	x	x		x		
O'Donnell, E.M.; Lelli, G.J.; Bhidya, S.; Casalino, L.P. The Growth of Private Equity Investment in Health Care: Perspectives from Ophthalmology. <i>Health Affairs</i> 2020 , <i>39</i> , 1026–1031. https://doi.org/10.1377/hlthaff.2019.01419 .	x	x		x	x	
Osterloh, F. Patientenversorgung unter Druck: Gegen die Kommerzialisierung. <i>Deutsches Ärzteblatt</i> , 116. 2019. Available online: https://www.aerzteblatt.de/archiv/207864/Patientenversorgung-unter-Druck-Gegen-die-Kommerzialisierung (accessed on 15 November 2022).		x				x
Patel, N.A.; Afshar, S. Implications of Private Equity in Oral and Maxillofacial Surgery. <i>J. Oral Maxillofac. Surg.</i> 2020 , <i>78</i> , 1456–1458. https://doi.org/10.1016/j.joms.2020.03.046 .	x	x		x		
Patel, N.S.; Groth, S.; Sternberg, P. The Emergence of Private Equity in Ophthalmology. <i>J. Am. Acad. Dermatol.</i> 2019 , <i>137</i> , 601–602. https://doi.org/10.1001/jamaophthalmol.2019.0964 .	x	x	x	x	x	
Reddy, R. Private Equity Investments in Women's Health and Obstetrics and Gynecology Practices. <i>Obstet. Gynecol.</i> 2020 , <i>136</i> , 1217–1220. https://doi.org/10.1097/AOG.0000000000004151 .	x	x	x	x	x	x
Resneck, J.S.; Philip, R.L. Dermatology practice consolidation fueled by private equity investment potential consequences for the specialty and patients. <i>JAMA Dermatol.</i> 2018 , <i>154</i> , 13–14. https://doi.org/10.1001/jamadermatol.2017.5558 .	x	x		x	x	x
Resnick, M.J. Re: The growth of private equity investment in health care: Perspectives from ophthalmology. <i>J. Urol.</i> 2020 , <i>204</i> , 1371. https://doi.org/10.1097/JU.0000000000001278.02 .		x		x	x	
Satiani, B.; Zigrang, T.A.; Bailey-Wheaton, J.L. Should surgeons consider partnering with private equity investors? <i>Am. J. Surg.</i> 2020 , <i>222</i> , 453–458. https://doi.org/10.1016/j.amjsurg.2020.12.028 .	x	x			x	x
Scheffler, R.M.; Alexander, L.M.; Godwin, J.R. Soaring Private Equity Investment in the Healthcare Sector: Consolidation Accelerated, Competition Undermined, and Patients at Risk. 2021. Available online: https://publichealth.berkeley.edu/wp-content/uploads/2021/05/Private-Equity-I-Healthcare-Report-FINAL.pdf (accessed on 15 November 2022).	x	x		x	x	x
Scheuplein, C.; Evans, L.M.; Merkel, S. <i>Übernahmen durch Private Equity in Deutschen Gesundheitssektor: Eine Zwischenbilanz für die Jahre 2013 bis 2018</i> ; IAT: Gelsenkirchen, Germany, 2019. https://doi.org/http://dx.doi.org/10.13140/RG.2.2.30503.19366 . IAT Discussion Paper No. 19/01.				x		x
Skaljic, M.; Lipoff, J.B. Association of private equity ownership with increased employment of advanced practice professionals in outpatient dermatology offices. <i>J. Am. Acad. Dermatol.</i> 2021 , <i>84</i> , 1178–1180. https://doi.org/10.1016/j.jaad.2020.05.024 .		x		x		

References	Themes					
	Physician autonomy	Quality of care	Work-life-balance	Sustainability	Lack of expertise	Taxation
Springer Medizin. Die Gesichter der dentalen Ketten. <i>Junge Zahnarzt</i> 2019 , 10, 24–33. https://doi.org/10.1007/s13279-019-0044-x .	x	x	x	x		
Tan, S.; Seiger, K.; Renehan, P.; Mostaghimi, A. Trends in Private Equity Acquisition of Dermatology Practices in the United States. <i>JAMA Dermatol.</i> 2019 , 155, 1013–1021. https://doi.org/10.1001/jamadermatol.2019.1634 .	x	x		x	x	
Waldmann, R.; Kelsey, A.; Grant-Kels, J.M. Comment on: Conflicts of interest for physician owners of private equity–owned medical practices. <i>J. Am. Acad. Dermatol.</i> 2020 , 82, e33. https://doi.org/10.1016/j.jaad.2019.08.087 .		x				
Wasner, A. Wie stark werden sich Private-Equity- Übernahmen auf die ambulante Versorgung auswirken? Medical Tribune. 2019. Available online: https://www.medical-tribune.de/praxis-und-wirtschaft/niederlassung-und-kooperation/artikel/wie-stark-werden-sich-private-equity-uebernahmen-auf-die-ambulante-versorgung-auswirken/ (accessed on 15 November 2022).		x		x		x
Wasner, A. Zahl der MVZ in Private-Equity-Besitz auch 2020 gestiegen. Medical Tribune. 2021. Available online: https://www.medical-tribune.de/praxis-und-wirtschaft/niederlassung-und-kooperation/artikel/zahl-der-mvz-in-private-equity-besitz-auch-2020-gestiegen/ (accessed on 15 November 2022).		x		x		
Zhu, J.M.; Polsky, D. Private Equity and Physician Medical Practices—Navigating a Changing Ecosystem. <i>N. Engl. J. Med.</i> 2021 , 384, 981–983. https://doi.org/10.1056/NEJMp2032115 .	x	x		x	x	
Zhu, J.M.; Hua, L.M.; Polsky, D. Private Equity Acquisitions of Physician Medical Groups Across Specialties, 2013-2016. <i>JAMA J. Am. Med. Assoc.</i> 2020 , 323, 663–665. https://doi.org/10.1097/JU.0000000000001215 .		x				