

Pediatrician preferences, local resources, and economic factors influence referral to a subspecialty access clinic

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Background: Pediatric patients seek timely access to subspecialty care within a complex delivery system while facing barriers: distance, economics, and clinician shortages. **Aim:** We examined stakeholder perceptions about solutions to the access challenge. We engaged over 300 referring primary care pediatricians in the evaluation of Access Clinics at an academic children's hospital. **Methods:** Using an anonymous online survey, we asked pediatricians about their and their patients' experiences and analyzed factors that may influence referrals. **Findings:** Referring pediatricians reported satisfaction; they provided feedback about their patients' experiences, physician communication, and referral influences. Distance from the Access Clinic does not correlate with differences in referral volume; living in areas with higher child populations and higher median income is associated with more referrals. Referring pediatricians have strong opinions about referrals, are attuned to patient experiences, and desire bi-directional communication. Multiple factors influence referral to and acceptance of Access Clinics, but external influences have less impact than expected.

Key words: health care access and delivery; practice transformation; subspecialist shortages

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Introduction

Pediatric subspecialist shortages in the United States challenge health systems' ability to provide timely access to care (Children's Hospital Association, 2012; Ray *et al.*, 2014). The primary care physician (PCP) coordinates clinical care and resource utilization (Donohoe *et al.*, 1999; Weeks and Wallace, 2003), identifies conditions and

complaints outside the scope of primary care, and refers to subspecialists or hospitalists (Fernandez *et al.*, 2000; Rappaport *et al.*, 2013). The pediatric subspecialist is a pediatrician who seeks additional fellowship training and specializes in care of more complex patients with a more specific organ-system focus. Due to large regional shortages of fellowship-trained pediatric subspecialists (Children's Hospital Association, 2012), patients experience long wait times for new appointments. In addition, pediatric subspecialists have high volumes of referred patients without complex issues; rather, with common organ-system specific pediatric concerns. Often, PCPs are faced with managing high volumes of low-complexity patients

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but with limited time to address some organ-system specific health needs.

Improving access to care is a focus of significant efforts in today's changing health system (Green *et al.*, 2007; Berwick *et al.*, 2008). Our children's hospital's approach to improving access arose through input of clinicians (subspecialists and generalists), administrators, family advisory council members, and referring PCPs (Sharif *et al.*, 2012). Access Clinics combine an 'Access Pediatrician' (AP), a board-certified general pediatrician embedded within subspecialty divisions who functions as a 'generalist-as-specialist', with specific nurse navigation for patient triage of patients with low-complexity complaints (Di Guglielmo *et al.*, 2013). Side-by-side practice within the subspecialty's clinical space and real-time availability of consultation with subspecialists enhance the AP's expertise. At scheduling, patients or PCPs may request to not see the AP, and these patients are scheduled directly with the subspecialist. However, use of APs can increase access and provide timelier visits while removing barriers to evaluation for patients; as a result, subspecialists are free to see more complex and acutely ill patients.

Evaluating the sustainability of Access Clinics as care delivery transformation requires analysis of the factors driving referrals and assessment of referring physician perceptions (Fernandez *et al.*, 2001; Pletcher *et al.*, 2010). Sustainable transformation relies on understanding practice culture and its effect on practice change, PCP perceptions and needs (Dempster *et al.*, 2015), and the 'buy-in' of referring PCPs (Abatemarco *et al.*, 2008; 2012). The present study aims to determine the referring PCPs' most prevalent perceptions about the AP/Access Clinics as well as to characterize the influence of external factors.

Methods

Study period, data

Access Clinic encounters between September 2011 and April 2014 were reviewed; PCP office ZIP code and number of patients referred were recorded. The Institutional Review Board waived approval of the research study, #306671.

Survey

Eligible PCPs (referred at least three patients) were individually and anonymously surveyed with online questionnaires (eight questions) using

REDCap software (Harris *et al.*, 2009). Results were collected over 100 days beginning in April 2014. The survey queried perceptions of communication with the Access Clinic, satisfaction with patient care, knowledge about the Access Clinic, and reasons for referral. The survey solicited open-ended comments ('Please provide any feedback, comments, or questions'). We coded qualitative data by major themes (Crabtree *et al.*, 1998).

Geographic and economic data collection

Distance between ZIP codes and the Access Clinic were obtained from www.googlemaps.com. Census data on population, households with children <18, median income, and number of health practitioners per ZIP code were obtained from www.factfinder2.census.gov. ZIP code data for referring PCP offices were stratified into quartiles by ranking the number of patients referred per PCP. We reported the top quartile.

Statistical analysis

Descriptive statistics were calculated. In the analysis of ZIP code data, linear regression represented ZIP code rank against each dependent variable, using the best fit trend line (R^2).

Results

Patient characteristics

Patients were majority female; aged <1–17 years distributed in quintiles of four-year increments above age 1 (Table 1). A total of 62.3% of families were privately insured. Of the 2139 new outpatients, 1438 (67.2%) were referred by their PCP.

Referring PCP characteristics

PCPs were employed by either the children's hospital's primary care network of practices or were unaffiliated and working in community practices. Three hundred twenty PCPs were eligible (patients referred: range 3–85, median 6.5, IQR 8) including 47 hospital-affiliated PCPs (14.7%) and 273 non-affiliated PCPs (85.3%). Of note, 21 hospital-affiliated PCPs and 49 non-affiliated PCPs referred 12 or more patients (top quartile). Surveys were emailed to 41 hospital-affiliated PCPs (six had left the hospital network at

Table 1 Demographics; frequency of referrals

Category	N	%
Sex		
Female	1082	50.6
Male	1057	49.4
Age (years)		
<1	423	19.8
1–4	451	21.1
5–8	431	20.1
9–12	414	19.4
13–17	420	19.6
Insurance		
Private	1332	62.3
Public	747	34.9
Other	33	1.5
None	27	1.3
Referral source		
Primary Care Physician	1438	67.2
Self-referred	324	15.1
Emergency Department	127	5.9
Other specialists	173	8.1
Other	8	0.4
Multiple sources	69	3.2

the time of the survey) and 103 non-affiliated PCPs. Of the remaining 170 non-affiliated PCPs, 151 were successfully contacted by fax.

Survey response

Thirty-three hospital-affiliated PCPs and 42 non-affiliated PCPs responded to the emailed survey; five non-affiliated PCPs responded to the faxed survey invitation. Email response rate was 52.1% (75/144); overall response rate was 27.1% (80/295). The PCPs in the top quartile responded to the survey at a rate of 51.4% (36/70). PCPs were somewhat [23%] or definitely [70%] satisfied, viewed patients having had somewhat [29%] or very [63%] positive experiences, and knew the type of patients appropriate for Access Clinic evaluation (PCPs somewhat [24%] or definitely [65%] understood). Reasons for referral were varied, focusing on patient needs and practice limitations, but also family preference, shortened wait times, and prior unsuccessful management. The most common reasons for referral were: 'I felt patient needed appointment sooner than subspecialty could accommodate' (61%) and 'family requested referral' (58%). Forty-six percent and 44%, respectively, responded that the reasons for referral were: 'Unsuccessful in managing patient with these

symptoms' and 'Beyond scope of practice.' PCPs responses indicated they found follow-up communication from the AP to be helpful (23% somewhat, 74% definitely) and 80% would like to be able to communicate more with the AP, although only 44% reported contacting the AP after their patient's visit. PCPs indicated direct phone call (35%), Electronic Medical Record message (21%), or email (21%) as top communications preferences.

Qualitative comments

Of the 80 survey responses, 24 PCPs provided comments (30.0%, Table 2): positive experiences about efficient and appropriate care; constructive comments about communication; and critical comments expressing dissatisfaction due to preference for subspecialist care.

Geographic and economic trends

The study area included 11 urban clusters and three urbanized areas with the remaining regions predominantly rural. PCPs were located in a variety of geographic areas throughout the state (the hospital's primary service area) and region. The top quartile of ZIP codes, ranked by patients per referring PCP (range 3–31, median 5.9, IQR 4.85), contained 21 ZIP codes, with all but one within the state (Table 3). One ZIP code (19902) had unavailable census data.

The five ZIP codes with the most patients referred corresponded to suburban population centers (Table 3, column 3). The ZIP code where the Access Clinic is located, 19803, represented 25.7% of patients. Examining the next five ZIP codes with the most patients referred, the average distance traveled was 25 miles (range 11–54 miles, median 20 miles, and IQR 10 miles). The five ZIP codes with the most referrals per PCP corresponded to five different urban and suburban population centers (average 21 patients/PCP, range 14–31, median 20.5, IQR 4.6; Table 3, columns 3–5). The average distance traveled from the five ZIP codes was 44.8 miles (range 14–90 miles, median 47 miles, IQR 33 miles; Table 3, column 6).

For the top quartile of PCPs, the PCPs that referred the most patients were no farther away than the PCPs that referred the least patients (Figure 1a, $R^2 = 0.0007$). The lack of correlation extended to the entire cohort of PCPs (data not shown).

Table 2 Qualitative comments from referring PCP survey

Positive experiences
<p>'I love that my patients can go into see providers at the access clinic much faster now'</p> <p>'I wish there were more [Access Clinics]'</p> <p>'So far, we have used Access for families desiring rapid consultation but without urgent issues'</p> <p>'I really appreciate being able to have my patients seen quickly when I am worried about them or have reached a point when I need a subspecialist opinion'</p> <p>'It is very helpful to receive an updated email from the specialty clinic after they have seen one of my patients. This allows me to provide continued care as needed'</p> <p>'Patients have been pleased about early appointment availability and the expertise of the providers'</p> <p>'In general I do like the idea of this type of program as many of the issues for which we refer can be handled by someone working with the subspecialist, and parents appreciate the more timely appointments'</p> <p>'I think [access clinic is] great for things that I can manage but the family feels that they need to be seen by a specialist'</p>
Suggestions for improvement
<p>'Would be nice if there was an option in the [Electronic Medical Record] as to whether I would prefer access clinic or only subspecialty'</p> <p>'What is best way to refer directly to Access Center of each department?'</p> <p>'Overall satisfied. Some concerns/questions: would like intermittent updates on what specialty access clinics are available and what the actual wait time is?'</p> <p>'It would be nice, as the program progresses, to have something printed up for providers making the referral to give us more information on the program and perhaps the scope of typical issues which would be better referred to these programs'</p> <p>'Access clinic has been very effective in decreasing wait time to be seen. It would be helpful to receive a 'wrap up' letter after labs/studies completed and communicated to the family, particularly if deemed no further follow up appointment is necessary'</p>
Dissatisfaction and criticisms
<p>'I only use the access doctors if I don't believe a specialist is needed but the patients insist. I have been dissatisfied with placement of very complicated patients in the access clinic when we have referred for consult'</p> <p>'[Access Providers] are helpful when patient has not seen PCP for problem. They are not helpful when PCP has already tried to manage the problem and failed treatment.'</p> <p>'Support the idea, just that one size does not fit all. I treat most [issues appropriate for AP] in my office. For some of these patients I tell them to request specialist, NOT access, since I feel I have done already what they will do. I also call specialist directly when have specific concerns'</p> <p>'Maybe access clinics are more appropriate for referrals from non-pediatric practices'</p>

PCP = primary care physician.

ZIP codes with the most frequently referring PCPs had varied median incomes (range \$26 955-\$137 617; median \$63 154.50; IQR \$18 240), and slightly higher ratios of median income to state median income (\$60 119, Figure 1b). The same ZIP codes had higher numbers of health care practitioners (range 105–1266; median 427; IQR 331; Figure 1c) and higher proportions of children to adults (range 13–33%; median 27%; IQR 6%, Figure 1d).

Discussion

The Access Clinic transforms outpatient subspecialty care delivery at the children's hospital

studied. The intent of the Access Clinic is (a) to provide appropriate and comprehensive care *when the patient wants it and needs it*, and (b) to direct the patient back to the PCP, or on to the subspecialist, as clinically warranted. The referring PCP is essential to the Access Clinic model as co-manager of the patient. Continuous improvement of the innovative care delivery system requires the PCP perspectives identified in the survey to be integrated with other stakeholder input, patient experiences, health outcomes, and cost effectiveness data (Kleinman and Dougherty, 2013).

The primary aim of the study is to examine stakeholder perceptions. Referring PCPs are satisfied with the Access Clinic due to shorter wait

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Table 3 Top quartile of most referrals to the access clinic (by patients referred/PCP): ZIP code data

City/Town in Delaware unless indicated	ZIP	Total patients referred (n)	Total PCP (n)	Patients referred/PCP	Distance (miles)	Homes with children < 18 (n)	Median income 2012 (\$)	ZIP median income/ State median income (\$)	Health care practitioner (n)
Georgetown	19947	93	3	31.0	90	2078	48 227	0.80	172
Clayton	19938	21	1	21.0	47	1219	70 147	1.17	178
Newark	19720	41	2	20.5	14	8033	54 085	0.90	771
Newark	19702	295	18	16.4	20	7686	68 547	1.14	1266
Dover	19901	28	2	14.0	53	4539	47 274	0.79	495
Hockessin	19707	76	6	12.7	12	2186	137 617	2.29	564
Avondale, PA	19311	25	2	12.5	16	1266	92 338	1.77	171
Milton	19968	74	6	12.3	88	1102	62 899	1.05	399
Wilmington	19803	256	21	12.2	0	2504	99 644	1.66	725
Wilmington	19808	150	13	11.5	11	4591	70 305	1.17	654
Seaford	19973	102	9	11.3	95	3102	47 645	0.79	463
Dover	19904	231	21	11.0	54	4254	56 496	0.94	547
Townsend	19734	11	1	11.0	33	1727	83 185	1.38	231
Middletown	19709	129	12	10.8	25	5542	89 852	1.49	507
Rehoboth Beach	19971	30	3	10.0	95	857	60 479	1.01	326
Wilmington	19801	20	2	10.0	6	2003	26 955	0.45	187
Ocean View	19970	10	1	10.0	110	446	65 275	1.09	105
Newark	19713	217	22	9.9	15	3842	55 685	0.93	454
Dover AFB	19902	19	2	9.5	59	Unavailable	Unavailable	Unavailable	Unavailable
Wilmington	19809	19	2	9.5	5	1691	63 410	1.05	264
Smyrna	19977	47	5	9.4	45	2876	62 195	1.03	237

PCP = primary care physician.

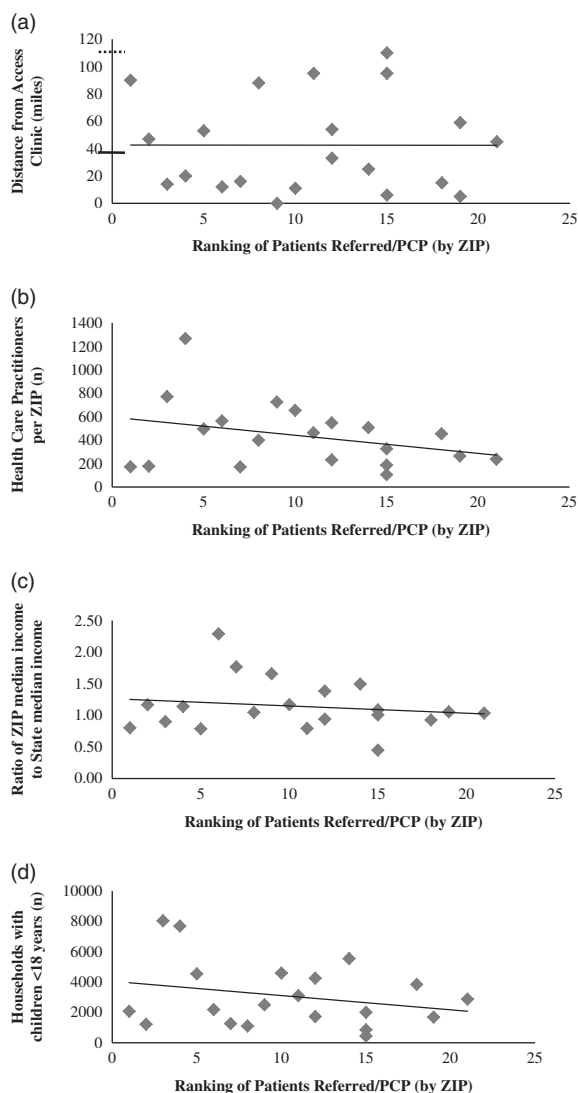


Figure 1 Rank of patients referred per primary care physician (PCP) by ZIP against (a) distance (in miles) of each PCP in Table 3. Y-axis solid line: distance cut-off between hospital's primary and secondary service areas; stippled line: between secondary and tertiary. (b) Ratio of ZIP to State median income; (c) number of health care practitioners from each ZIP; (d) number of households with children under 18 for each ZIP. Linear regressions: (a) $R^2 = 2 \times 10^{-6}$, (b) $R^2 = 0.0267$, (c) $R^2 = 0.1053$, (d) $R^2 = 0.0652$.

times and high quality care. The PCP is referring to a 'generalist-as-specialist,' not another PCP (Sharif *et al.*, 2012). PCPs are comfortable with which

patients to refer and are satisfied with the Access Clinic. Many PCP comments and survey responses (Table 2) regarding the care their patients experienced provide constructive feedback with themes of family preference, AP expertise, timely care delivery, and bi-directional communication.

Another aim of the study is to understand the influence of external factors on referrals. PCPs refer to the Access Clinic from different population centers and areas with varied PCP densities and diverse demography. Overall, patients came from an average of 25 miles away, but patients referred by the PCPs with the highest referral rate traveled an average of almost 45 miles. Distance was no barrier to these referrals (Figure 1a). Regional factors such as economic characteristics, pediatric population, and distance from the clinic do not appear to affect referral rate. Regression shows regions with higher median income (Figure 1b) and with larger populations of households with children <age 18 (Figure 1c) correlate with greater referrals/PCP. Distance, income, and population did not deter referrals. Other factors, such as quality of care, ease of making appointments, and short wait times may be more likely to influence referral decisions. We conclude that demand for immediate subspecialty care supersedes geographic, population, or economic factors (Figure 1), family demands are paramount to PCP referral patterns, and routine 'in office' subspecialty care by the PCP may be limited by resources or interest.

The demand for subspecialty evaluation in place of, or to complement, PCP evaluation is not unique (Anderson *et al.*, 2007; Martin *et al.*, 2009; Hsu *et al.*, 2012). For the Access Clinic, the involvement of local referring PCPs and subspecialists in the planning stages has been critical to aligning service delivery with demand. In other health care systems, the PCP or generalist nurse may serve as the 'gatekeeper' for subspecialty care (Ramritu *et al.*, 2002; Wilkie, 2013), with more time or resources to see patients with routine complaints, only referring to subspecialists for more complex patient evaluations. International models using general pediatricians with specialty interest, or 'GPSIs' (Salisbury and Rosen, 2007; Martin *et al.*, 2009), if well-designed, show improved access and increased bi-directional communication. In the United States, health care delivery systems that 'train up' community pediatricians to provide

subspecialty care in the primary care medical home setting have been proposed (Ray Tsai MD, 2014, *personal communication*).

Limitations of our study include recall bias (surveys), low response rate, and applicability. PCPs with high referrals are more likely to be affiliated thus more familiar with the Access Clinic, introducing potential favorability bias. Non-affiliated PCPs referred more patients but had a poor response rate. Survey participation was not incentivized (Delnevo *et al.*, 2004), affecting response rate. Access Clinics have not been widely implemented or described nationally, so while applicability may be affected by studying one institution, critical information about evaluation of the model will inform academic centers about novel ways of delivering appropriate subspecialty care.

Pediatric subspecialty shortages continue to plague the effective and timely delivery of health care to children (Pletcher *et al.*, 2010; Ray *et al.*, 2014). Successful solutions demand identification of key drivers of referrals, understanding of PCP attitudes (Twamley *et al.*, 2014), and consensus among referring PCPs. Access Clinics can reinforce the 'generalist-as-specialist' paradigm for appropriate patients, improve care quality, and connect subspecialty and primary care practices.

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Conflicts of Interest & Financial Disclosure

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References

- Abatemarco, D., Kairys, S., Gubernick, R. and Kairys, J. 2008: Expanding the pediatrician's black bag: a psychosocial care improvement model to address the "new morbidities". *The Joint Commission Journal on Quality and Patient Safety* 34, 106–15.
- Abatemarco, D., Kairys, S., Gubernick, R. and Hurley, T. 2012: Using genograms to understand pediatric practices' readiness for change to prevent abuse and neglect. *Journal of Child Health Care* 16, 153–65.
- Anderson, B., Marks, J. Jr., Downs, E., Buckel, T., Adams, D., Enterline, J. and Miller, J. 2007: The Hershey access clinic: a model for improving patient access. *Journal of the American Academy of Dermatology* 57, 601–3.
- Berwick, D., Nolan, T. and Whittington, J. 2008: The triple aim: care, health, and cost. *Health Affairs* 27, 759–69.
- Children's Hospital Association 2012: Pediatric specialists in children's hospitals – 2012; Report, Alexandria, VA.
- Crabtree, B., Miller, W., Aita, V., Flocke, S. and Stange, K. 1998: Primary care practice organization and preventive services delivery: a qualitative analysis. *Journal of Family Practice* 46, 403–9.
- Delnevo, C., Abatemarco, D. and Steinberg, M. 2004: Physician response rates to a mail survey by specialty and timing of incentive. *American Journal of Preventative Medicine* 26, 234–36.
- Dempster, N., Wildman, B. and Duby, J. 2015: Perception of primary care pediatricians of effectiveness, acceptability, and availability of mental health services. *Journal of Child Health Care* 19, 195–205.
- Di Guglielmo, M., Plesnick, J., Greenspan, J. and Sharif, I. 2013: A new model to decrease time-to-appointment wait for gastroenterology evaluation. *Pediatrics* 131, e1632–1638.
- Donohoe, M., Kravitz, R., Wheeler, D., Chandra, R., Chen, A. and Humphries, N. 1999: Reasons for outpatient referrals from generalists to specialists. *Journal of General Internal Medicine* 14, 281–86.
- Fernandez, A., Grumbach, K., Goitein, L., Vranizan, K., Osmond, D. and Bindman, A. 2000: Friend or foe? How primary care physicians perceive hospitalists. *Archives of Internal Medicine* 160, 2902–908.
- Fernandez, A., Grumbach, K., Vranizan, K., Osmond, D. and Bindman, A. 2001: Primary care physicians' experience with disease management programs. *Journal of General Internal Medicine* 16, 163–67.
- Green, L., Savin, S. and Murray, M. 2007: Providing timely access to care: what is the right patient panel size? *The Joint Commission Journal on Quality and Patient Safety* 33, 211–18.
- Harris, P., Taylor, R., Thielke, R., Payne, J., Gonzalez, N. and Conde, J. 2009: Research electronic data capture (REDCap) – a metadata-driven methodology and workflow process for providing translational research informatics support. *Journal of Biomedical Informatics* 42, 377–81.

- Hsu, E., Schwend, R. and Julia, L.** 2012: How many referrals to a pediatric orthopaedic hospital specialty clinic are primary care problems? *Journal of Pediatric Orthopaedics* 32, 732–36.
- Kleinman, L. and Dougherty, D.** 2013: Assessing quality improvement in health care: theory for practice. *Pediatrics* 131 (Suppl), S110–119.
- Martin, G., Currie, G. and Finn, R.** 2009: Reconfiguring or reproducing intra-professional boundaries? Specialist expertise, generalist knowledge and the ‘modernization’ of the medical workforce. *Social Science & Medicine* 68, 1191–198.
- Pletcher, B., Rimsza, M., Cull, W., Shipman, S., Shugerman, R. and O’Connor, K.** 2010: Primary care pediatricians’ satisfaction with subspecialty care, perceived supply, and barriers to care. *Journal of Pediatrics* 156, 1011–15.
- Rappaport, D., Adelizzi-Delany, J., Rogers, K., Jones, C., Petrini, M., Chaplinski, K., Ostasewski, P., Sharif, I. and Pressel, D.** 2013: Outcomes and costs associated with hospitalist comanagement of medically complex children undergoing spinal fusion surgery. *Hospital Pediatrics* 3, 233–41.
- Ramritu, P., Courtney, M., Stanley, T. and Finlayson, K.** 2002: Experiences of the generalist nurse caring for adolescents with mental health problems. *Journal of Child Health Care* 6, 229–44.
- Ray, K., Bogen, D., Bertolet, M., Forrest, C. and Mehrotra, A.** 2014: Supply and utilization of pediatric subspecialists in the United States. *Pediatrics* 133, 1061–69.
- Salisbury, C. and Rosen, R.** 2007: Special interest GPs. *The Health Service Journal* 117, S14–16.
- Sharif, I., Gartner, J., Plesnick, J. and Greenspan, J.** 2012: Access to subspecialty care: bringing back the specialty of general pediatrics. *Journal of Pediatrics* 161, 577–78.
- Twamley, K., Craig, F., Kelly, P., Hollowell, D., Mendoza, P. and Bluebond-Langner, M.** 2014: Underlying barriers to referral to paediatric palliative care services: knowledge and attitudes of health care professionals in a paediatric tertiary care centre in the United Kingdom. *Journal of Child Health Care* 18, 19–30.
- Weeks, W. and Wallace, A.** 2003: Time and money: a retrospective evaluation of the inputs, outputs, efficiency, and incomes of physicians. *Archives of Internal Medicine* 163, 944–48.
- Wilkie, P.** 2013: Shifting interventions from specialist to general practitioner is not new. But how realistic is it? *Quality in Primary Care* 21, 63–65.