

General practitioner perspectives on referrals to paediatric public specialty clinics

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Background

Changes in the demography of Australia have resulted in changes in patterns of primary care delivery. One of these changes is that the proportion of paediatric visits has decreased.

Objectives

The objectives of the article are to examine patient, practice and personal factors that influence a general practitioner's (GP's) decision to refer patients for paediatric specialty care, and investigate referral goals and experience with shared care.

Method

A mail survey was sent out to 400 GPs who had referred at least two children to public hospital specialty clinics during 2014.

Results

The response rate for the mail survey was 67%. The factors most commonly reported by GPs as 'Somewhat important' or 'Very important' in the decision to refer were whether they had enough knowledge of a specific condition (81%) or did not have experience with similar patients (75%). About one-quarter (26%) of GPs reported that a parental request 'Frequently' or 'Almost always' influenced their referral decision. A similar proportion (26%) placed importance on whether they had sufficient time for a specific patient.

Discussion

Understanding the perspectives and determinants of GP referrals for paediatric specialty care is important, especially in the context of changing patterns of primary care delivery.

Over the past decade, there have been reports of changing patterns of primary care delivery in Australia. Specifically, children are making up a smaller proportion of overall general practice visits.¹ Changes have also occurred in the length of paediatric primary care consultations. Additionally, more children in Australia today are living with chronic illnesses than ever before;² approximately 1.5 million children aged 0–14 years have at least one long-term medical condition.³

Management of chronic conditions typically necessitates an extended consultation by a general practitioner (GP). However, recent research found that the number and proportion of longer visits for children have decreased markedly.⁴ Similar findings have shown that general practice registrars are seeing fewer children for extended consultations during the apprenticeship portion of their training and that they refer children to specialty care at much higher rates than for adults with similar conditions.^{5,6}

At the same time, there have been reports of increased demand for paediatric specialist outpatient services. For example, data from the Royal Children's Hospital Melbourne (RCH) shows an increase of 10,000 visits per year (from 38,000 to 48,000 visits) in new medical paediatric appointments from 2010 to 2015.⁷ This 25% increase over the five-year period is far above the growth in the paediatric population in Victoria, and suggests a more substantive issue in the healthcare system itself.

In the context of these changes, there is a critical need to understand the factors influencing GPs' decisions to refer children for specialty care. In general, understanding these factors is vital as changes in referral patterns have implications for the cost, availability and effectiveness of paediatric care. Previous research in adult populations overseas has found that referral decisions result from the interaction between clinical, practice, practitioner and patient factors.⁸ Patient characteristics were determined to explain <40% of the variation in referrals.⁹

There is little Australian research from the GP's perspective that examines the factors associated with the decision to refer.

Previous Australian studies have focused on components of referral letters, and the interaction between GPs and the referring doctor, but all of these studies were focused on adults, not children.^{10,11}

Achieving a better understanding of the factors associated with GPs' referral of children for specialty care and the management of paediatric chronic illness in primary care will assist in developing efficient mechanisms and systems of care. A specific focus on paediatric referrals is also important because of the potentially unique nature of the parents' role in driving the referral process and/or the return of patients to primary care. The aim of this study was to examine patient, practice and personal factors that influence GPs' decisions to refer for paediatric specialty care.

Methods

Sample and recruitment

The sampling frame was GPs who had referred at least two children to the specialist paediatric outpatient clinics at either the RCH or Monash Children's Hospital (MCH) during 2014. These two hospitals were chosen because they constitute the majority of public paediatric specialist care in Victoria, Australia. The lists of eligible GPs were provided by the respective hospitals. From each list, a random sample of 200 GPs was generated. The survey was conducted during June to August 2015. At the first mailing via registered mail, GPs were provided with an information sheet about the study, a survey, a 'reply paid' envelope and a \$5 cash incentive to participate. At two subsequent mailings, non-respondent GPs only received an information sheet and the survey.

Questionnaire

The questionnaire used in this study was developed from a literature review regarding paediatric referrals from primary to specialty care and in consultation with two practising GPs who have extensive experience referring children to specialty care.

The participants were asked about their experience of referring children to specialist hospital clinics over the past five years. This duration was chosen as GPs see fewer paediatric than adult patients, and the absolute number of referrals for children for specialty care may be small in any given year. The questionnaire consisted of four sections relating to referrals:

- Factors influencing decision making
- Experience in making referrals
- Relationships with paediatricians
- GP characteristics or demographics.

Where respondents were asked to rate items with the stem 'As a proportion of your referrals to public outpatient paediatricians over the past five years, how often did you ...' response options

included four-point Likert scales ('Rarely' [<10%], 'Sometimes' [10–50%], 'Frequently' [51–90%] and 'Almost always' [>90%]). Other responses were provided as multiple choice options.

Data analysis

Initially, frequency distributions and descriptive analyses were performed. Next, we conducted bivariate analyses using chi-square statistics to determine the differences, if any, among respondents based on the demographic variables collected. Because of infrequent item non-response, the number for specific questions may differ slightly. Data were analysed using STATA 13.0 (College Station, TX).

Table 1. Participant characteristics (n = 254)

Characteristic	% (n)
Gender	
Male	57 (144)
Length of time in general practice	
<6 years	15 (37)
6–15 years	26 (66)
>15 years	59 (151)
Size of general practice (n = 253)	
Solo practice	7 (17)
Practice with 2–5 GPs	39 (99)
Practice with ≥6 GPs	54 (137)
Number of half-day clinical sessions worked per week (n = 251)	
<6 clinical sessions a week	14 (35)
6–10 clinical sessions a week	62 (157)
>10 clinical sessions a week	24 (59)
Average number of paediatric (0–17 years) patients seen in practice each week	
<11 paediatric patients	21 (52)
11–20 paediatric patients	28 (72)
>20 paediatric patients	51 (129)
Bulk billing (n = 251)	
Bulk bill all paediatric patients	78 (195)
Does not bulk bill	3 (8)
Bulk bill some paediatric patients	19 (47)

The project was approved by the ethics committees of the University of Melbourne (reference 1443558.1) and the two hospitals.

Results

A total of 377 GPs were invited to participate in this study (postal addresses were not available for 23 of the random list of 400 GPs). Of these, 254 participated in the study, resulting in a response rate of 67%. Table 1 provides the demographic

characteristics of the sample. Most respondents worked in practices with ≥ 2 GPs, and worked 6–10 clinical sessions per week. Fifty-nine per cent have been working for >15 years in general practice and 51% see more than 20 paediatric patients a week.

Importance of specific factors in the decision to refer

Table 2 shows the proportion of GPs who rated specific patient, practice and

personal factors as 'Somewhat important' or 'Very important' in their decision to refer. GPs were likely to refer to a paediatrician if they reported that it was 'Somewhat important' or 'Very important' if a condition was not responding to treatment (92%), or that it was a condition usually treated by a paediatrician (89%).

Eighty-one per cent of GPs reported that whether they had enough knowledge of a specific condition was 'Somewhat important' or 'Very important' in their

Table 2. GPs' perceptions of the importance of different issues in the decisions to refer (proportion responding 'Somewhat important' or 'Very important')

	Gender			<i>P</i> value	Years in practice		<i>P</i> value	Number of paediatric patients seen per week			<i>P</i> value
	Total n = 254 % (n)	Male n = 142 % (n)	Female n = 109 % (n)		≤ 5 years n = 37 % (n)	>5 years n = 216 % (n)		≤ 10 n = 52 % (n)	11–20 n = 72 % (n)	>20 n = 129 % (n)	
In general, how important are each of the following aspects of a child's condition in your decision to refer to a public outpatient paediatrician?											
Condition is usually treated by paediatrician (n = 252)	89 (223)	88 (125)	90 (98)	0.6	97 (36)	87 (187)	0.09	98 (51)	89 (64)	85 (107)	0.03
Condition does not respond to treatment	92 (233)	93 (134)	90 (99)	0.4	95 (35)	91 (198)	0.7	94 (49)	88 (63)	93 (120)	0.4
The family needs access to other services (n = 253)	79 (200)	76 (108)	84 (92)	0.1	73 (27)	81 (173)	0.3	79 (41)	79 (57)	80 (102)	1
Minimise out-of-pocket costs (n = 253)	82 (206)	74 (105)	92 (101)	<0.001	76 (28)	83 (178)	0.3	89 (46)	79 (57)	81 (103)	0.4
In general, how important to you are each of the following factors in your decision to refer a child to a public outpatient paediatrician?											
I have insufficient time	26 (65)	26 (37)	26 (28)	1	24 (9)	26 (56)	0.8	25 (13)	24 (17)	27 (35)	0.9
The practice in which I work does not have the clinical staff necessary	41 (104)	35 (50)	49 (54)	0.02	49 (18)	40 (86)	0.3	48 (25)	33 (24)	43 (55)	0.2
The practice in which I work does not have the necessary equipment	39 (99)	38 (55)	40 (44)	0.8	43 (16)	38 (83)	0.6	35 (18)	40 (29)	40 (52)	0.8
It is not financially viable for the practice (n = 254)	15 (38)	15 (21)	16 (17)	0.9	14 (5)	15 (33)	0.8	15 (8)	11 (8)	17 (22)	0.5
In general, how important are each of the following personal factors in your decision to refer a child to a public outpatient paediatrician?											
I do not have enough knowledge about a specific child's condition (n = 254)	81 (204)	81 (116)	81 (88)	0.9	73 (27)	82 (177)	0.2	71 (37)	86 (62)	82 (105)	0.1
I have no experience in treating or providing ongoing management of a specific child's condition (n = 253)	75 (190)	74 (106)	78 (84)	1	73 (27)	76 (163)	0.7	67 (35)	81 (58)	76 (97)	0.2
I do not feel comfortable caring for a child with a chronic or complex condition (n = 252)	57 (144)	50 (72)	67 (72)	0.4	68 (25)	56 (119)	0.2	52 (27)	56 (40)	61 (77)	0.5

decision to refer; 75% attributed importance to whether they had experience with similar patients.

Not having the clinic staff necessary to care for a child was reported as a 'Somewhat important' or 'Very important' factor by 41% of the respondents, and not having sufficient time for a specific patient by 26%.

Factors influencing the frequency of the decision to refer

Most GPs (78%) reported that they 'Frequently' or 'Almost always' referred because a paediatric patient needed to undergo a specific procedure, or they believed a paediatric specialist would better manage a specific condition (76%). Approximately one in four GPs (26%) reported that a parental request frequently

or almost always influenced referral (Table 3).

Referral goals and outcomes

A large majority of GPs (83%) reported that they 'Frequently' or 'Almost always' stated a specific referral goal in their letter to a paediatric specialist. The most common goals were to receive advice on a treatment plan (80%), diagnosis (68%) or an exacerbation (60%). Half reported that the goals of referral were to arrange shared care (51%), and 29% wanted a paediatrician to take over management of a child's condition.

Almost all GPs (91%) reported that the information they received from a paediatrician was 'Frequently' or 'Almost always' helpful in clinical management. Very few (5%) stated that a child referred

to a paediatrician 'Frequently' or 'Almost always' never returned to their clinic (Table 4).

GP experiences with shared care

Most GPs (82%) reported that they currently have paediatric patients for whom they provide primary care, while a public outpatient paediatrician managed the patient's chronic condition. Half (52%) reported that they 'Frequently' or 'Almost always' were able to establish clear roles in these situations.

Bivariate analysis

Few differences were observed when examining different demographic groups of GPs.

Female GPs more frequently reported that they referred to arrange shared

Table 3. Influences on general practitioners' decisions to refer (proportion answering 'Frequently' or 'Almost always')

	Gender			P value	Years in practice		P value	Number of paediatric patients seen per week			P value
	Total n = 253 % (n)	Male n = 142 % (n)	Female n = 109 % (n)		≤5 years n = 37 % (n)	>5 years n = 216 % (n)		≤10 n = 52 % (n)	11–20 n = 71 % (n)	>20 n = 128 % (n)	
As a proportion of all of your paediatric referrals over the past five years, how often did each of the following influence your decision to refer children to a public outpatient paediatrician?											
I wanted a second opinion to confirm a diagnosis	33 (84)	28 (40)	40 (44)	0.05	38 (14)	33 (70)	0.5	29 (15)	35 (25)	34 (44)	0.7
I believed that a paediatric specialist would better manage a specific child's condition	76 (192)	77 (109)	76 (83)	0.8	73 (27)	77 (165)	0.6	83 (43)	73 (52)	76 (97)	0.5
The child needed to undergo a procedure that is only provided by a paediatric specialist	78 (196)	78 (111)	77 (85)	0.9	84 (31)	77 (165)	0.3	77 (40)	76 (54)	80 (102)	0.8
As a proportion of all of your paediatric referrals over the past five years, how often did a parent request influence your decision to refer a child to a public outpatient paediatrician?											
A parent requested I refer their child to a paediatrician for an initial consultation	26 (67)	26 (37)	28 (30)	0.7	30 (11)	26 (56)	0.6	23 (12)	25 (18)	29 (37)	0.7
A parent requested I renew a referral because they reported a paediatrician wanted them to return for long-term care (n = 254)	62 (158)	58 (83)	68 (75)	0.09	57 (21)	63 (137)	0.5	67 (35)	61 (44)	61 (79)	0.7
A parent requested I renew a referral because they wanted to continue care with a paediatrician (n = 255)	49 (125)	47 (68)	52 (57)	0.4	38 (14)	51 (111)	0.1	46 (24)	45 (32)	54 (69)	0.4

care with a specialist (60% versus 45%; $P = 0.02$) and for a paediatrician to take over management of a child's condition (36% versus 24%; $P = 0.03$). Male GPs more frequently reported they received information from the paediatrician after the referral (84% versus 73%; $P = 0.03$) and considered the information they received

to be timely (62% versus 45%; $P = 0.007$).

GPs who see more paediatric patients per week were less likely to consider the fact that a condition is usually treated by paediatricians as important in their decision to refer, compared with those who see fewer paediatric patients (98% for ≤ 10 patients per week, 89% for 11–20 patients

per week and 85% for >20 patients per week; $P = 0.03$).

Discussion

Among the most important findings from our study is that we found very little variation among the demographic characteristics of GPs regarding the factors

Table 4. General practitioners' perspectives on the referral process (proportion answering 'Frequently' or 'Almost always')

	Gender			<i>P</i> value	Years in practice		<i>P</i> value	Number of paediatric patients seen per week			<i>P</i> value
	Total n = 253 % (n)	Male n = 142 % (n)	Female n = 109 % (n)		≤ 5 years n = 37 % (n)	> 5 years n = 216 % (n)		≤ 10 n = 52 % (n)	11–20 n = 71 % (n)	> 20 n = 128 % (n)	
As a proportion of your paediatric referrals over the past five years, how often did you state a specific goal for the referral in your letter to a specialist (eg opinion regarding diagnosis, management)? (n = 111)	83 (92)	n = 60 83 (50)	n = 51 82 (42)	0.9	n = 19 74 (14)	n = 92 85 (78)	0.2	n = 28 82 (23)	N=36 92 (33)	n = 46 76 (35)	0.2
As a proportion of your referrals to public outpatient paediatricians over the past five years, how often have the following been your goals for referral?											
To receive specialist advice on a diagnosis	68 (171)	68 (97)	67 (74)	0.9	65 (24)	68 (147)	0.7	65 (34)	74 (53)	66 (84)	0.5
To receive specialist advice on a treatment plan for a specific patient	80 (203)	77 (110)	85 (93)	0.1	87 (32)	79 (171)	0.3	77 (40)	83 (60)	81 (103)	0.7
To receive specialist advice on episodic worsening or increasing complexity of a child's condition (eg exacerbation) (n = 251)	60 (151)	58 (82)	63 (69)	0.5	64 (23)	60 (128)	0.6	46 (24)	62 (44)	65 (83)	0.06
To arrange shared care with a specialist for a specific problem with a child	51 (130)	45 (64)	60 (66)	0.02	54 (20)	51 (110)	0.7	48 (25)	46 (33)	56 (72)	0.3
For a paediatrician to take over management of a child's condition	29 (74)	24 (34)	36 (40)	0.03	32 (12)	29 (62)	0.6	25 (13)	25 (18)	34 (43)	0.3
As a proportion of your referrals to public outpatient paediatricians over the past five years, how often did you experience the following outcomes from the referrals?											
You received information (in a letter or phone call) from the paediatrician after the referral (n = 254)	79 (201)	84 (121)	73 (80)	0.03	70 (26)	81 (175)	0.2	83 (43)	78 (56)	79 (102)	0.8
You considered the information you received from the paediatrician to be timely	54 (137)	62 (88)	45 (49)	0.007	62 (23)	53 (114)	0.3	49 (25)	63 (45)	52 (67)	0.2
You considered the information you received from the paediatrician to be helpful in your management of the child's condition (n = 254)	91 (230)	92 (133)	88 (97)	0.3	92 (34)	90 (196)	0.8	92 (48)	90 (65)	90 (116)	0.9
A child you referred to the paediatrician never returned to your clinic (n = 253)	5 (12)	3 (4)	7 (8)	0.09	11 (4)	4 (8)	0.08	8 (4)	4 (3)	4 (5)	0.5

associated with the referral decision. This suggests that patterns of paediatric referrals are relatively normalised and common across the general practice profession. It is unclear how those norms become established or change with time. Future studies should examine this issue, specifically the threshold for referral among GPs in response to uncertainty or confidence in the care of a child.

Our finding that approximately one in four GPs reported that insufficient time to manage a child's condition was 'Somewhat important' or 'Very important' in the decision to refer is noteworthy. This is consistent with other research that found the absolute number of GP extended consultations for children has declined in relative and absolute terms.¹¹ Why GPs are seeing fewer children for extended consultations is unknown. Recent data have shown this is not due to availability of appointments.¹² If GPs are to provide post-referral follow-up and participate in the management of paediatric patients with chronic illness, extended consultations are necessary.

Almost one-third of GPs reported that the goal of referral was 'Frequently' or 'Almost always' for the paediatrician to take over the care of the child. This is surprising as the expected role of most GPs would be to continue to provide primary care for their patients. Without knowing the conditions for which each child was referred, we do not know whether this goal was appropriate. However, just over half of the GPs in this study felt uncomfortable in caring for a child with a chronic condition. This finding signals an important topic for future study to determine whether the trend for paediatric visits to be a smaller proportion of all GP visits is associated with any diminishing comfort and confidence of GPs to provide care for children.

The role of parents in the GP's decision to refer a paediatric patient had not been previously explored. Parents play an important role in the healthcare use of their child. That one-fourth of GPs reported a parental request influenced their referral decision is worthy of note. Whether those

patients would have been referred without a parental request is unknown. However, the potential for GPs to refer children simply on the basis of parental request is of concern, especially with regard to the increase in paediatric referrals and the increasing wait lists in the public sector. Furthermore, the potential for inappropriate referrals increases because of this practice. Future research into the GP-parent dynamic with regard to referrals is needed.

In our study, almost all GPs believed that they 'Frequently' or 'Almost always' stated a clear goal in a referral letter. This belief is at odds with Australian literature on the perceptions of those who receive referral letters.^{10,11} Previous research documented that specialists are often uncertain regarding the reasons for referral, and information needed is incomplete and/or missing entirely. Greater attention in articulating clear goals for referral during general practice registrar training appears warranted.

Only half of the GPs were 'Frequently' or 'Almost always' able to establish shared care arrangements with clear responsibilities for primary and specialty care. Shared care models have not been well documented in paediatric care, particularly in Australia. Current efforts to support shared care predominately take place in the chronic disease management of adults.^{13,14}

Strengths and limitations

The greatest strength of the study is the high response rate (67%). However, the study was conducted in only one state and may not reflect patterns of care in other states. We were unable to establish the nature and severity of the conditions for which these GPs referred children for specialty care. This information may have provided further context to interpret the way some GPs respond to reasons for referral. Without this information, we were unable to comment on the appropriateness of management for specific children.

Importantly, the participants were GPs who had referred paediatric patients for

specialty care in a public hospital in the past year. Thus, our respondents had experience in the topics addressed in the study. Although we did not find marked differences among the demographic variables, there may be other factors, including practice location, access to private paediatric providers and participation in specific general practice training programs, that may have an impact on referral behaviour.¹⁵

Finally, the potential for recall bias exists, as we asked GPs to reflect on their referrals over the past five years. However, the absolute number of paediatric referrals for any one GP can be few in any given year. This time frame allows for GPs to have a sufficient number of referrals to support their responses.

Implications for general practice

Understanding the perspectives and determinants of GPs' decisions to refer paediatric patients for specialty care is important, especially in the context of changing patterns of primary care delivery. Ensuring GPs have the skills, training, practice environment and time to make appropriate referral decisions is essential for the functioning of the healthcare system.

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