



## ORIGINAL ARTICLE

## Changes in longer consultations for children in general practice

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**Aim:** To determine if the duration of general practitioner (GP) consultations, or the proportional distribution of item numbers associated with longer consultations, with children has changed in association with the demographic changes in Australia.

**Method:** Secondary data analysis of Medicare claims from 1996 to 2010, which were stratified by patient age and visit type as designated by billing item number, and of the Bettering the Evaluation of Care and Health (BEACH) database was conducted. The Medicare data that were analysed were changes in overall proportion and absolute numbers of longer consultations for children from 1996 to 2010, while the BEACH data that were analysed were changes in the average duration of visits for children and the proportion of visits by children for chronic conditions.

**Results:** Despite the increase in the population of children, and the increasing numbers of children with chronic illness, the absolute number of longer consultations for children has decreased over the time period studied. Further, the proportion of all longer consultations that are being provided to children has diminished. For those consultations that do occur, the GPs are not spending any more time with children in 2010 than they did in consultations in 2000.

**Conclusions:** There have been significant changes in the patterns of longer consultations provided to children by GPs. Efforts to ensure that children receive primary care for chronic conditions and preventive care must now take on a greater urgency for the health-care system.

**Key words:** child; consultations; general practice; workforce; youth.

### What is already known on this topic

- 1 The population of Australia is ageing.
- 2 Although the child population in Australia is increasing in absolute numbers, the proportion of children in the population is decreasing.
- 3 General practitioners provide all primary care for children in Australia.

### What this paper adds

- 1 Despite an absolute increase in both the child population and in the prevalence of chronic disease among children, the absolute number of longer consultations for children in general practices has decreased.
- 2 The proportion of all longer consultations being provided to children has diminished.
- 3 The proportion and absolute numbers of longer consultations to adults and seniors are increasing.

For the past several decades, the population of Australia has been ageing.<sup>1</sup> A recent study demonstrated that the demography of patients seen by general practitioners (GPs) in Australia also is changing as the demography of the country is changing.<sup>2</sup> As the overall population has aged, an increasing proportion of GP consultations are with adults and seniors. This has resulted in children and adolescents (0–19 years) becoming a smaller fraction of the GP patient visits.<sup>2</sup> For some child age groups this

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has also led to an overall national decrease over the past 16 years in the number of visits made to GPs. This occurred despite the fact that the actual number of children in Australia increased by approximately 12% during this time period and that the proportion of children who have chronic illness also increased.<sup>1,3</sup>

Although the proportion of GP consultations with children has decreased, it is important to note that not all visits are the same, with some being more complex or comprehensive and longer in duration than others. This is also recognised by the current payment scheme for GPs. Payment for GP visits in Australia occurs primarily through Medicare, the Australian federal government's universal health insurance scheme. For the most common types of visits, fees and billing item numbers are set by the government based mostly on the amount of time the GP spends with the patient as well as other criteria including

the level of complexity of the consultation.<sup>4</sup> There are no diagnostic item numbers collected by Medicare for GP services, and diagnosis plays no role in most item numbers.

Recent consumer satisfaction data reveal that the access for children to receive care for acute problems (e.g. ear infections, sore throat) is good with approximately 77% seen by a GP within 4 h of making an appointment.<sup>5</sup> However, no data exist that assess the ability of children to access longer consultations for the management of chronic disease, behavioural issues or preventive counselling. This is important to assess as the proportion of all GP encounters that are with adults and seniors with multiple chronic illnesses has increased. If the longer consultations were increasingly being provided to this older population, there may be a decrease in their provision to children, despite an increase in the prevalence of chronic illness in children.<sup>3</sup>

To determine if the duration of GP consultations, or the proportional distribution of item numbers associated with consultations, with children has changed, along with the demographic trends previously identified, we conducted a secondary analysis of Medicare claims data and data from the Bettering the Evaluation of Care and Health (BEACH) database.<sup>6</sup>

## Methods

The paediatric population was defined as birth through 19 years of age. Two separate and distinct data sources were used to determine any changes in the length of paediatric visits: Medicare and the BEACH database.

### Analyses using the Medicare data set

Medicare data were provided by the Medicare Information & Analysis Section of the Department of Health and Ageing. Billing items usually reflect a combination of time-based assessments and the complexity of the service provided at the visit. Most often, the longer the visit, the more complex the service provided. The most common item numbers claimed by professionally recognised GPs are '3', reflecting a visit of 0–5 min; '23', reflecting a visit of 6–19 min; '36' reflecting a visit of 20–39 min; and '44' reflecting a visit of  $\geq 40$  min. Many other item numbers exist and may be used for specific categories of visits including mental health, home visits, nursing home consultations and after-hours care. However, the number of claims for the item numbers in these categories and their use across the age spectrum of the population is limited. All claims for the most common GP consultation item numbers (3, 23, 36 and 44) were requested.

Data were received in an Excel file with defined categories for visit numbers for each service delivery item numbers grouped into five specific age classifications: (i)  $\leq 4$  years; (ii) 5–14 years; (iii) 15–19 years; (iv) 20–64 years; and (v)  $\geq 65$  years. Data were organised by state/territory and by individual year 1996–2010 inclusive. Medicare data are only available electronically for claims made since 1996.

For each year of claims data, total visits were calculated by combining the counts for the four service delivery item numbers for each age classification by state/territory and for the country as a whole. Proportions of visit items (reflecting the length and

complexity of the visit) for each age were then calculated as a function of total visits across all ages, visits for each age group specifically and for each item number (i.e. 3, 23, 36, 44) individually.

These counts and proportions were then placed in Excel data files and graphed on line plots. Calculations were performed for each state/territory and for the nation as a whole.

### Analyses using the BEACH data set

The BEACH data set is a continuous cross-sectional national study of general practice activity that began in April 1988 and continues to date. Descriptions of the methods used for data collection have been detailed elsewhere.<sup>6</sup> In summary, each year an ever-changing random national sample of about 1000 practising GPs, each records details of 100 consecutive encounters with unidentified consenting patients. Up to four problems managed at the encounter can be recorded, and problems managed are classified according to the International Classification of Primary Care.<sup>7</sup> Chronic problems were defined according to O'Halloran *et al.*<sup>8</sup>

In a subsample of about 40 000 encounter records per year, the GP records start time and finish time of the encounter. Finish time minus start time provides a measure of the length of consultation (in minutes). For this study, we analysed subsampled data collected between April 2000 and March 2010 to determine the average length of consultations for children in the age groups defined above, each year from 2000 to 2010.

We assessed the management rate of chronic diseases at encounters with children from 2000 to 2010 to determine if there were any changes in the extent to which GPs were managing chronic problems at encounters within these age groups.

## Results

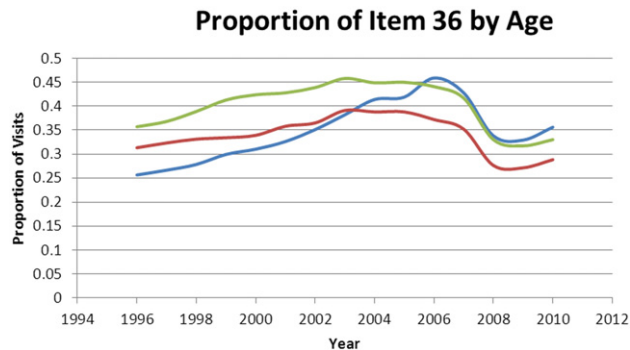
### Results from Medicare data

There have been significant changes in both the proportion and absolute numbers of longer consultation visits (item numbers 36 and 44) for children in general practice over the past several years.

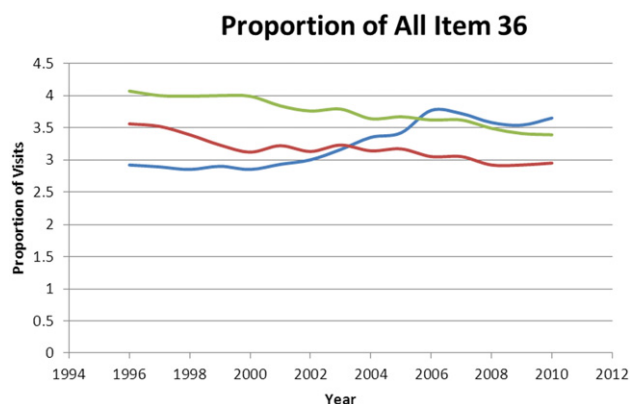
#### Visits for item 36 (20–39 min consultation)

For the age group 0–4 years, in 1996 there were 215 467 claims billed for item 36. The use of this item increased until 2006, peaking at 417 328 claims. There was then a decrease in billings for this item with 367 351 claims filed in 2010. For those 5–14 years, in 1996 there were 263 069 claims billed for this item. The use in this age group increased until 2005, peaking at 347 440. There was then a decrease in 5- to 14-year-old patient billings for this item with 297 264 claims in 2010. For those 15–19 years, in 1996 there were 300 768 claims billed for item 44. The use increased until 2005, peaking at 402 224. There was then a decrease to 341 057 claims in 2010.

The overall proportion of visits for children for which an item 36 claim was made has also changed. Figure 1 demonstrates that of all visits to GPs from 1996 to 2010, the proportion of visits that were claimed as item 36 for children increased initially but then decreased over the more recent years. This is



**Fig. 1** Changes in the proportion of all GP visits that are billed as item 36 consultations for children. (—), up to 4; (—), 5 to 14; (—), 15 to 19.



**Fig. 2** Changes in the proportion of all item 36 consultations provided to children. (—), up to 4; (—), 5 to 14; (—), 15 to 19.

consistent with the changes in the absolute number of visits noted above. When looking at all visits claimed as item 36, there was a slight increase in the proportion provided for those aged 0–4 years from 2000 until 2006, followed by a slight decrease from 2006 to 2010. For those 5–14 years and 15–19 years, there was a consistent decrease from 2000 onwards. (Fig. 2)

### Visits for item 44 ( $\geq 40$ min consultation)

For the age group 0–4 years, in 1996 there were 9185 claims billed for item 44. The use of this item increased until 2007, peaking at 16 313 claims. Use then decreased to 14 208 claims in 2010. For those aged 5–14 years, in 1996 there were 16 878 claims made for this item. The use in this age group increased until 2005, peaking at 24 528, then decreased to 18 677 claims in 2010. For those aged 15–19 years, in 1996 there were 1810 claims billed for item 44. The use increased until 2004, peaking at 2954, then decreased to 2004 claims in 2010.

The overall proportion of visits for children for which an item 44 claim was made also changed. Figure 3 demonstrates that of all visits to GPs from 1996 to 2010, the proportion of visits that were item 44 for children increased initially but then has decreased over the past several years. This is consistent with the

changes in the absolute number of visits noted above. When looking at all visits claimed as an item 44 by GPs, there was a slight increase in the proportion provided for those aged 0–4 years and slight decreases for those 5–14 years and 15–19 years. (Fig. 4)

### State level assessment

Trends across all states were consistent with national trends. Slight variations were observed between states based on the proportion of children in their populations.

### Results from the BEACH data

From 2000 to 2010, the average length of GP consultations with children aged 0–19 years did not change, being 11.8 min (95% CI: 11.5–12.1) in 2000–2001 and 11.7 min (95% CI: 11.4–12.0) in 2010–2011, significantly shorter than encounters with patients aged 20 years and over in both years 2000–2001, 14.4 min (95% CI: 14.2–14.7) and 2010–2011, 14.2 min (95% CI: 14.0–14.5).

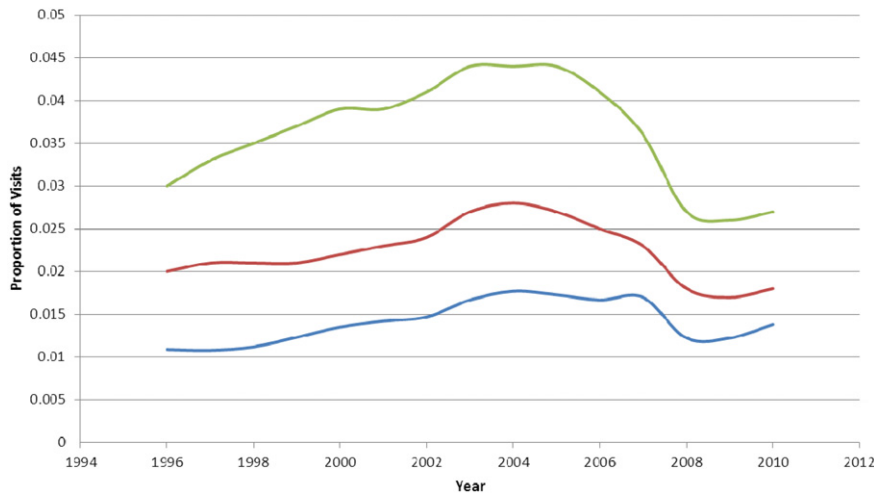
Using O'Halloran *et al.*'s chronic disease categories,<sup>8</sup> we found that there was no significant change in the management rate of chronic problems between 2000 and 2010 at GP visits with those aged 0–4 years (8.6 per 100 encounters in 2000 and 8.5 in 2010), those aged 5–14 years (13.4 and 15.0) or those aged 15–19 years (18.5 and 21.3 chronic problem per 100 encounters).

### Discussion

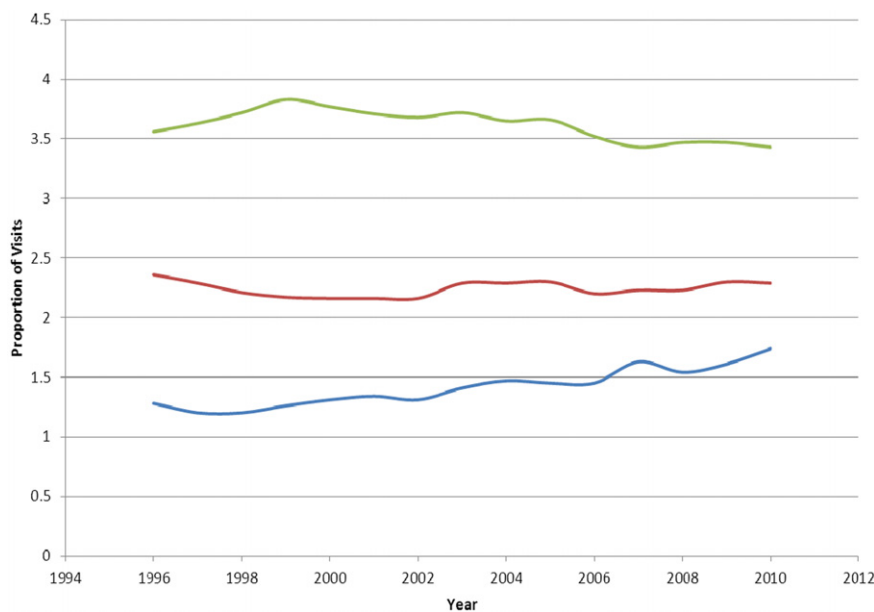
The most important finding from this study is that despite the increase in the population of children and the increasing numbers of children with chronic illness, the absolute number of longer consultations for children has decreased. Further, the proportion of all longer consultations that are being provided to children has diminished. For those consultations that do occur, the BEACH data confirm that GPs are not spending any more time with children in 2010 than they did in consultations in 2000.

There are several reasons why these trends may have occurred. We believe the most likely explanation is the greater proportion of overall consultations with GPs being provided to adults and seniors, commensurate with their growing proportion in the general population. These segments of the population increasingly have multiple chronic illnesses and are taking multiple medications.<sup>9,10</sup> As such, the proportion of longer consultations being provided to adults and seniors has also increased. As there is a limit to both the number of visits overall, and longer consultations specifically, that can be provided by GPs, it appears that the needs of children may be being compromised as a result. We suggest that this potential 'crowding out' of children for longer consultations is a relatively 'silent' phenomenon about which GPs may not be consciously aware. Changes in the demography of practices happen gradually over time and are rarely monitored in any systematic fashion. Thus, many GPs may, at most, be only nominally aware of the shifts taking place in their patient populations and visit distributions.

The ageing of the population is a demographic process that will not abate in the coming decades. As a result, it is likely that



**Fig. 3** Changes in the proportion of all GP visits that are billed as item 44 visits for children. (—), up to 4; (—), 5 to 14; (—), 15 to 19.



**Fig. 4** Changes in the proportion of all item 44 consultations provided to children. (—), up to 4; (—), 5 to 14; (—), 15 to 19.

the trends in GP practice demography will continue with the average GP seeing fewer children in the future. Current efforts to markedly increase the number of GPs in practice,<sup>11</sup> potentially providing greater access for the population as a whole, will result in a further diluting of paediatric patients overall. An unintended outcome of this strategy will be a further sharp decline in the proportion of GP consultations made by patients less than 20 years of age. As GPs provide care to fewer children in their practices, it is possible that they may feel less comfortable in the management of chronic disease and behavioural problems. Thus, the patterns of provision of longer consultations more commonly to adults and seniors may also potentially reflect a function of a changing intent on the part of GPs to provide primary care for chronic conditions for the paediatric population.

The trend towards fewer claimed longer consultations for children also is worrisome in the face of an increase in chronic

disease and behavioural issues in children. More children are surviving diseases once thought to be uniformly fatal. Further, conditions requiring longer consultations such as obesity,<sup>12</sup> attention deficit hyperactivity disorder and developmental problems are increasing.<sup>13</sup> Primary care management, or co-management, of these and other conditions is part of the backbone of the Australian health-care system. Currently, there is a significant danger that children may not be receiving such care and that problems are not being identified at early ages.

Although the ability to refer increasing numbers of such children to general paediatricians and paediatric sub-specialists is often cited as a potential solution, the workforce of those specialties is not demonstrating dramatic increases nor is the pipeline expanding. Thus, the alternative to 'outsourcing' all primary care of chronic and behavioural paediatric conditions is not feasible. Currently, already over one-third of all patients seen in general paediatric practices in Australia present with

behavioural complaints, much of which could potentially be addressed in primary care settings using longer consultations.<sup>14</sup> Of note, there has been a recent effort to expand access to psychologists, including the placement of additional psychologists in some schools. However, the magnitude of the delivery of such services in this venue, and its impact on referrals, is unknown.

Government surveys have documented that children in Australia have adequate access to acute care (e.g. ear infections, sore throats). However, our data suggest that there is a danger of that becoming the only type of primary care to which children have ready access. Much of the chronic disease of childhood can be managed, or co-managed with specialists, in primary care settings. This includes the myriad of behavioural and developmental problems that have become the most common diagnoses seen by general paediatricians.

In no way do we posit that GPs are purposefully withholding care from children or are actively seeking to deny needed services to the paediatric population. GPs are pulled in a variety of directions and must seek to provide care to their patient populations in the best manner possible. The demographic changes resulting in the decreased proportion of children in their practices is a reality many struggle to address while others may not even be aware of the subtle changes in the demographic composition of their practices.

### Limitations

Our data reflect national and state-level aggregate trends in GP practices. There is significant variation among individual GP practices with some having more or fewer children. Thus, our results are not intended to be reflective of all GP practices.

We did not include the newer 700-series item numbers used for Health Assessments in this analysis. These item numbers have been in use for <2 years and are currently in a transition phase for GPs. At this time, these item numbers have been used by GPs primarily for consultations with adults and seniors. As such, it is possible they are being used as substitutes for item numbers 36 and 44, mainly in those age groups. If there is a significant substitution effect, this may have resulted in decreased use of item numbers 36 and 44 for adults and seniors. Thus, our finding of the increase in proportional use of items 36 and 44 for the younger age groups in the past year may reflect this change in coding pattern and represent artefact and not real change.

### Conclusions

There have been significant changes in the patterns of longer consultations provided to children by GPs. Efforts to ensure that children receive primary care for chronic conditions must now take on a greater urgency for the health-care system. Additional research is acutely necessary to determine the patterns of care for children with chronic illness and for those with other

conditions such as obesity and developmental disorders to assess the adequacy of their care. Although the Australian health-care system currently has a strong focus on ensuring the care of adults and seniors, we must not forget there is still a growing and vitally important segment of the population less than 20 years of age on whom the future of the country resides.

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