



Episiotomy in NSW hospitals 1993–1996: Towards understanding variations between public and private hospitals

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Abstract

Episiotomy rates for women experiencing childbirth in New South Wales (NSW) hospitals are another indicator that private insurance may be a risk factor for obstetric intervention. A recent comparison of episiotomy rates in NSW public and private hospitals between 1993 and 1996 revealed that episiotomy rates were 12 to 15 percentage points higher in NSW private hospitals than in public hospitals studied. Rates also appear to be declining in NSW public hospitals, yet this trend is not evident in the NSW private hospitals studied. Although private hospital patients were almost twice as likely to experience forceps or vacuum delivery (often associated with episiotomy), this leaves a 6 to 8 percentage point difference unexplained. Given the potential health-related quality of life issues associated with perineal trauma during childbirth, further analysis of the clinical make-up of privately insured women may help determine the extent to which clinical explanations exist to support the differences in this childbirth intervention.

Introduction and literature review

Health care practitioners and consumers of health care are currently questioning the utilisation of so called 'routine' health care interventions which persist despite a lack of supporting scientific evidence. Particular concern has been raised about variations in health care practice patterns relating to childbirth, which occur across hospitals of a similar level, casemix and patient population (Health Department of Victoria 1990, pp 94–6). Practice pattern variations are not easily explained by differences in the clinical make-up of patients. The difference in insurance status of childbearing women has already been raised as one possible influencing factor in obstetric decision-making about various medical and surgical interventions in childbirth (Fisher, Smith & Astbury 1995). A recent Australian study examining this issue found non-clinical factors may contribute significantly to intervention decisions in childbirth. In this prospective study, women with private health insurance, post-secondary education, stable marital partnerships, healthy personalities, and who had sought additional childbirth information during pregnancy had a significantly elevated risk of experiencing operative or instrumental intervention during childbirth (Fisher, Smith & Astbury 1995, p 7). The identification of the potential role of non-clinical factors in this clinical decision leads one to question the extent to which other procedures which occur during childbirth are also influenced by similar non-clinical factors.

Episiotomy, the surgical enlargement of the birth canal during childbirth, is one such practice where rates also appear to be influenced by individual practice patterns rather than scientific evidence (Graham 1997). Variations in episiotomy practice patterns exist not only internationally, but within Australia, between Australian States, hospitals and practitioner types.

The practice of episiotomy has undergone a series of changes in popularity, although justification for change in clinical policy has not always been based upon scientific evidence. In Britain and the United States, the procedure was rarely used by physicians during the 1800s and early 1900s. However, by the 1930s and 1940s it had become a 'routine' procedure in the United States, and in Britain this change was evolving by the mid-1960s (Graham 1997, p xviii). The questioning of 'routine' episiotomy was initially led by midwives in the 1970s and 1980s and later by the medical profession in the 1980s. Despite the current clinical recommendations for restrictive use of episiotomy, variations in episiotomy practice patterns still exist within Australia and overseas.

Many of the purported advantages of performing an episiotomy are not supported by research and the potential adverse health outcomes are not insignificant to the women experiencing them. Post-episiotomy pain, blood loss,

dyspareunia (painful sexual intercourse), infection and interference with the establishment of effective breastfeeding are potential morbidities resulting from episiotomy (Banta & Thacker 1982; Enkin, Hunter & Snell 1984; Moses 1992). There is little consensus about what the correct episiotomy rate should be or of what constitutes an appropriate rationale for its use. Common justifications for its widespread use have included prevention of severe perineal trauma including damage to the anal sphincter and rectal mucosa (third and fourth degree tear), easier repair and improved healing compared to spontaneous tear, prevention of trauma to the foetal head and protection of the pelvic floor musculature, thereby preventing urinary incontinence and prolapse (Enkin et al. 1995, p 232). There is, however, no scientific evidence to support the liberal use of episiotomy for these reasons.

The most recent Cochrane Review comparing routine versus restrictive use of episiotomy states that a restrictive policy reduces the risk of posterior perineal trauma, reduces the need for suturing perineal trauma and shows a reduction in healing complications by day 7 post-episiotomy. There were no observed differences in the risk of severe vaginal or perineal trauma, pain, dyspareunia or urinary incontinence (Carroli, Belizan & Stamp 1998). Although an increase in the risk of anterior perineal trauma has been identified, the available evidence supports a restrictive policy.

Its selective use is supported in cases of foetal or maternal distress and instances where expedient delivery of the baby is required (Enkin et al. 1995, p 234). This includes complicated deliveries necessitating instrumental intervention (for example, forceps and vacuum) and breech delivery (House 1986, p 90). The benefits of selective episiotomy include a potential reduction in neonatal morbidity and mortality due to expediting delivery in the presence of foetal distress or when potential foetal hypoxia has been identified. In the case of instrumental delivery (for example, forceps rotation or delivery) where more extensive trauma to the mother is anticipated, episiotomy can be an advantage in reducing maternal morbidity (House 1986, p 90). However, the decision must be based on sound clinical justification and be weighed against both the resulting morbidities and associated health care costs. Analysis of the extent to which episiotomy is used within NSW hospitals, and the incidence of clinically unjustified episiotomy, is needed before strategies can be developed for encouraging best practice.

There is an apparent relationship between episiotomy rates and hospital type (public or private) in NSW. Observation of data from the New South Wales Midwives Data Collection from 1993 to 1996 (NSW Health Department 1994; 1995; 1996; 1998) suggests that episiotomy is far more prevalent in private

hospitals than in public hospitals. It is hypothesised that, if this is indeed the case, it partly or primarily reflects greater reliance on obstetrician labour in private hospitals, with public hospitals experiencing a greater degree of normal labour management and decision-making by midwives. It is further hypothesised that differential episiotomy rates cannot be explained by consumer demand factors. Women experiencing childbirth are unlikely to request this procedure and many are given either limited explanation about it or are unaware that it has occurred until after the birth of the baby (McIntosh 1988, p 168; Simkin 1984 cited in Nodine & Roberts 1987, p 123).

Of course, if it is true that obstetricians perform episiotomy in situations where midwives would not, it is possible that this could reflect a perception of higher quality practice by more highly trained practitioners striving for optimal outcomes for their clients. Other explanations are also possible, such as differences in the perceived importance of ‘intact perineum’, educational foci including development of techniques to facilitate perineal preservation, and differential monetary and/or time management incentives. For instance, it has been suggested that episiotomy has been used by busy physicians as a means of controlling workload (Graham 1997). Episiotomy has the potential to reduce the length of the labour process, create a ‘clean cut’ considered to be easier to repair, and exert control over an otherwise unpredictable event (Graham 1997, p 53). If it is the case, however, that quality inputs are the primary incentive, rather than those of financial/time management, then examination of perineal outcomes coupled with other associated episiotomy-linked factors should provide a possible indication of such quality differentials.

In order to analyse the clinical quality aspects of the episiotomy rates, evidence of perineal outcome should be examined alongside other known factors which may influence rates of episiotomy, such as instrumental delivery (forceps or vacuum). Also, despite the lack of scientific evidence to support the practice (Banta & Thacker 1982; Klein et al. 1994), prevention of severe perineal trauma such as third and fourth degree tears (the most serious tears) is also used as justification for episiotomy. Therefore, in addition to examining factors relating to episiotomy rates, an examination of the relative incidences of third degree tears may further address the observed differences in patterns of practice.

Research questions

As a result of the issues identified in the literature, the following research questions were identified.

- What is the extent of the variation in rates of episiotomy between NSW public and private hospitals?

- To what extent do known relevant clinical factors explain these differences?
- What are the cost implications for clinically unjustified episiotomy?

Data

The New South Wales Midwives Data Collection provides information on births (both vaginal and caesarean), plus incidence of episiotomy and interventions such as forceps delivery and vacuum extraction, on an annual basis for all NSW hospitals in which more than 200 births were recorded for the year. Since 1993 it has been possible to examine these data on an individual hospital basis. Over the period 1993–1996, it is possible to identify 61 hospitals (50 public and 11 private) for which consistent data are available for all four years. These hospitals accounted for between 89.3% and 90.2% of all NSW vaginal deliveries during the relevant years. The data analyse an average of 63 771 vaginal births in each year. The average public hospital accounted for 1088 births a year, with private hospitals recording an average of 851 vaginal births a year.

Results

Episiotomy rates

Analysis of vaginal births from the above database does, indeed, confirm that episiotomy rates were substantially higher in private than in public hospitals throughout this period, as shown in Table 1. In fact, episiotomy rates were around 10 to 13 percentage points higher in private hospitals. Given that episiotomy rates in public hospitals were of the order of 20%, this translates to a substantially higher probability (50–65% higher) of experiencing episiotomy when delivering vaginally in a NSW private hospital. Moreover, whilst Table 1 suggests a clear downward trend in the use of episiotomy in the public sector, perhaps in response to dissemination of current scientific evidence, consumer demand, or both, no such trend is evident in the private sector.

Table 1: Episiotomy rates for vaginal births in 61 NSW public and private hospitals, 1993–1996 (per cent)

Hospital type	1993	1994	1995	1996
Public (n = 50)	20.8	19.6	19.0	18.5
Private (n = 11)	32.4	30.0	31.6	32.2
Total (n = 61)	22.4	21.1	20.8	20.5

Simple regression analysis of hospital episiotomy rates against hospital type (public/private) further confirms the higher incidence of episiotomy in private hospitals and, moreover, suggests that type of hospital is capable of explaining a substantial proportion of the variation in episiotomy rates across the 61 hospitals under study. This is shown in Table 2, which suggests that episiotomy rates have been from 12 to 15 percentage points higher in NSW private hospitals over this period, that the differences are highly statistically significant, that type of hospital is capable of explaining approximately 30–45% of the variation across hospitals in episiotomy rates, and that the differences between the two hospital types with respect to use of episiotomy may be increasing over time.

Table 2: Regressions of episiotomy rates against hospital type for 61 NSW hospitals, 1993–1996

Hospital type	1993 (t statistic)	1994 t statistic)	1995 (t statistic)	1996 (t statistic)
Coefficient	0.134 (5.26)	0.123 (5.19)	0.143 (6.36)	0.152 (6.91)
R ²	0.319	0.314	0.407	0.448

Notes: a. Hospital type is represented by a categorical variable equal to 1 for private hospitals, 0 otherwise.
b. All coefficients are significant at the 0.01 level.

Of course, even if it is true that the public/private hospital differences documented in Tables 1 and 2 do in fact reflect the effects of different practice patterns favoured by different types of practitioners, there are obviously other factors which influence whether a woman undergoes an episiotomy during childbirth. The present data set does not allow us to investigate whether there are relevant differences between women delivering in public versus private hospitals, so we make the assumption that there are, on average, no physiological differences between women delivering in public and private hospitals which would affect the probability of requiring episiotomy. We further assume no psychological differences as women are assumed to prefer to avoid this procedure.

Nevertheless, the incidence of episiotomy is felt to be linked to other medical conditions and interventions which may occur during vaginal childbirth, such as breech presentation, breech rotation, forceps delivery and vacuum extraction. Specifically, it is expected that all four of these factors may increase the likelihood of episiotomy, either to avoid serious vaginal tears or to expedite the speed of birth of the neonate (Hoult 1986; Enkin et al. 1995). Table 3 suggests that this may be the case overall. Recalling that, overall, the incidence of episiotomy declined each year during the study period, this is consistent with declines in breech presentation, breech rotation and forceps delivery rates. Vacuum

extraction rates, however, increased, but this should be interpreted as this procedure being substituted for the forceps method. If the two interventions are combined, the overall rate declined somewhat over the period 1993–1996.

Table 3: Incidence of breech presentation, breech rotation, forceps delivery and vacuum extraction in 61 NSW hospitals, 1993–1996 (per cent)

Condition/intervention	1993	1994	1995	1996
Breech presentation	1.7	1.4	1.3	1.3
Breech rotation	1.8	1.6	1.6	1.4
Forceps delivery	8.6	8.0	7.3	6.9
Vacuum extraction	3.7	3.8	4.1	4.7

If these conditions/interventions are linked to episiotomy, we should expect to observe higher rates in private than in public hospitals, given the analysis of Tables 1 and 2. Table 4 confirms this, particularly with respect to rates of forceps delivery and vacuum extraction being much higher in the private sector. For all years, such interventions occurred at more than twice the rate in private than in public hospitals. Further, the steady decline in such interventions in public hospitals, and the slight initial decline and later increase in private hospitals, closely mirror the trends in episiotomy rates discussed earlier.

Table 4, then, suggests that differences by hospital type in the use of medical interventions such as forceps delivery and vacuum extraction may help to explain the differences in episiotomy rates which have been documented. To explore this issue, we included these variables in the regression model developed in Table 2, with results presented in Table 5.

Table 4: Incidence of conditions/interventions in vaginal births thought to be linked to episiotomy in 61 NSW public and private hospitals, 1993–1996 (per cent)

Condition/ intervention	1993		1994		1995		1996	
	Public	Private	Public	Private	Public	Private	Public	Private
Breech presentation	1.9	1.0	1.5	0.8	1.4	0.9	1.4	0.7
Breech rotation	1.7	2.8	1.5	2.5	1.4	2.5	1.2	2.2
Forceps delivery	7.3	16.8	6.6	15.7	6.1	14.4	5.8	13.4
Vacuum extraction	3.4	5.2	3.6	5.0	3.8	6.3	4.0	8.8
Forceps + vacuum	10.7	22.0	10.2	20.7	9.9	20.7	9.8	22.2

Table 5: Regressions on episiotomy rates in 61 NSW hospitals, 1993–1996

Explanatory variable	1993 (t statistic)	1994 t statistic)	1995 (t statistic)	1996 (t statistic)
Breech presentation	-0.843 (-0.66)	1.146 (0.76)	2.317 (1.78)	3.074 (2.36)*
Breech rotation	-0.636 (-0.66)	-0.959 (-1.04)	-0.553 (-0.66)	0.089 (0.10)
Forceps delivery	0.790 (2.59)*	0.631 (2.42)*	0.758 (3.04)**	0.656 (2.48)*
Vacuum extraction	0.897 (3.54)**	1.179 (4.50)**	1.018 (3.82)**	0.831 (3.93)**
Hospital type	0.044 (1.31)	0.068 (2.19)*	0.070 (2.39)*	0.081 (2.53)*
R ²	0.507	0.513	0.552	0.599

Notes: * Estimate significant at 0.05, two-tailed t-test.

**Estimate significant at 0.01, two-tailed t-test.

As expected, episiotomy rates appear to be significantly positively linked to rates of both forceps delivery and vacuum extraction. Breech presentation also seems to be positively linked with episiotomy, but estimates were only statistically significant for 1996. The numbers, however, are small and are not likely to

explain much of the overall difference. Breech rotation has seemingly little effect on episiotomy. Comparing Tables 2 and 5, the influence of hospital type seems to approximately halve when these clinical factors are considered, but it remains present and is generally still statistically significant. That is, whereas Tables 1 and 2 implied that episiotomy rates are 12 to 15 percentage points higher in private than in public hospitals, Table 5 estimates that, once relevant clinical factors are controlled for, the disparity may be more of the order of 6 to 8 percentage points. Of course, this of necessity implies that rates of forceps delivery and vacuum extraction are higher in private hospitals, as demonstrated in Table 4. Cary (1990), in investigating this practice issue in particular, also found this to be the case. In the context of a large tertiary perinatal centre in Brisbane, which catered for both public and private patients, medically comparable low-risk nulliparous women in spontaneous term labour were compared in terms of a range of delivery outcomes. There were highly statistically significant differences in delivery method between the two groups, whereby 74% of public patients and only 49% of private patients experienced a spontaneous vaginal delivery (Cary 1990, p 48). Instrumental vaginal delivery or caesarean section was performed on 26% of public patients, with a rate of 51% for private patients (Cary 1990, p 48).

Table 5, then, shows that the variables included in the model are capable of explaining 50–60% of the variation in episiotomy rates across the 61 hospitals, that higher intervention rates for vaginal births in private hospitals explain some of the disparity in episiotomy rates between the two types of hospital, but that a further, statistically significant, differential in episiotomy rates still exists even after these factors are controlled for.

Third degree tear rates

A major reason advanced for the use of episiotomy is that it is alleged to reduce the incidence of third degree tears sustained during childbirth. A third degree tear is one of the most serious of perineal tears sustained during childbirth as it not only involves the perineum and vaginal wall but also the anal sphincter. This results in a more difficult repair and often a greater degree of morbidity is associated with this type of trauma. However, evidence on this issue does not reveal any protective advantage of episiotomy in this area and studies have indicated that episiotomy may increase the likelihood of severe perineal trauma rather than prevent it (Banta & Thacker 1990; Graham 1997).

If the greater incidence of episiotomy in NSW private hospitals is a reflection of higher quality inputs used during childbirth (more obstetric than midwifery labour management), then we would expect to find that one manifestation of this would be a lower incidence of third degree tears in private hospitals. Observation

of the data suggests that this may be so, as evidenced in Table 6. Third degree tear rates were lower in private hospitals in all four years, although the differential appears to be narrowing. It seems possible from the data that such rates are declining in NSW public hospitals, but increasing in private hospitals.

Table 6: Third degree tear rates (per cent)

Hospital type	1993	1994	1995	1996
Public	1.024	1.028	1.012	1.003
Private	0.480	0.524	0.720	0.635
Total	0.946	0.953	0.969	0.949

However, inspection of the correlation matrix comparing third degree tear rates with other possibly relevant variables, shown in Table 7, suggested only modest association between tear rates and hospital type. Although this correlation was always negative (private hospitals had lower tear rates), they range from only -0.044 to -0.189 , and were never statistically significant from zero correlation. However, significant positive correlations were sometimes observed in comparing third degree tear rates with both episiotomy rates and vacuum extraction rates, both of which are higher in private hospitals. Hence these variables could be masking the impact of hospital type on third degree tear rates.

Table 7: Correlation between third degree tear rates and other variables (all hospitals)

Variable	1993	1994	1995	1996
Breech presentation	-0.026	0.041	-0.190	-0.197
Vacuum extraction	0.207	0.231*	0.324**	0.319**
Episiotomy rate	0.168	0.170	0.318**	0.191
Hospital type	-0.172	-0.189	-0.044	-0.065
Total births	0.199	0.182	0.325**	0.299**

Notes: * Significant at 0.10.

** Significant at 0.05.

To examine this issue we estimated regressions for each year using third degree tear rates as the dependent variable. The breech rotation variable was excluded, both because it had almost no correlation with tear rates and because there is little theoretical reason why the two should be linked. A total number of births variable was included for each hospital as the correlation matrix suggests a

possible positive link with tear rates. This could indicate greater time pressure on hospital resources, although data on staffing per birth are not available. Perhaps more likely, the correlation indicates more complex caseloads in the larger facilities, even though caesarean births are omitted from the analysis.

Results, presented in Table 8, are somewhat mixed, largely because, as with regressions mentioned earlier in the article, the explanatory power of the model is much greater for later years (1995 and 1996) than for the earlier years. Nevertheless, overall it seems likely that, firstly, third degree tears rates are positively associated with vacuum extraction rates and negatively associated with breech presentation. Forceps delivery seems to have little effect on third degree tear rates. Given that episiotomy rates are controlled for, these two procedures are often carried out jointly. Table 8 also provides some confirmation that both episiotomy and vacuum extraction increase the likelihood of third degree tear. With respect to episiotomy, this evidence is not consistent with the often used rationale for this procedure (Graham 1997, p 19). Further, after controlling for these various conditions and interventions, Table 8 confirms that private hospital third degree tear rates are indeed lower than in the public sector. However, this appears to be despite, rather than because of, greater reliance on episiotomy and vacuum extraction. Finally, results suggest slightly higher third degree tear rates in hospitals having more deliveries, possibly indicating either a casemix or resource usage intensity effect.

Table 8: Regressions of third degree tear rates

Variable	1993 (t statistics)	1994 (t statistics)	1995 (t statistics)	1996 (t statistics)
Breech presentation	-0.044 (-0.29)	0.006 (0.04)	-0.193 (-1.73)	-0.275 (-2.41)*
Forceps delivery	0.004 (0.15)	0.033 (1.50)	-0.009 (-0.43)	0.020 (0.92)
Vacuum extraction	0.029 (0.87)	0.055 (1.79)	0.020 (0.78)	0.041 (2.03)*
Episiotomy rate	0.026 (1.56)	0.003 (0.18)	0.033 (2.75)**	0.014 (1.19)
Total births/1000	0.001 (0.82)	0.001 (0.75)	0.001 (1.56)	0.002 (1.94)
Hospital type	-0.008 (-1.95)	-0.007(-2.17)*	-0.005 (-1.99)*	-0.008 (-2.66)*
R ²	0.158	0.156	0.314	0.309

Notes: * Significant at 0.05.
 ** Significant at 0.01.

Cost implications

Although it was not the purpose of this study to conduct an economic analysis of this problem, the issue of cost is an important one. If it is the case that a significant number of avoidable episiotomies are still being performed, particularly within the private hospital sector, then there are cost and quality implications for health care providers, managers and consumers. One must be reminded that by avoiding an episiotomy women can still encounter vaginal and perineal lacerations as a potential delivery outcome. An important point of this issue, however, relates to an opportunity for preferred health outcomes, whereby in being selective about performing an episiotomy, the practitioner provides an opportunity, which is otherwise lost, for achieving the better outcome of an intact perineum. With this decision follows a range of potential costs and benefits to practitioners, hospitals and consumers (women and their families). A closer examination of the possible costs and benefits of different perineal outcomes may reveal useful information for those concerned with the effective allocation of health care resources in the form of clinical interventions.

It may be the case that the procedure of episiotomy has little impact upon direct costs to the health care system. The direct costs associated with the supply of suture-related equipment for episiotomy repair (which would also be needed for repair of spontaneous tears) may be offset either by savings in staff time or more predictable consumption of staff time. Episiotomy can shorten the second stage of labour and make certain the need for a repair procedure. The alternative may require more time for the perineum to stretch and accommodate the baby's head naturally, with the end result either being a tear still requiring suturing or an intact perineum. The episiotomy is not likely to significantly increase the length of hospital stay on its own and perineal care for episiotomy will not impact greatly upon patient dependency. There is no difference in the diagnosis related group for women who have an intact perineum and those who either experience episiotomy or tear and require suturing. However, the extent to which unnecessary episiotomy is practised is an issue of health care quality, based upon sound scientific rationale and clinical judgement. The potential to impact upon the health, comfort and quality of life of women for considerable periods of time upon leaving hospital is significant. For those interested in the inclusion of the quality of health care outcomes in the economic analysis of health care, the practice of episiotomy may deserve analysis beyond the hospital resource perspective.

Discussion and conclusion

Research-based clinical recommendations for use of episiotomy emphasise a selective approach rather than the 'routine' approach which has dominated in previous times (Graham 1997). The data analysed in this study reveal a potentially concerning variation in practice, not entirely explained by the difference in rates of interventions such as forceps and vacuum delivery which are often associated with episiotomy.

In the years 1993–1996, episiotomy rates were 12 to 15 percentage points higher in NSW private hospitals than in NSW public hospitals and, although episiotomy rates appear to be declining in the public hospitals, this trend is not evident in the private hospitals studied. Patients of private hospitals were almost twice as likely to experience an instrumental delivery (forceps or vacuum) than patients in public hospitals. Although there is a significant relationship between rates of instrumental delivery and rates of episiotomy, this only explains approximately half of the difference observed. Therefore there is still a 6 to 8 percentage point difference in episiotomy rates unexplained by instrumental intervention. This substantial variation in the use of vacuum and forceps interventions would appear to also constitute a significant variation in practice styles within NSW private hospitals, for which there is no obvious clinical explanation. In fact, a reduction of this large disparity would have the added effect of substantially reducing the variation in episiotomy rates.

Of course there are other justifications for the use of episiotomy not identified within the data utilised (for example, foetal or maternal distress) which may further explain the differences observed. However, without more specific data on casemix between private and public hospitals, one can only assume that women are, on average, equally likely to experience maternal distress, non-compliant perineum or foetal distress during labour. It is interesting to note that patients in public hospitals were almost twice as likely to be recorded as a breech presentation during vaginal delivery as those in private hospitals. The more complex delivery mechanism associated with breech would increase the likelihood of episiotomy within these patients.

In order for further meaning to be gleaned from the differences in episiotomy rates, information relating to parity would be of potential use. Research clearly indicates that an increase in parity will reduce the likelihood of an episiotomy being necessary. Therefore, information about patient parity within the private and public hospital sectors could further explain some of the variation observed. This, however, would only assist in resolving the difference if the private hospitals dealt with a higher proportion of primiparous women than did public hospitals, therefore increasing the potential need for episiotomy.

Women who invest in private health insurance (some specifically for the purpose of pregnancy-related care) do so for a range of reasons. If the perception is that the health care product for those who are privately insured is a superior one which relates to greater choice, information, continuity of care and specialist expertise, then current data relating to outcomes such as episiotomy may indicate that some of the desired health outcomes are not being achieved. If private health insurance increases the risk of otherwise ‘avoidable’ interventions during childbirth, resulting in less favourable post-natal experiences for women and their families, then closer examination of health care services and their outcomes relating to childbirth may be warranted.

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