

# Addendum: Patterns of surgical treatment for women with heavy menstrual bleeding in Wales

In this chapter we describe patterns of surgical treatment for women with heavy menstrual bleeding (HMB) in Wales. The analysis covers the period between 1 April 2003 and 31 March 2010. We first describe trends in the use of endometrial ablation and hysterectomy. We then describe the regional surgical rates from 1 April 2006 onwards, comparing the results with the rates reported for England.

The analysis used data from Patient Episode Database for Wales (PEDW), an administrative database that captures all inpatient admissions and day cases in Welsh NHS acute hospitals. We restricted the sample to women aged between 25 and 59 years at the time of surgery and included the first surgical procedure only. A woman was defined as undergoing surgery for HMB if the first diagnosis field indicated ‘excessive, frequent and irregular menstruation’ (International Classification of Diseases and Related Health Problems, 10th edition [ICD-10] codes N92.0, .1, .4–.9) or ‘other abnormal uterine and vaginal bleeding’ (ICD-10 codes N93.8, .9) and if any procedure field described either an abdominal or vaginal hysterectomy (Office of Population, Censuses and Surveys Classification of Surgical Operations and Procedures, 4th revision [OPCS-4] codes Q07 and Q08, respectively) or an endometrial ablation (OPCS-4 codes Q16 and Q17).

Age-standardised procedure rates were derived for the seven local health boards (LHBs) by dividing the observed number of procedures by the number that would be expected if the region had the same age-specific rates as Wales, and then multiplying this ratio by the Welsh procedure rate. LHB rates were standardised using 5-year age bands. Reference female populations were aggregated from the 2007 local authority population figures and all rates are expressed per 100 000 women/year.

## A.1 Characteristics of women with heavy menstrual bleeding

Between April 2003 and March 2010, 25 477 women were admitted to hospital with HMB as their primary diagnosis. The median age of the women was 40 years (interquartile range: 34–47 years). Although 45% of the women had HMB codes only in their diagnosis, a significant number of women also suffered from abdominal and pelvic pain (6.6%), dysmenorrhoea (5.3%), uterine fibroids (4.1%) and polyps (3.9%).

## A.2 Patterns of surgical treatment over time

Among the 25 477 women admitted with a primary diagnosis of HMB, 9454 women (37.7%) received surgical treatment. There were a total of 611 vaginal hysterectomies, 2302 abdominal hysterectomies and 6541 endometrial ablations between April 2003 and March 2010. The number of endometrial ablations increased in the last 6 years, accounting for 71% of all

procedures for HMB in 2009/10 as compared with 62% in 2003/04 (Figure A1). About 20% of all hysterectomies were vaginal hysterectomies.

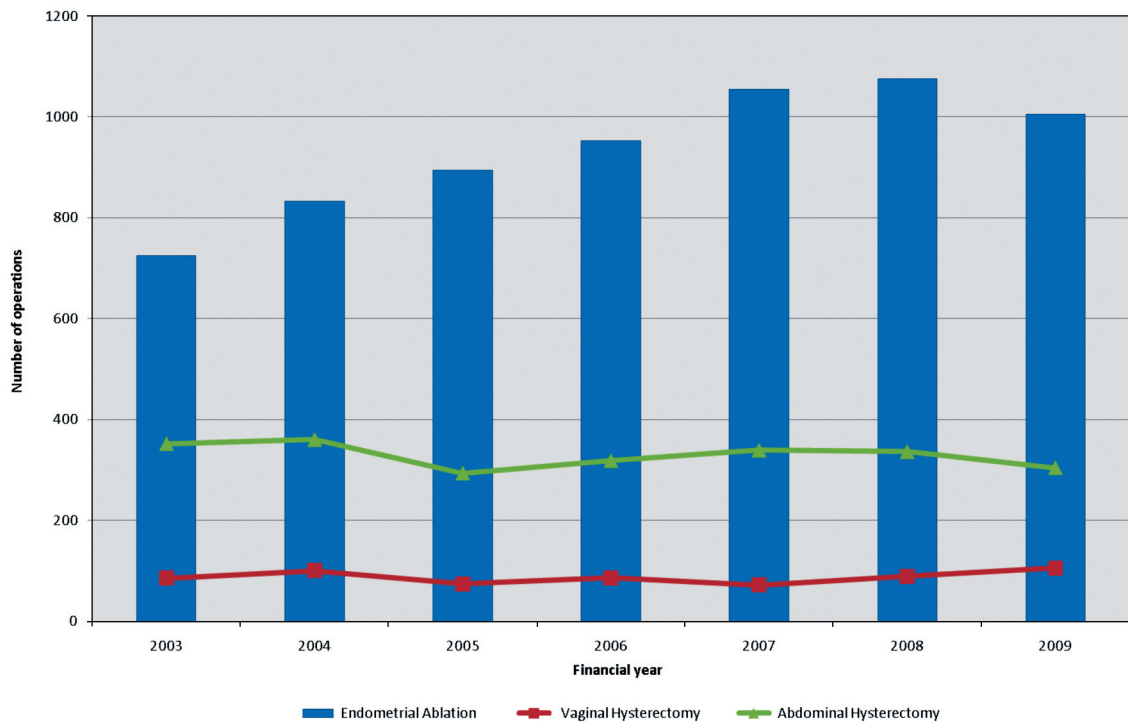


Figure A1: Number of surgical operations for women with HMB in Wales, 2003–2009

The median age for endometrial ablation was 43 years (interquartile range [IQR]: 39 to 47). The median age for hysterectomy was 41 years (IQR: 38 to 45). Overall, between 2003 and 2009, the rate of surgery decreased slightly in women less than 40 years of age, whereas rates of surgery among older women have been increasing (Table A1).

Table A1: Annual rate of surgery for women with HMB, by age group, between 2003 and 2009 in Welsh LHBs

Age group (years)	2003/4 to 2005/6		2006/7 to 2009/10	
	EA	HYS	EA	HYS
25–29	13.4	9.5	14.9	4.5
30–34	64.2	42.5	70.5	25.8
35–39	147.7	86.8	164.8	61.3
40–44	230.5	102.9	281.3	79.4
45–49	203.4	69.3	278.7	58.6
50–54	68.8	24.1	96.3	19.9
55–59	9.7	2.9	7.9	3.0

Populations to calculate the annual rates by age group were derived from the resident female population estimates for 2004 and 2007 published by the Office for National Statistics. All rates are expressed per 100 000 women/year.

EA = endometrial ablation; HYS = hysterectomy

Women living in the most deprived areas of Wales were more likely to have hysterectomies than women living in the least deprived areas, while women in the least deprived areas were more likely than women in more deprived areas to have endometrial ablations (Table A2).

**Table A2:** Type of surgery, by deprivation quintile

Deprivation	Endometrial ablation		Vaginal hysterectomy		Abdominal hysterectomy	
	Number of procedures	% in group	Number of procedures	% in group	Number of procedures	% in group
Q1: Least deprived	1042	74.7	85	6.1	268	19.2
Q2	1083	73.2	85	5.7	312	21.1
Q3	1254	71.6	104	5.9	394	22.5
Q4	1330	72.6	110	6.0	391	21.4
Q5: Most deprived	1443	66.4	148	6.8	581	26.7

Deprivation was derived from the 2008 Welsh Index of Multiple Deprivation rank of the Welsh Super Output Areas. The categories were defined by partitioning the ranks of the 1896 areas into quintiles and were labelled 1 (least deprived) to 5 (most deprived). Women were allocated a category based on their region of residence. Deprivation was missing for 57 women (<0.01% of total).

### A.3 Regional variations in surgical treatment in Welsh local health boards

NHS Wales comprises seven LHBs, which are responsible for delivering all NHS healthcare services within a geographical area. The current LHBs were created on 1 October 2009 following the reorganisation of the 22 LHBs that had existed since 2003. For the analysis below, women were allocated to the current LHBs to take account of the reorganisation of the services.



**Figure A2** Health boards in Wales  
(Reprinted with permission from NHS Direct Wales  
[<http://www.nhsdirect.wales.nhs.uk/pdfs/WALESMAP-eng.pdf>])

In the period between April 2003 and March 2006, the annual rate of surgery for women with HMB was 159 procedures/100 000 women. Among the seven LHBs, the annual surgical rates ranged from 102 to 221 procedures/100 000 women.

Surgical rates for women with HMB between April 2006 and March 2010 showed a few changes in particular figures. The annual rate of surgery for Welsh LHBs was 176/100 000 women. The increase was predominantly in the rate of endometrial ablation. Across the LHBs, the annual surgical rates ranged from 76 to 241 procedures/100 000 women. The observed and expected annual rate of surgery by LHB is given in Table A3.

**Table A3:** Expected and observed annual rates of surgery for local health boards, 2006–2009

Local health board name	Annual rate of surgery (observed)	Annual rate of surgery (expected)	Observed/expected
Betsi Cadwaladr University	160	176	0.91
Powys Teaching	140	174	0.80
Hywel Dda	196	177	1.11
Abertawe Bro Morgannwg University	177	171	1.01
Cardiff and Vale University	241	175	1.37
Cwm Taf	187	179	1.06
Aneurin Bevan	76	179	0.43

All rates are expressed per 100 000 women/year.

Between April 2003 and March 2006, the proportion of women having surgery who underwent endometrial ablation ranged from 52% to 86% within the seven LHBs. After April 2006, endometrial ablation accounted for more than 70% of all procedures across the seven LHBs. Nonetheless, the proportions varied from 71% (Abertawe Bro Morgannwg University) to 88% (Aneurin Bevan).

## A.4 Conclusions

The analysis in this chapter highlights the fact that regional variations in surgical rates for HMB persist also in Wales. The most recent data show that, within Wales, the annual surgical rates varied by a factor of three among LHBs. The actual rate of surgery has increased slightly as in England, with more women having endometrial ablation. Some variation may legitimately reflect differences in population demand and clinical uncertainty owing to the lack of precise treatment indications. However, the regional variation is sufficiently large to suggest there is scope for improving the management of menorrhagia within Wales.

It has been suggested that the introduction of endometrial ablation has lowered the threshold for surgery and it is possible that this lower threshold has increased differences among gynaecologists as to when surgery is indicated. The recent National Institute for Health and Clinical Excellence (NICE) guideline<sup>1</sup> recommends that endometrial ablation be offered as first-line treatment if HMB has a severe impact on quality of life, and that ablation is preferable

to hysterectomy for women with a uterus that is no bigger than a 10-week pregnancy and where HMB is the only symptom. Hysterectomy is only recommended when other treatment options have failed, are contraindicated or are declined by a woman.

Widespread compliance with the NICE guideline may reduce the observed regional variation but there are no clear criteria for what constitutes a 'severe impact on quality of life', and this might be one reason for the lack of obvious change in regional variation. The collection of patient-reported symptoms and quality of life data in the prospective part of this audit will provide greater detail about the women and enable a clearer interpretation of these patterns of surgery.

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1 National Collaborating Centre for Women's and Children's Health, National Institute for Health and Clinical Excellence. *Heavy menstrual bleeding*. Clinical Guideline No. 44. London: NICE; 2007 [<http://www.nice.org.uk/CG44>].