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ANNUAL REPORT: 2014

Caesarean-Section Surgical Site Infection Surveillance

(Includes data from 01/01/2014 - 31/12/2014)

Appendix 1: ABMU

VERSION 1

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Acknowledgements

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SECTION 1: Results

Surveillance form returns

Table 1.1 Number of inpatient, post-discharge and valid forms returned for the surveillance in 2014.

No. of in-patient forms returned	No. of expected post-discharge forms	No. of post-discharge forms returned (% forms returned)	No. of valid forms used for data analysis*	% of valid forms for data analysis*
1399	1399	1394 (99.6%)	1389	99 (1389/1399)

Completion rates of surveillance forms

Table 1.2 % completion of the SSI field on the c-section surveillance form (main and post-discharge) for ABMU (2014).

Data Item	No. completed	No. expected	% Complete
Inpatient SSI (Yes/No):	1394	1399	99.6
If Yes, SSI type	12	14	85.7
If Yes, Infection date	14	14	100.0
Post-discharge SSI* (Yes/No):	1394	1394	100.0
If Yes, Infection date	83	83	100.0
If Yes, SSI type	79	83	95.2
Overall SSI**	1389	1399	99.3

*Number expected is based on the number of post-discharge forms received.

**Includes procedures with an SSI complete on the main form or updated by completion of the SSI field on a post-discharge form.

Surveillance Compliance

Table 1.3 Coverage of the c-section SSI Surveillance compared to procedures reported to the PEDW database at NWIS for ABMU in 2014

No. of surveillance forms returned to WHAIP	No. of valid surveillance forms returned to WHAIP*	No. of C sections reported to PEDW*	% Compliance
1399	1389	1439	96.5

* valid surveillance forms – procedures with an SSI complete on the main form or where infection data could be updated post-discharge

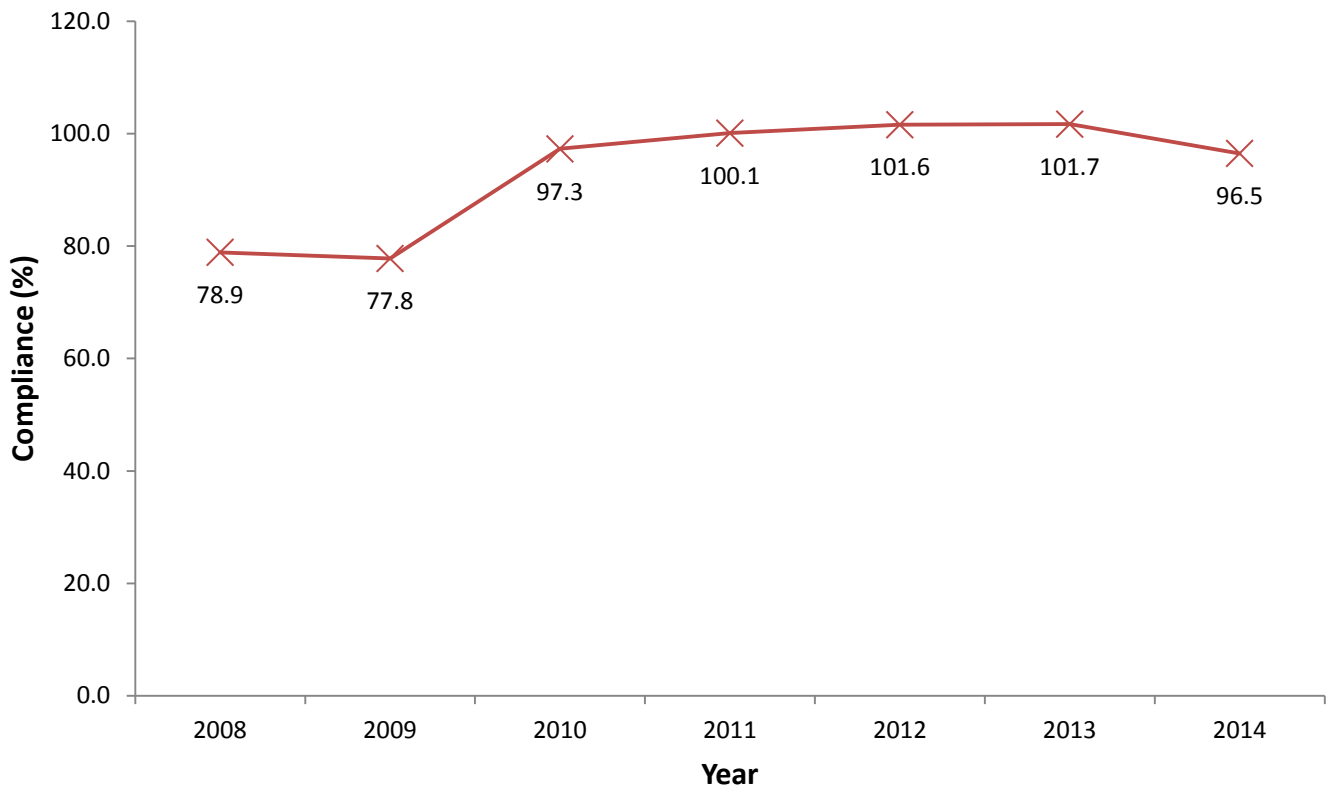


Figure 1.1 Trend rate for compliance in Wales 2008-2014

Summary:

99% of data received could be utilised for data analysis

All Wales compliance has decreased over the last 3 years, but remains excellent above 90%

SECTION 2. SSI rate

Incidence of in-patient, post-discharge and overall SSI

Table 2.1 Incidence of inpatient SSI in 2014

	No. of procedures analysed	No. of SSI *	Overall SSI rate (%) * (95% CI)
ABMU	1394	14	1.00 (0.55-1.69)

Table 2.2 Incidence of post-discharge SSI in 2014

	No. of procedures analysed	No. of SSI *	Overall SSI rate (%) * (95% CI)
ABMU	1394	83	5.95 (4.74-7.38)

Table 2.3 Incidence of overall SSI** in 2014

	No. of procedures analysed	No. of SSI *	Overall SSI rate (%) * (95% CI)
ABMU	1389	97	6.98 (5.66-8.52)

* Figures based on valid surveillance forms only. This only includes procedures with either an SSI field completed on the main form or where infection data could be updated post-discharge.

** Overall SSI rate (%) is based on the valid forms rule previously described and is not based on the inpatient SSI rate combined with the post-discharge SSI rate.

Incidence of SSI over time

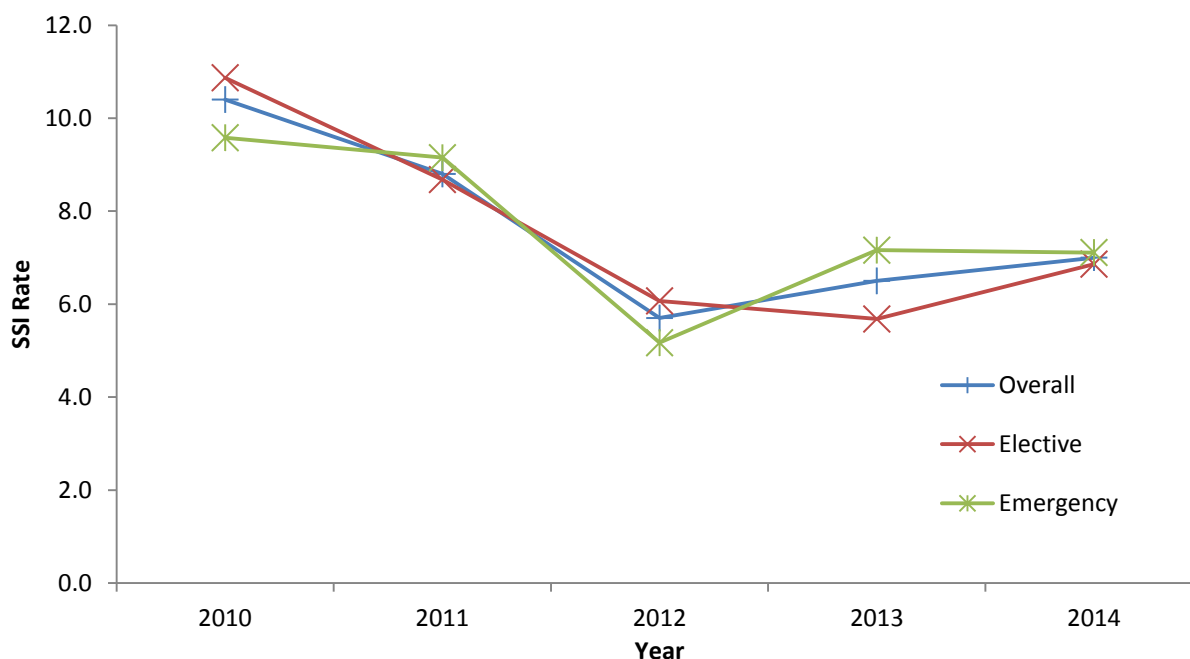


Figure 2.1 Overall, elective and emergency SSI rate in Wales for 2010-2014

Table 2.4 Overall SSI rate and broken down by operation type – 2010-2014

Operation type	Year	No. Procedures	No. SSI	% SSI (95% CI)
All C-section procedures	2014	1389	97	6.98 (5.66-8.52)
	2013	1518	98	6.46 (5.24-7.87)
	2012	1683	94	5.59 (4.51-6.83)
	2011	1578	141	8.94 (7.52-10.54)
	2010	1447	148	10.23 (8.65-12.01)
Elective	2014	612	42	6.86 (4.95-9.28)
	2013	722	41	5.68 (4.08-7.70)
	2012	774	47	6.07 (4.46-8.07)
	2011	726	63	8.68 (6.67-11.10)
	2010	727	79	10.87 (8.60-13.54)
Emergency	2014	759	54	7.11 (5.34-9.28)
	2013	796	57	7.16 (5.42-9.28)
	2012	909	47	5.17 (3.80-6.88)
	2011	852	78	9.15 (7.24-11.43)
	2010	720	69	9.58 (7.46-12.13)

*Please note that if operation type is not filled in, the procedure is excluded from the table above

Incidence of SSI by infection type

Table 2.5 Type of SSI, specifically superficial and deep seated infections for C-section procedures carried out in 2014

SSI type	%
Superficial infections	85.6
Deep seated infections	8.2
Unknown	6.2

Table 2.6 Overall SSI rate (%) broken down by SSI type - 2014

SSI type	No. SSI	% SSI (95% CI)
Superficial infections	83	5.98 (4.76-7.41)
Deep seated infections	8	0.58 (0.25-1.13)
Unknown	6	0.43 (0.16-0.94)

Table 2.7 Post-discharge SSI rate (%) broken down by SSI type, specifically superficial and deep seated infections - 2014

SSI type	No. SSI	% SSI (95% CI)
Superficial infections	71	5.09 (3.98-6.42)
Deep seated infections	8	0.50 (0.20-1.03)
Unknown	4	0.29 (0.08-0.73)

Summary:

ABMU SSI rate following c-section in 2014 was 6.9% compared to 6.1% and 5.7% in 2012 and 2013 respectively.

Most common infection type is superficial (85.6% of infections)

Overall SSI rate in 2014 in ABMU, broken down by SSI type: 6.0% superficial infections and 0.6% deep seated infections.

Post discharge SSI rate in 2014 in ABMU, broken down by SSI type: 5.1% superficial infections and 0.5% deep seated infections.

Emergency SSI rates decreased by approximately 4% when comparing data from 2010 to 2015, and elective SSI rates decreased by 2%.

SECTION 3. General demographics

Incidence of SSI by age category

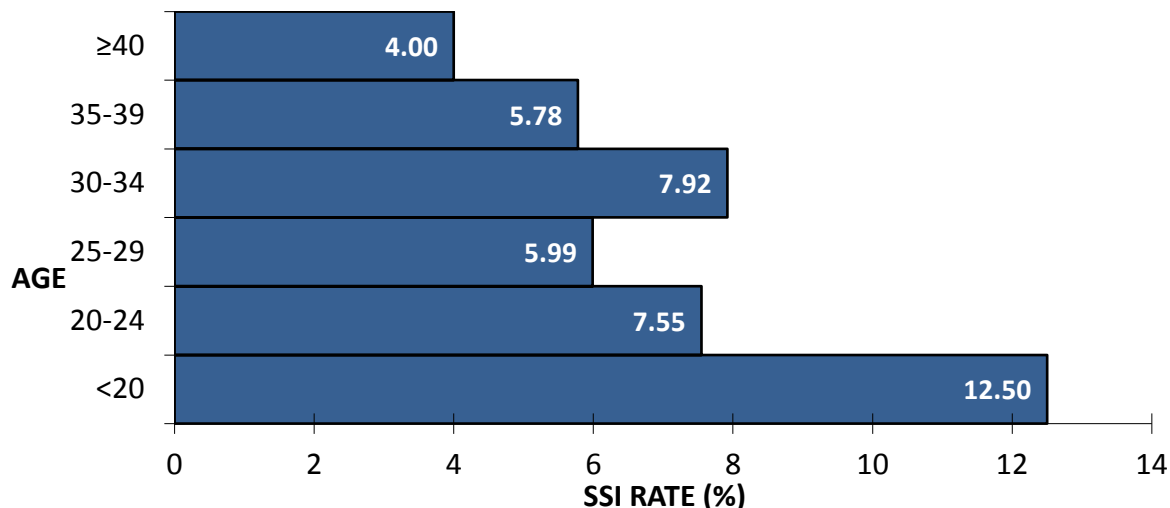


Figure 3.1 Pyramid plot showing age and corresponding SSI rate (%)

Table 3.1 C-section SSI with age - 2014 (specific age bands based on those utilised by The National Sentinel Caesarean section Audit report)¹⁰

Age group	No. of valid procedures*	No. of SSI	% SSI (95% CI)
<20	48	6	12.50 (4.59-27.21)
20-24	212	16	7.55 (4.31-12.26)
25-29	384	23	5.99 (3.80-8.99)
30-34	442	35	7.92 (5.52-11.01)
35-39	225	13	5.78 (3.08-9.88)
≥40	75	3	4.00 (0.82-11.69)

*3 procedures have been excluded because the age question was not completed

Incidence of SSI by BMI category

Table 3.2 C-section SSI with BMI in ABMU in 2014 (using World Health Organisation BMI categories)¹¹

BMI	No. of procedures*	No. of SSI	% SSI
Underweight <18.5	23	1	4.35 (0.11-24.22)
Healthy weight 18.5 – 24.9	470	17	3.62 (2.11-5.79)
Overweight 25 – 29.9	445	23	5.17 (3.28-7.76)
Obese ≥30	445	55	12.36 (9.31-16.09)

*6 procedures have been excluded because the BMI question was not completed

SECTION 4. Details of the surgical procedure

Incidence of SSI following elective and emergency procedures

Table 4.1 C-section SSI in elective and emergency surgical procedures in ABMU in 2014

Operation Type	No. Procedures*	No. SSI	% SSI (95% CI)
Elective Procedure	612	42	6.86 (4.95-9.28)
Emergency Procedure	759	54	7.11 (5.34-9.28)

*18 procedures have been excluded because the operation type was not completed

Incidence of SSI by timing of antibiotic prophylaxis

Table 4.2(a) Percentage (%) of C-section procedures by timing of antibiotic prophylaxis in ABMU in 2014

Timing of antibiotic prophylactic	No. Procedures*	%
Prior to incision	1194	89
After incision	144	11

*47 procedures have been excluded because the prophylactic antibiotic question was not completed

Table 4.2(b) C-section SSI with antibiotic prophylaxis in ABMU in 2014

Was prophylactic antibiotic given?	No. Procedures*	No. SSI	% SSI (95% CI)
Yes prior to incision	1194	85	7.12 (5.87-8.80)
Yes after incision	144	7	4.86 (1.95-10.02)
No	4	1	25 (0.63-139.29)

*47 procedures have been excluded because the prophylactic antibiotic question was not completed

Incidence of SSI by skin closure type

Table 4.3 Percentage (%) of c-section procedures with type of skin closure used in ABMU in 2014

Type of skin closure	No. Procedures*	%
Dissolvable suture	1000	73
Removable suture	325	24
Staples	40	3

*24 procedures have been excluded because the type of skin closure utilised was not completed

Table 4.4 C-section SSI with type of skin closure used in ABMU in 2014

Type of skin closure	No. Procedures*	No. SSI	% SSI (95% CI)
Dissolvable suture	1000	59	5.90 (4.49-7.61)
Removable suture	325	32	9.85 (6.73-13.90)
Staples	40	5	12.50 (4.06-29.17)

*24 procedures have been excluded because the type of skin closure utilised was not completed

SECTION 5. Post-discharge details and onset of infection

The following section provides a summary on post discharge care and infection details.

Length of stay in hospital

Table 5.1 C-section SSI by hospital stay length (days)

Length of hospital stay (days)	No. Procedures*	No. SSI	% SSI (95% CI)
0 – 5	1288	86	6.68 (5.34-8.25)
6 – 9	82	7	8.54 (3.43-17.59)
≥ 10	14	4	28.57 (7.78-73.15)

*5 procedures had hospital discharge dates missing and have therefore been excluded

Length of midwifery care

Table 5.2 C-section SSI by length of midwifery care (days)

Length of midwifery care (days)	No. Procedures*	No. SSI	% SSI (95% CI)
≤10	13	0	0.00 (0.00-28.38)
11-14	267	11	4.12 (2.06-7.37)
15-21	482	35	7.26 (5.06-10.10)
22-28	335	24	7.16 (4.59-10.66)
≥29	285	25	8.77 (5.68-12.95)

*7 procedures had midwifery discharge dates missing and have therefore been excluded from this table

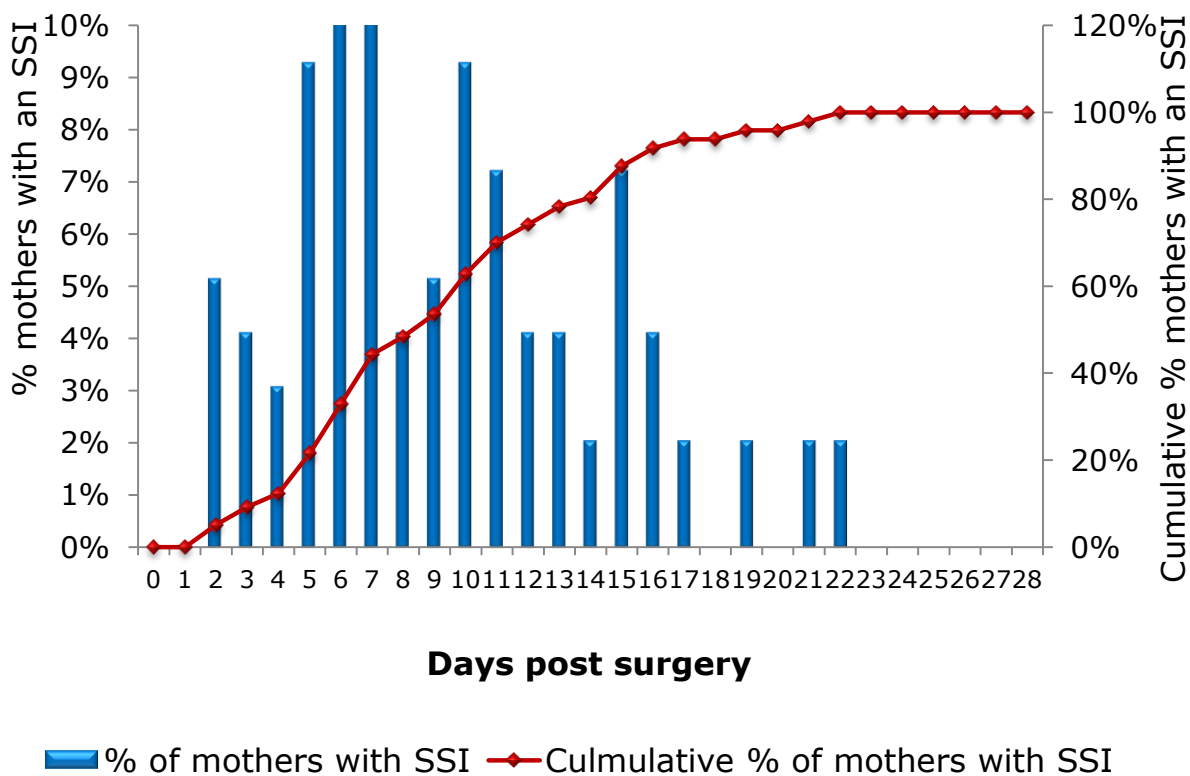


Figure 5.1 Post discharge surveillance and onset of infection