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ANNUAL REPORT: 2014

Caesarean-Section Surgical Site Infection Surveillance

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

Appendix 5: Cwm Taf

VERSION 1

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Acknowledgements

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CONTENTS

Acknowledgements.....	2
SECTION 1: Results.....	3
Surveillance form returns	3
Completion rates of surveillance forms.....	3
Surveillance Compliance	3
SECTION 2. SSI rate	5
Incidence of in-patient, post-discharge and overall SSI	5
Incidence of SSI over time.....	5
Incidence of SSI by infection type	6
SECTION 3. General demographics.....	8
Incidence of SSI by age category.....	8
Incidence of SSI by BMI category.....	8
SECTION 4. Details of the surgical procedure.....	9
Incidence of SSI following elective and emergency procedures	9
Incidence of SSI by timing of antibiotic prophylaxis	9
Incidence of SSI by skin closure type	9
SECTION 5. Post-discharge details and onset of infection	10
Length of stay in hospital.....	10
Length of midwifery care	10

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*
1175	1175	1171 (99.7)	1154	98.2 (1154/1175)

Completion rates of surveillance forms

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

Data Item	No. completed	No. expected	% Complete
Inpatient SSI (Yes/No):	1155	1175	98.3
If Yes, SSI type	1	1	100
If Yes, Infection date	1	1	100
Post-discharge SSI* (Yes/No):	1171	1171	100
If Yes, Infection date	35	39	89.7
If Yes, SSI type	30	39	76.9
Overall SSI**	1154	1175	98.2

*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.

Table 1.3 Data items on the c-section SSI surveillance form with ≤85% completion in 2014.

Data Item	No. completed	No. expected	% Complete
BMI	894	1175	76.1
Date of discharge from Hospital	572	1175	48.7
Date discharged from midwifery care	574	1171	49.0

Surveillance Compliance

Table 1.4 Coverage of the c-section SSI Surveillance compared to procedures reported to the PEDW database at NWIS 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
1175	1154	1161	99.4

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

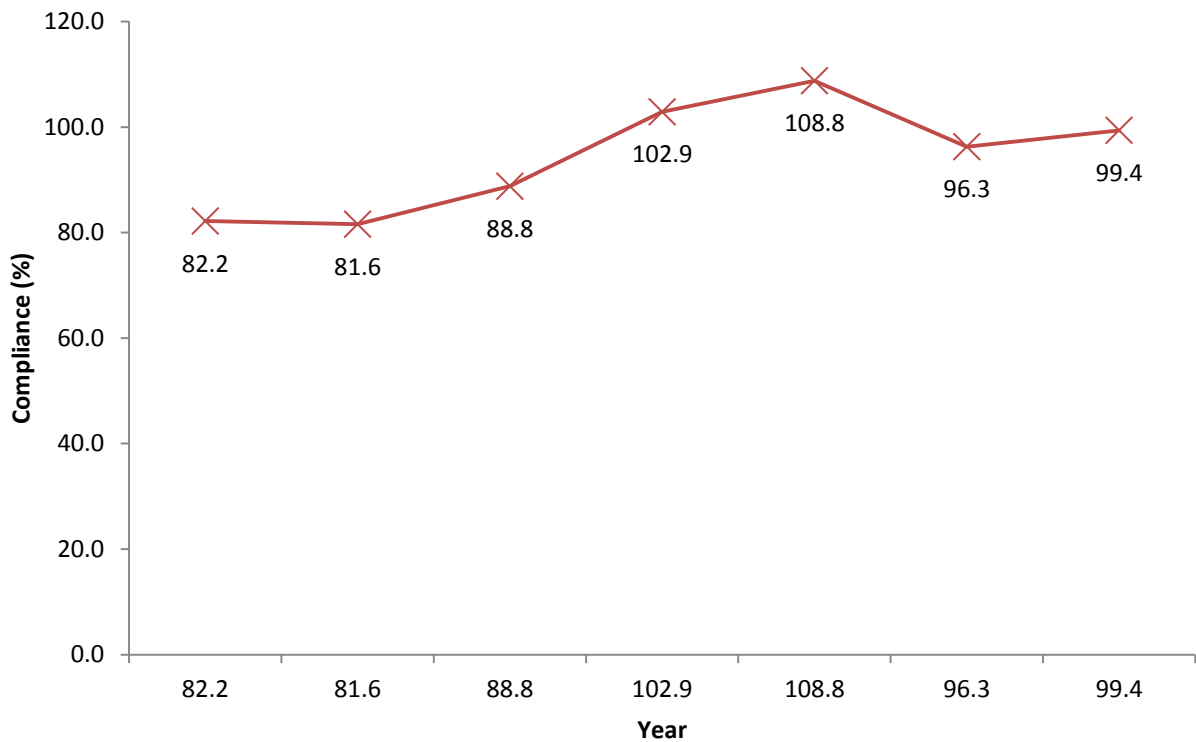


Figure 1.1 Trend rate for compliance: 2008-2014

Summary:

98% of data received could be utilised for data analysis

Data items on the form were generally completed well however there are a number of fields that are below 85% completion

Compliance has increased in 2014, and 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)
Cwm Taf	1155	1	0.09 (0.02-0.48)

Table 2.2 Incidence of post-discharge SSI in 2014

	No. of procedures analysed	No. of SSI *	Overall SSI rate (%) * (95% CI)
Cwm Taf	1171	39	3.33 (2.37-4.55)

Table 2.3 Incidence of overall SSI** in 2014

	No. of procedures analysed	No. of SSI *	Overall SSI rate (%) * (95% CI)
Cwm Taf	1154	40	3.47 (2.48-4.72)

* 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

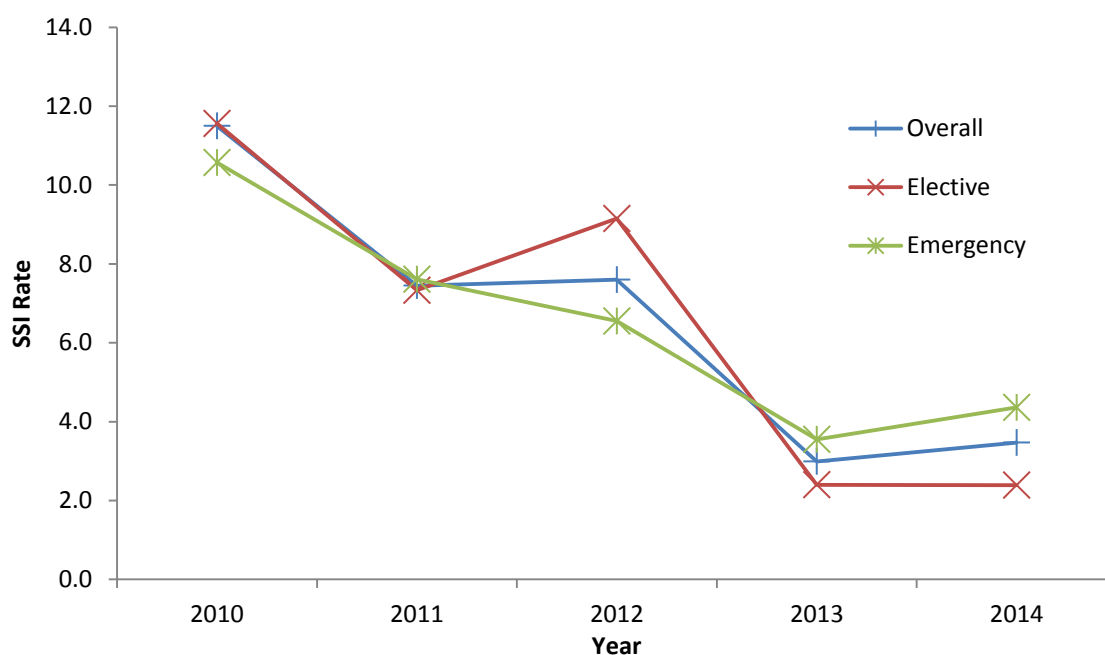


Figure 2.1 Overall, elective and emergency SSI rates for 2010-2014

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	1154	40	3.47 (2.48-4.72)
	2013	1171	35	2.99 (2.08-4.16)
	2012	1237	94	7.60 (6.14-9.30)
	2011	1194	89	7.45 (5.99-9.17)
	2010	1087	125	11.50 (9.57-13.70)
Elective	2014	461	11	2.39 (1.19-4.27)
	2013	458	11	2.40 (1.20-4.30)
	2012	470	43	9.15 (6.62-12.32)
	2011	423	31	7.33 (4.98-10.40)
	2010	424	49	11.56 (8.55-15.28)
Emergency	2014	642	28	4.36 (2.90-6.30)
	2013	648	23	3.55 (2.25-5.33)
	2012	656	43	6.55 (4.74-8.83)
	2011	683	52	7.61 (5.69-9.98)
	2010	577	61	10.57 (8.09-13.58)

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	35.0
Deep seated infections	42.5
Unknown	22.5

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

SSI type	No. SSI	% SSI (95% CI)
Superficial infections	14	1.21 (0.66-2.04)
Deep seated infections	17	1.47 (0.86-2.36)
Unknown	9	0.78 (0.36-1.48)

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

SSI type	No. SSI	% SSI (95% CI)
Superficial infections	14	1.20 (0.65-2.01)
Deep seated infections	16	1.37 (0.78-2.22)
Unknown	9	0.77 (0.35-1.46)

Summary:

Cwm Taf's SSI rate following c-section in 2014 was 3.5% compared to 7.6% and 3.0% in 2012 and 2013 respectively.

Most common infection type is deep seated (42.5% of infections)

Overall SSI rate in 2014, broken down by SSI type: 1.2% superficial infections and 1.5% deep seated infections.

Post discharge SSI rate in 2014, broken down by SSI type: 1.2% superficial infections and 1.4% deep seated infections.

Both elective and emergency SSI rates decreased by >5% when comparing data from 2010 to 2015.

SECTION 3. General demographics

Incidence of SSI by age category

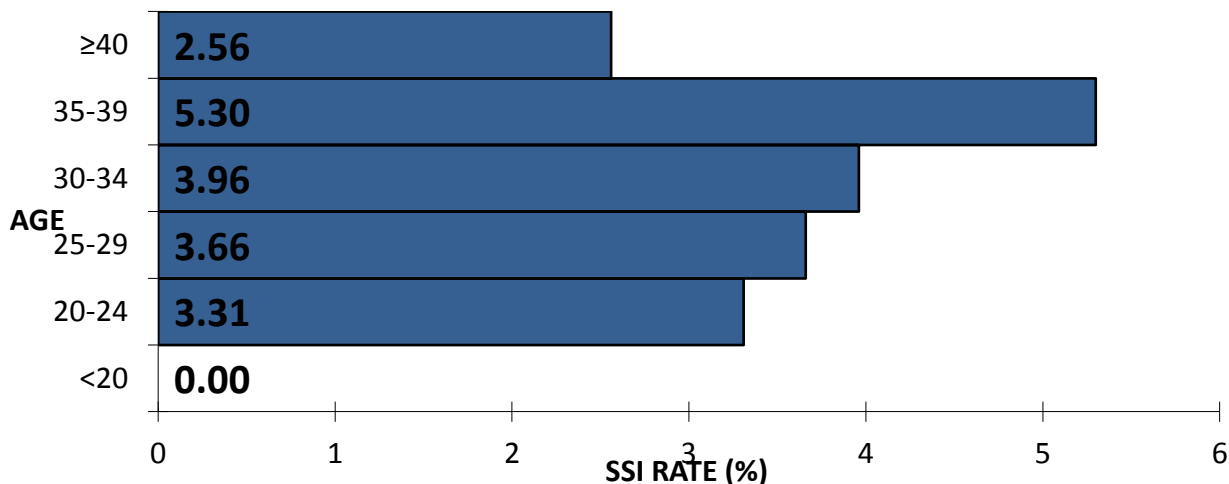


Figure 3.1 Pyramid plot showing age and corresponding SSI rate (%)

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	39	0	0.00 (0.00-9.46)
20-24	181	6	3.31 (1.22-7.22)
25-29	328	12	3.66 (1.89-6.39)
30-34	303	12	3.96 (2.05-6.92)
35-39	132	7	5.30 (2.13-10.93)
≥40	39	1	2.56 (0.65-14.29)

*132 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 Wales in 2014 (using World Health Organisation BMI categories)¹¹

BMI	No. of procedures*	No. of SSI	% SSI
Underweight <18.5	10	1	10.00 (2.53-55.72)
Healthy weight 18.5 – 24.9	225	5	2.22 (0.72-5.19)
Overweight 25 – 29.9	259	4	1.54 (0.42-3.95)
Obese ≥30	386	25	6.48 (4.19-9.56)

*274 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 Wales in 2014

Operation Type	No. Procedures*	No. SSI	% SSI (95% CI)
Elective Procedure	461	11	2.39 (1.19-4.27)
Emergency Procedure	642	28	4.36 (2.90-6.30)

*51 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 2014

Timing of antibiotic prophylactic	No. Procedures*	%
Prior to incision	858	86.1
After incision	138	13.9

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

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

Was prophylactic antibiotic given?	No. Procedures*	No. SSI	% SSI (95% CI)
Yes prior to incision	858	29	3.38 (2.26-4.85)
Yes after incision	138	8	5.80 (2.50-11.42)
No	4	0	0.00 (0.00-92.22)

*154 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 2014

Type of skin closure	No. Procedures*	%
Dissolvable suture	545	50.0
Removable suture	454	41.7
Staples	91	8.3

*64 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 2014

Type of skin closure	No. Procedures*	No. SSI	% SSI (95% CI)
Dissolvable suture	545	15	2.75 (1.54-4.54)
Removable suture	454	10	2.20 (1.06-4.05)
Staples	91	13	14.29 (7.61-24.43)

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

SECTION 5. Post-discharge details and onset of infection

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	541	24	4.44 (2.84-6.60)
6 – 9	19	0	0.00 (0.00-19.42)
≥ 10	2	1	50.00 (12.66-278.58)

*592 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	1	1	100.00 (25.32-557.16)
11-14	0	0	n/a
15-21	1	1	100.00 (25.32-557.16)
22-28	509	21	4.13 (2.55-6.31)
≥29	51	3	5.88 (1.21-17.19)

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

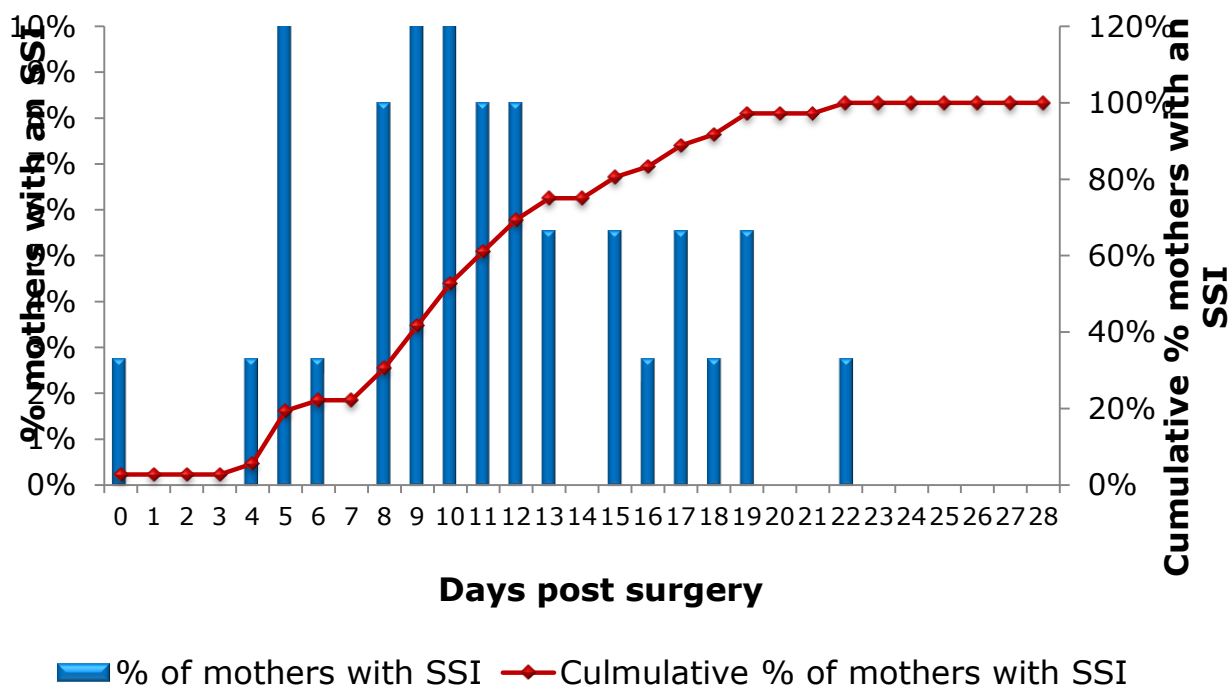


Figure 5.1 Post discharge surveillance and onset of infection