



# Getting Back to Basics -

Reducing Post-Caesarean Infections in Rural and Remote Regions



# Declarations

- Nil



# Declarations

- Nil
- Associations
  - Regional Obstetrician and Gynaecologist and Head of Department
    - Kimberley of Western Australia
  - Director of Obstetrics and Gynaecology
    - Western Australian Country Health Service
  - Medical Coordinator and Associate Professor
    - WA Rural Clinical School, University of Western Australia
  - RANZCOG Board Member and Non-Executive Director
  - Doctors Without Borders - Medecins Sans Frontieres





# Background

- Kimberley Region
  - ~500 000 km<sup>2</sup>
  - ~36 000 people
    - 42% people identify as Aboriginal persons





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- Kimberley Region
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  - ~36 000 people
    - 42% people identify as Aboriginal persons
- 6 Hospitals
- 3 Birthing Units
- >85 community health services/nursing posts
- ~630 births/year





# Background



Government of **Western Australia**  
Department of **Health**

## Healthcare Infection Surveillance of Western Australia (HISWA)



# Background

Figure 32 Total caesarean section surgical site infection (SSI) rate per 100 procedures, 2017-18 compared to 2016-17

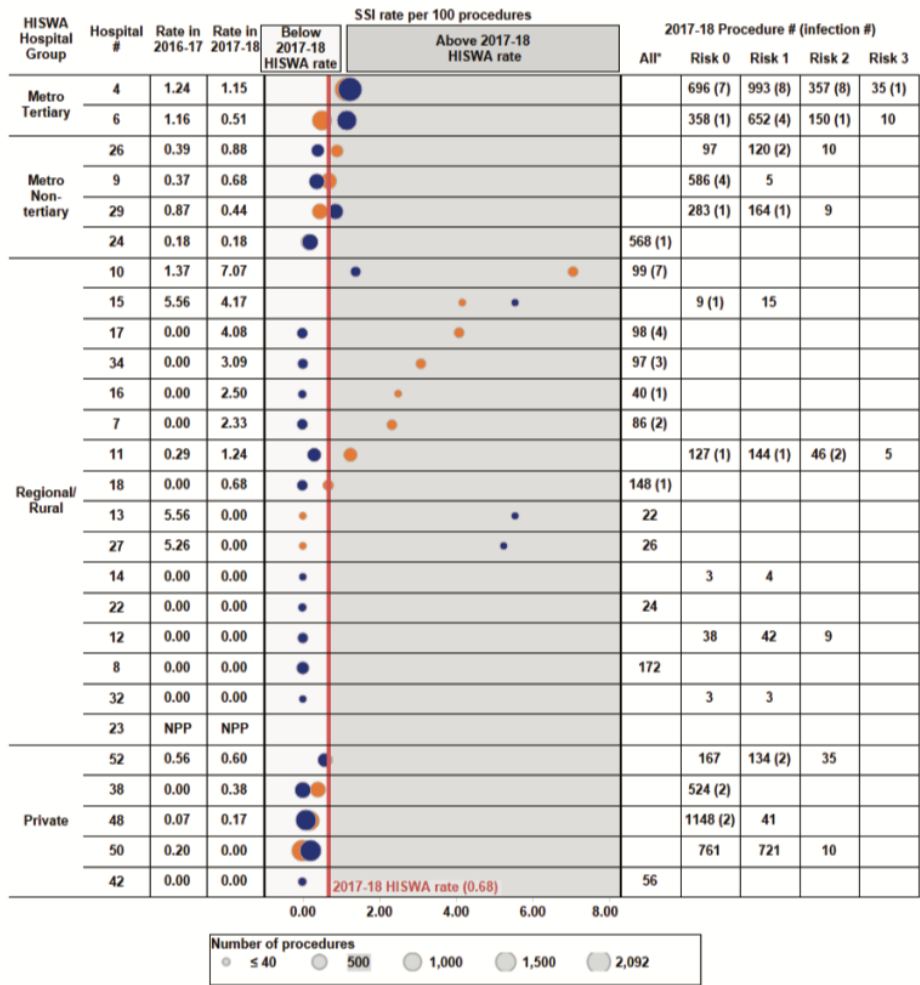


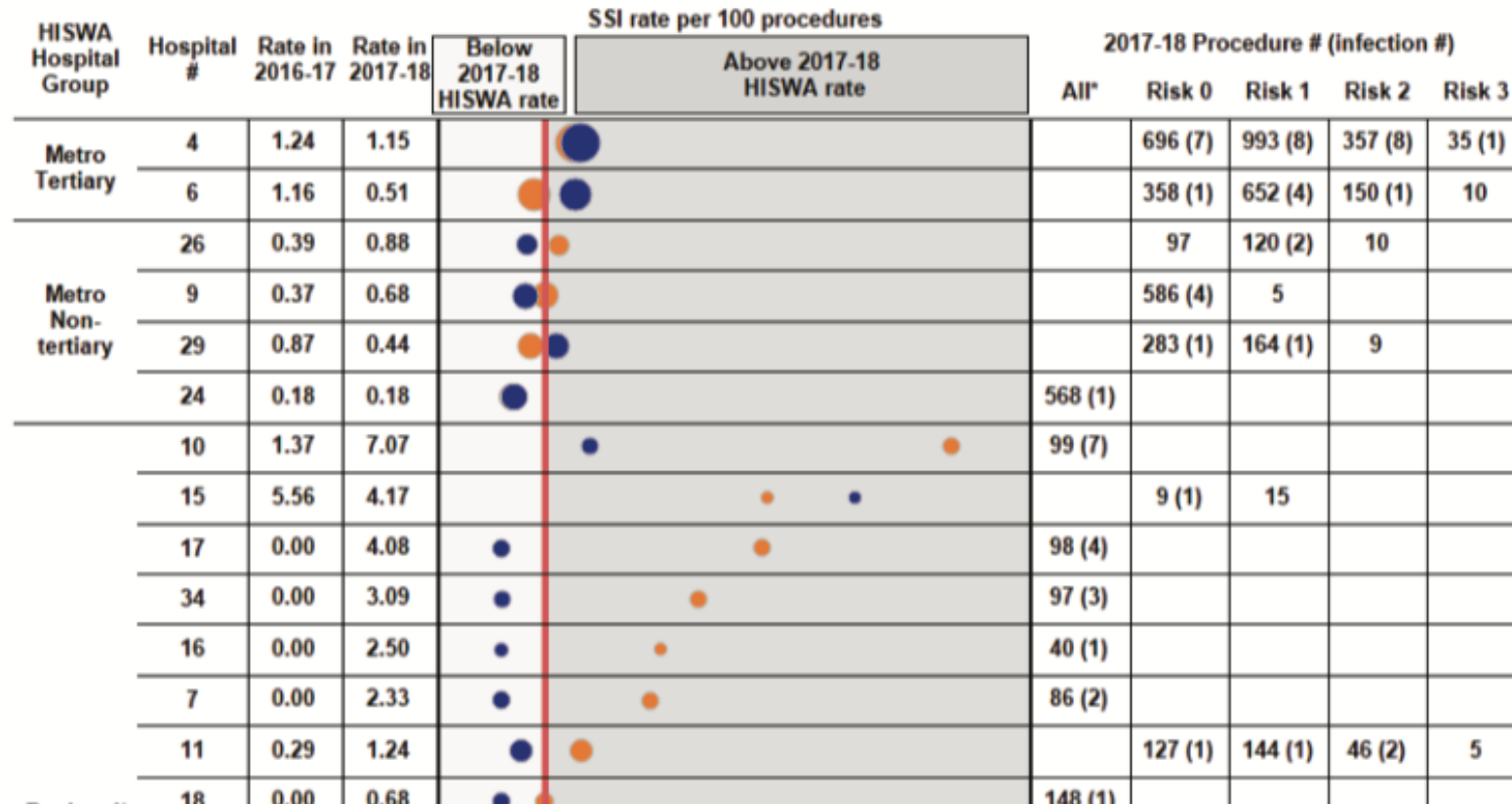
Figure description:

- 2016-17 hospital total caesarean section SSI rate per 100 procedures, with circle size indicating number of procedures performed.
- 2017-18 hospital total caesarean section SSI rate per 100 procedures, with circle size indicating number of procedures performed.



# Background

**Figure 32 Total caesarean section surgical site infection (SSI) rate per 100 procedures, 2017-18 compared to 2016-17**





# Background





# Background





# What now?





# What now?





# What now?





# What now?





# What now?





# How?



Original Article

## Reducing post-caesarean infection in the Kimberley region of Western Australia: An audit-based observational study

Jasmin Kaur Sekhon✉, Charlotte Moss, Jared Watts

First published: 22 March 2022 | <https://doi.org/10.1111/ajo.13519> | Citations: 2

*Conflicts of Interest:* The authors report no conflicts of interest.

[Read the full text >](#)



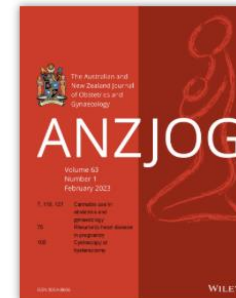
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# How?

- Follow up of all patients for 6 months that had a c/s
  - Medical Records, ED presentations, EMRs, phone calls.



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# How?





# How?





# Social determinants of health





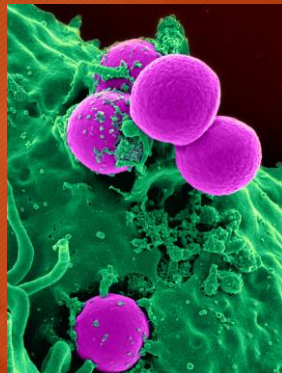
# What to do?





# Package

- Aim to reduce bacterial load and management post delivery



## Application Form

General Questions

Proposed Insured's Name:

Birth Date:  /  /  Gender: ☐ Male ☐ Female Passport no:

Address:

Phone Number:  Email Address:

ID Number:  Social Security Number:

Status: ☐ Single ☐ Married ☐ Divorced ☐ Others

Occupation:  Are you a retiree? ☐ Yes ☐ No



Outcome....





# Outcome...

- Follow up of all patients for 6 months that had a c/s
  - Medical Records, ED presentations, EMRs, phone calls.

“41.7% infection rate”



# Outcome...

- Follow up of all patients for 6 months that had a c/s
  - Medical Records, ED presentations, EMRs, phone calls.

“41.7% infection rate”

To

“11.6%”



# Outcome...

	2019 (N = 26)	2021 (N = 43)	P
Age, average	29	30	0.385
Aboriginal or Torres Strait Islander	25	22	0.099
Obese	8	11	0.728
Diabetes	10	8	0.3333
Prior infection	3	5	0.629
Elective lower uterine segment caesarean section	13	17	0.755
Prophylactic antibiotics	32	43	0.025
Time of antibiotics prior, average	63 min	46 min	0.031
Surgical time, average	52 min	54 min	0.707
Estimated blood loss, average	544 mL	502 mL	0.479
Skin closure, suture	36	42	0.357
PICO	0	22	<0.001
Infection	15	5	0.002
Endometritis	5	2	
Wound infection	4	1	
Urinary tract infection	3	1	
Mastitis	1	1	
Chorioamnionitis	1		
Pilonidal abscess	1		



Outcome...





# Evidence...

- Persisted?
- Carried Over?
- Why did it work?



# What Next?

- Did start to 'increase'





# What Next?

- Did start to 'increase'
- Why?





# What Next?

Caesarean Safety Checklist			
		Telephone	
<b>PRE-CHECK – COMMENCE IN MATERNITY UNIT</b>		<b>RISK FACTORS FOR INFECTION</b>	
Time Called: ____ : ____ am / pm			
<b>Urgency Category:</b> <input type="checkbox"/> 1 <input type="checkbox"/> 2a <input type="checkbox"/> 2b <input type="checkbox"/> 3 <input type="checkbox"/> 4 <b>Does patient have an MRSA Micro-Alert B or C?</b> <input type="checkbox"/> No <input type="checkbox"/> Yes – <b>Add Vancomycin</b> <input type="checkbox"/> Doctor notified to start Vancomycin, 15mg / kg IV <input type="checkbox"/> Vancomycin given <b>Start infusion a minimum of 15 minutes before surgical incision.</b>	<input type="checkbox"/> <b>Patient has confirmed consent</b>  <input type="checkbox"/> Patient has increased risk of post-partum haemorrhage <input type="checkbox"/> Blood group and hold / cross match available <input type="checkbox"/> Intravenous access ( $\geq 16g$ ) <input type="checkbox"/> Skin preparation or shower with Chlorhexidine 2% <input type="checkbox"/> Compression stockings on	<input type="checkbox"/> Aboriginal or Torres Strait Islander <input type="checkbox"/> BMI > 35 <input type="checkbox"/> Membranes Ruptured > 6 hours <input type="checkbox"/> Diabetes, GDM, Type 1 or 2 <input type="checkbox"/> Febrile in labour <input type="checkbox"/> Immunocompromised <input type="checkbox"/> Smoker <input type="checkbox"/> IVDU <input type="checkbox"/> Prolonged labour <input type="checkbox"/> Poor skin integrity <input type="checkbox"/> Multiple caesareans $\geq 3$ <input type="checkbox"/> Hx wound infection or dehiscence <input type="checkbox"/> Comorbidities- HTN, other	
<b>Confirmation all maternity unit elements have been checked.</b>  <div> <div>_____</div> <div>_____</div> <div>____/____/____</div> <div>____:____ am / pm</div> </div> <div> <div>Name / designation</div> <div>Signature</div> <div>Date</div> <div>Time</div> </div>			
<b>BEFORE INDUCTION OF ANAESTHESIA - SIGN IN</b>			
<b>Surgeon, Anaesthetist and Nurse verbally confirm:</b> <input type="checkbox"/> Identity <input type="checkbox"/> Site <input type="checkbox"/> Procedure <input type="checkbox"/> Consent <input type="checkbox"/> Allergies			



# What Next?

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<b>BEFORE INDUCTION OF ANAESTHESIA - SIGN IN</b> Surgeon, Anaesthetist and Nurse verbally confirm: <input type="checkbox"/> Identity <input type="checkbox"/> Site <input type="checkbox"/> Procedure <input type="checkbox"/> Consent <input type="checkbox"/> Allergies		



# What Next?

BEFORE PATIENT LEAVES OPERATING ROOM – SIGN OUT			
<b>Nurse verbally confirms:</b> <input type="checkbox"/> Name of the procedure recorded <input type="checkbox"/> Instrument, sponge and needle counts are correct <input type="checkbox"/> Specimens labelled correctly and sent <input type="checkbox"/> Any equipment problems to be addressed	<b>Discussed and documented:</b> <input type="checkbox"/> Post-operative destination <input type="checkbox"/> Key post-operative concerns <input type="checkbox"/> Need for post-operative pathology or imaging <input type="checkbox"/> Ongoing Thromboprophylaxis <input type="checkbox"/> <b>Estimated Blood Loss (EBL) recorded:</b> _____ mls <input type="checkbox"/> <b>Length of procedure:</b> _____	<input type="checkbox"/> Estimated blood loss > 1.5L <input type="checkbox"/> Length of procedure > 48 minutes <b>Does patient have a BMI &gt; 35</b> <b><u>OR</u> 2 Risk Factors for Infection?</b> (risk factors are yellow shaded areas) <input type="checkbox"/> Yes –Topical Negative Pressure Wound Therapy indicated <input type="checkbox"/> No – review risk post-surgery	
_____	_____	_____/_____/_____	_____:_____ am / pm
Name / designation	Signature	Date	Time



# What Next?





# What Next?

- Concerns with multiple forms.
- Relevance to all areas and regions.
- Concerns with duplications of forms and paperwork.



# What Then?

- Development of local processes to implement and sustain!
- Momentum through education, posters, reminders.
- Investigation of all infections quickly, looking at systems.
- Change the social determinants.



Thankyou...

