cpsi icsp
Canadian Patient Safety Institute
Institut canadien pour la sécurité des patients

safer healthcare now!

Canadian Surgical Site Infection Prevention Audit Month

February 2016

RECAP REPORT

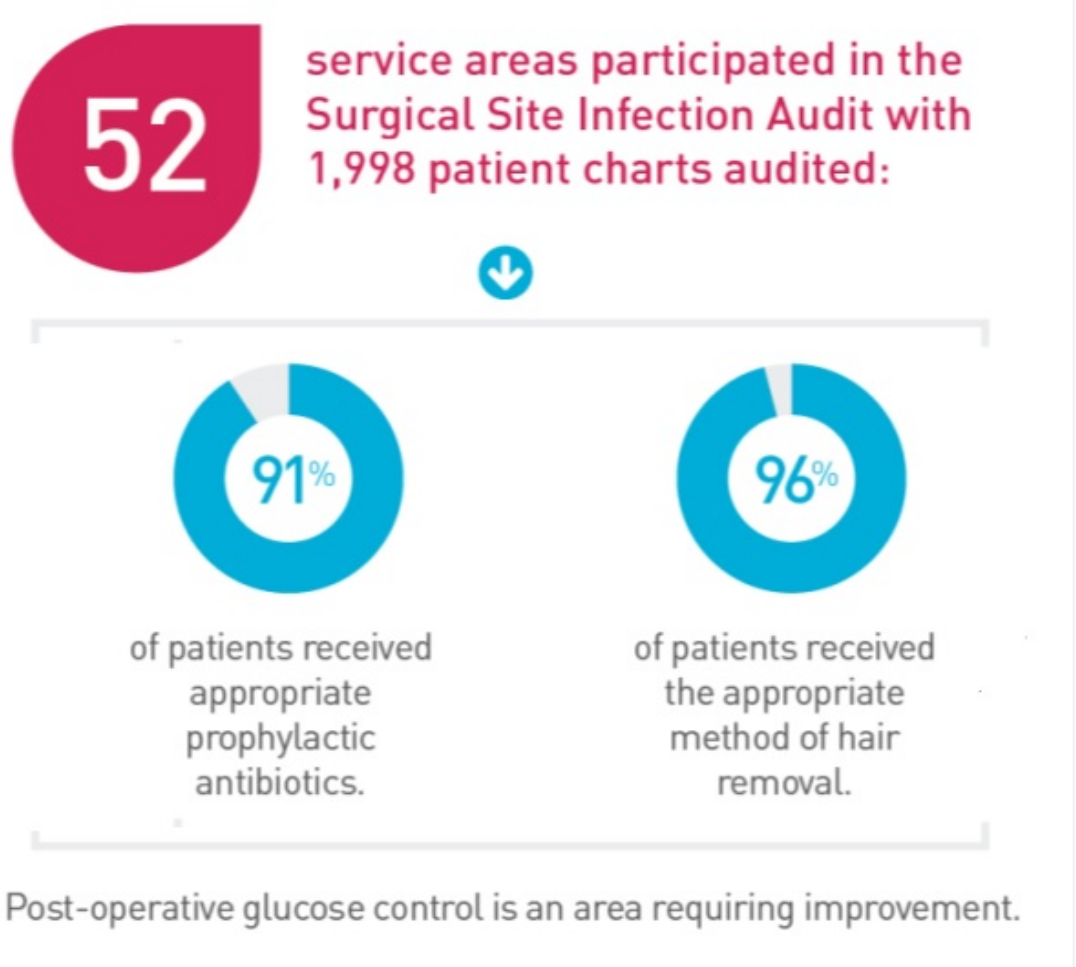
CONTENTS

KEY FACTS

Surgical site infections (SSI) are the most common healthcare associated infection among surgical patients:

- SSIs occur in two to five per cent of all surgeries
- Of the 1.3 M surgeries in Canada yearly, 26,000 to 65,000 patients acquire a SSI
- SSIs are estimated to cost $350,000 to $1 million annually (CDN).
- SSIs increase length of hospital stay by an average of 11 days
- SSIs result in 60 per cent more ICU time
- Patients with a SSI are five times more likely to be readmitted

SSI PREVENTION AUDIT RESULTS



BACKGROUND

According to research, surgical site infection (SSI) is the most common healthcare-associated infection among surgical patients, with 77 per cent of patient deaths reported to be related to infection. The Centers for Disease Control reports that while advances have been made in infection control practices, including improved operating room ventilation, sterilization methods, barriers, surgical technique, and availability of antimicrobial prophylaxis, SSI remains a substantial cause of morbidity, prolonged hospitalization, and death.

The inaugural Canadian Surgical Site Infection Prevention Audit challenged acute care organizations providing surgical services to audit their established processes for preventing surgical site infections. The results help to inform and drive local and systemic improvement efforts.

During the month of February 2016, healthcare organizations with surgical services were challenged to audit their established processes to prevent surgical site infections. See **Appendix A** for the Call to Action flyer inviting healthcare organizations to participate. A National Call was held on January 7, 2016 to outline the process. Click here for a copy of the webinar presentation. The Instruction Kit on how to participate can be found in **Appendix B**.

Results of individual healthcare facilities are not shared publicly without explicit consent. All data submitted to the Canadian SSI Prevention Audit is presented in aggregate national and provincial form only. Participating hospitals have the ability to view their data and run reports through Patient Safety Metrics. A National Call to present the final results of the SSI Prevention Audit Month was held on March 24, 2016. Click here for a copy of the webinar presentation.

The Canadian Surgical Site Infection Prevention Audit was held in partnership with: Alberta Health Services-Surgery Strategic Clinical Network, Atlantic Health Quality & Patient Safety Collaborative, BC Patient Safety & Quality Council, Health Quality Ontario, and the Saskatchewan Ministry of Health-Patient Safety Unit.

METHODOLOGY

Auditing helps to identify areas of excellence and areas for improvement. Measurement is critical in the journey to improve the delivery of safe and effective care for surgical patients. *Safer Healthcare Now!* developed a SSI Prevention Audit tool to support collection of measures related to SSI Prevention pre, peri, and post-operative processes.

Given that organizations differ in size, patient volumes, and availability of resources to conduct audits, there were no specific requirements for the number of charts to audit. The number of charts audited (sample size) was at the discretion of the end users.

The table below, details a recommended sampling strategy for this audit event and future data collection.

Quality Improvement Sampling strategy

Average Monthly Population Size "N"	Minimum required sample "n"
< 20	No sampling, 100% of population required. *(minimum of 10 audits)*
20 to 100	20
> 100	15 to 20% of population size

Canadian SSI Prevention Data Collection Form

The data collection form was used to audit a patient chart/record. The audit took approximately five to 10 minutes per patient to complete, and consisted of several questions to assess the completion of specific tasks. For example:

- Pre-op shower of bath with soap or antiseptic agent?
- Solution used for intra-operative intact skin cleansing?
- Prophylactic antibiotic administration?
- Appropriate prophylactic antibiotic re-dosing according to guidelines?
- Discontinuation of prophylactic antibiotic?
- Hair removal method?

The audit could be done in either of two ways:

- **Concurrent:** place the SSI audit form on the patient chart and complete each element over time up to the day of discharge.
- **Retrospective:** chart review to collect data for clean and clean-contaminated patients discharged the previous day, week, or month.

The SSI Data Collection Form is most appropriate for adult and pediatric NHSN Class I and Class II patients. The tool is not recommended for trauma patients and emergency surgical cases.

- NHSN Class I - Clean - An Uninfected operative wound in which no inflammation is encountered and the respiratory, alimentary, genital, or uninfected urinary tract is not entered
- NHSN Class II - Clean Contaminated - An operative wound in which the respiratory, alimentary, genital, or urinary tracts are entered under controlled conditions and without unusual contamination.

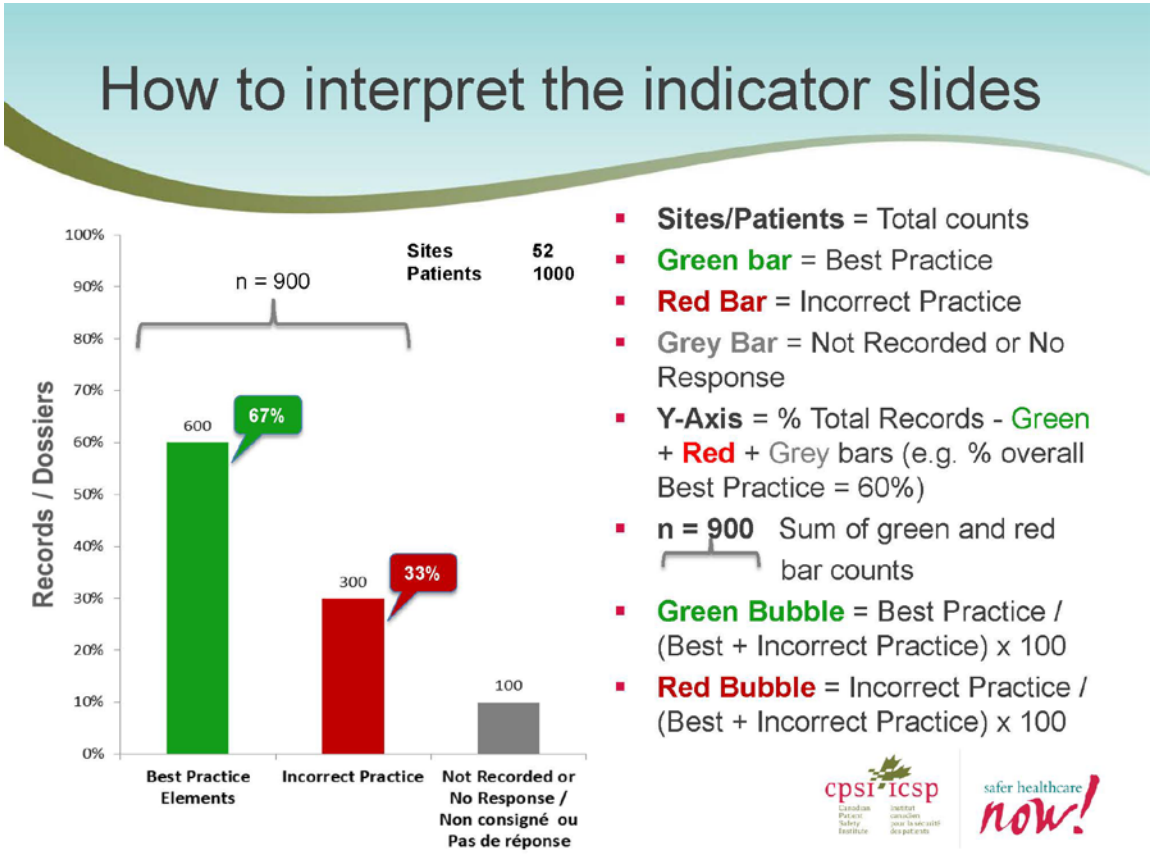
Data Scores

The SSI Prevention Data Collection Form contained several questions that are based on SSI prevention best practices. Specifically, there were four scores automatically calculated based on the responses to the SSI Data Collection Form:

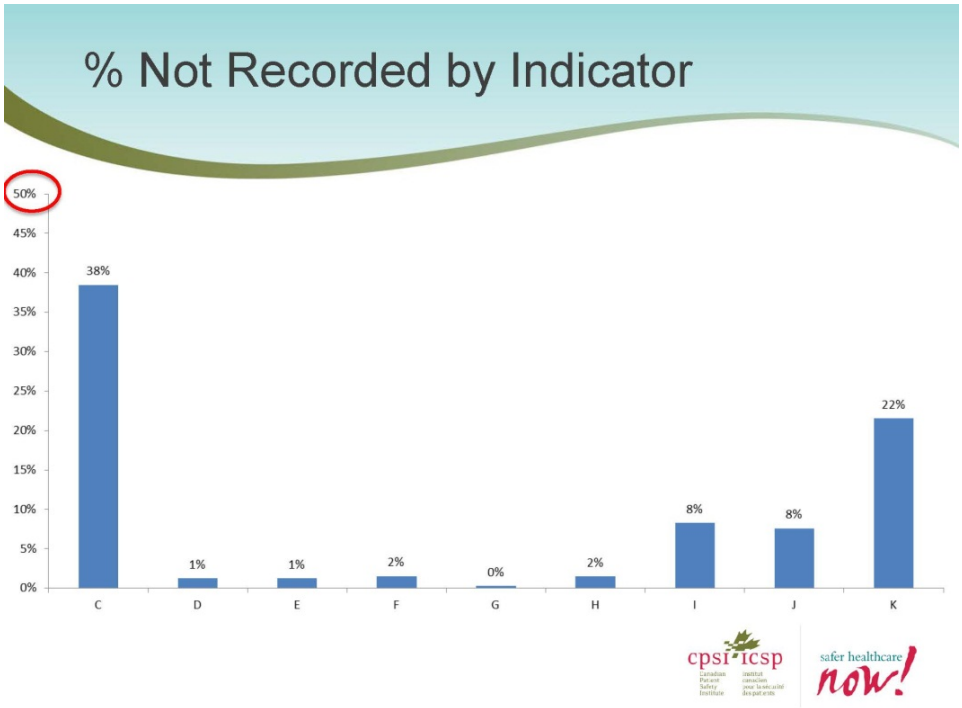
- **SSI Preoperative score**= automatically populated from responses C, D and I from the SSI Data Collection Form

- **SSI perioperative score** = automatically populated from responses E, F, G and K from the SSI Data Collection Form
- **SSI postoperative** = automatically populated from responses H, J and L from the SSI Data Collection Form
- **Overall SSI prevention score** = automatically populated from responses C-K from the SSI Data Collection Form

How to Interpret the Indicator Slides

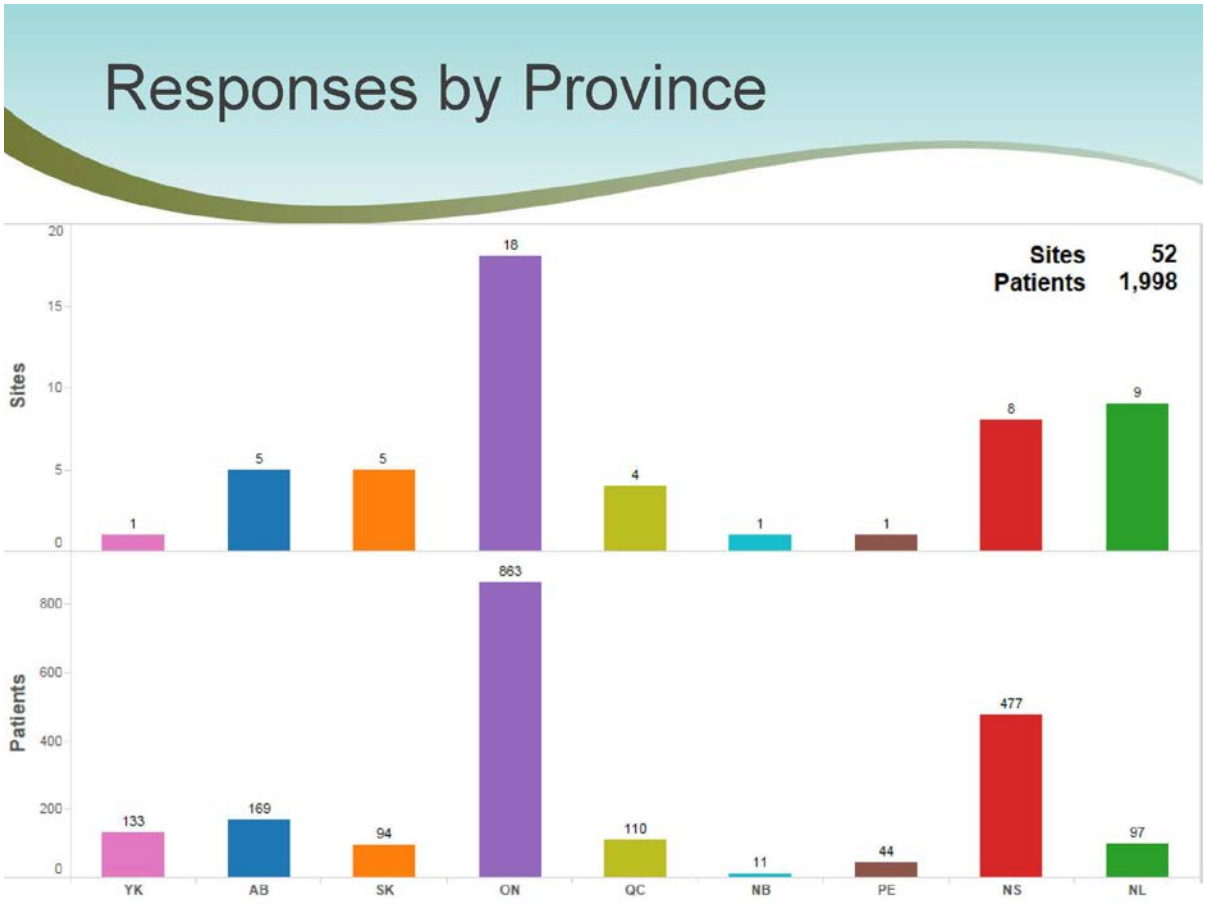


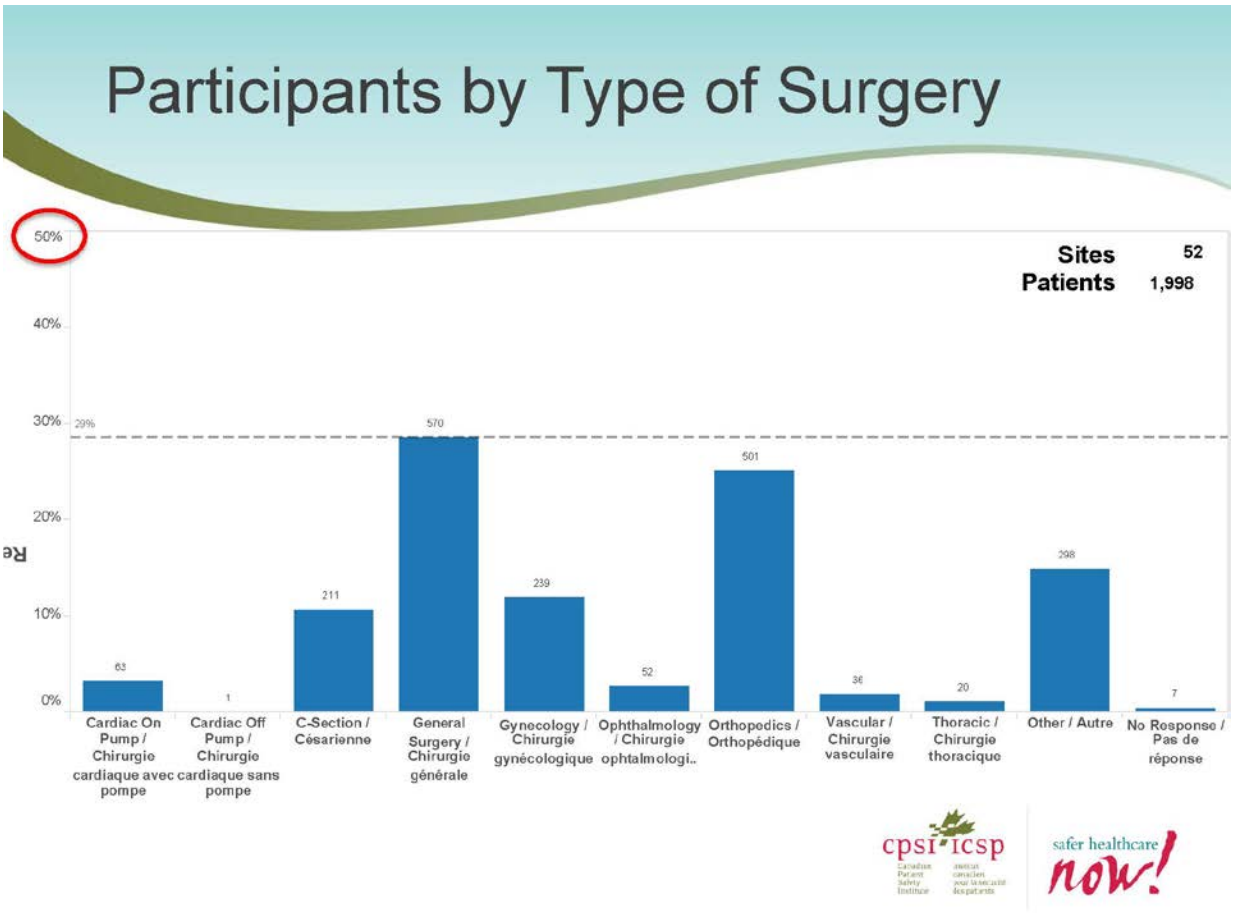
% Not Recorded by Indicator

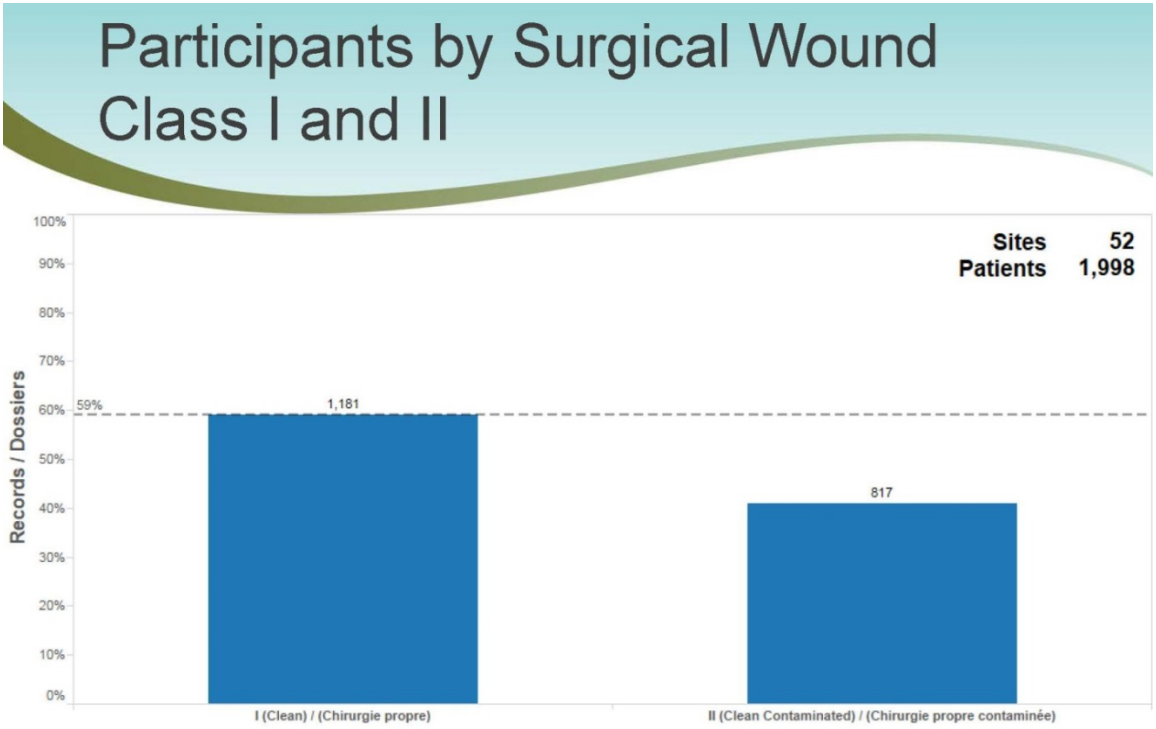


KEY FINDINGS

- **52 Sites participated**
- **2,082 patients audits submitted**
- **1,998 charts audited:**
  - **1,181 Class 1 (Clean)**
  - **817 Class II (Clean Contaminated)**
- **Orthopedics were consistent high performers**
- **Ontario had the highest participation with 18 sites and 863 patients audited**
- **Nova Scotia had 8 sites participating, with 477 patients audited; Colchester East Hants has been submitting SSI data monthly since July 2015**
- **Yukon participated in a National Audit for the first time; one site and 132 patients audited**




Participants by Type of Surgery
Sites 52
Patients 1,998
50%
40%
30%
20%
10%
0%
29%
63
1
211
570
239
52
501
36
20
298
7
Cardiac On Pump / Chirurgie cardiaque avec pompe
Cardiac Off Pump / Chirurgie cardiaque sans pompe
C-Section / Césarienne
General Surgery / Chirurgie générale
Gynecology / Chirurgie gynécologique
Ophthalmology / Chirurgie ophtalmologi..
Orthopedics / Orthopédique
Vascular / Chirurgie vasculaire
Thoracic / Chirurgie thoracique
Other / Autre
No Response / Pas de réponse


Participants by Surgical Wound Class I and II
Sites 52
Patients 1,998
Records / Dossiers
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
59%
1,181
817
I (Clean) / (Chirurgie propre)
II (Clean Contaminated) / (Chirurgie propre contaminée)

A. Type of Surgery

SSI - Reducing Surgical Site Infection

Organization: 100 ABC Demo Hospital
In/Out: In Patient
Adult/Paeds: Adult
Age Group:
Program:
Service:
Procedure/Diagnostic Group:
Unit/Site: EXAMPLE
Patient Sample: DEMO
Printed On: 2016-02-25

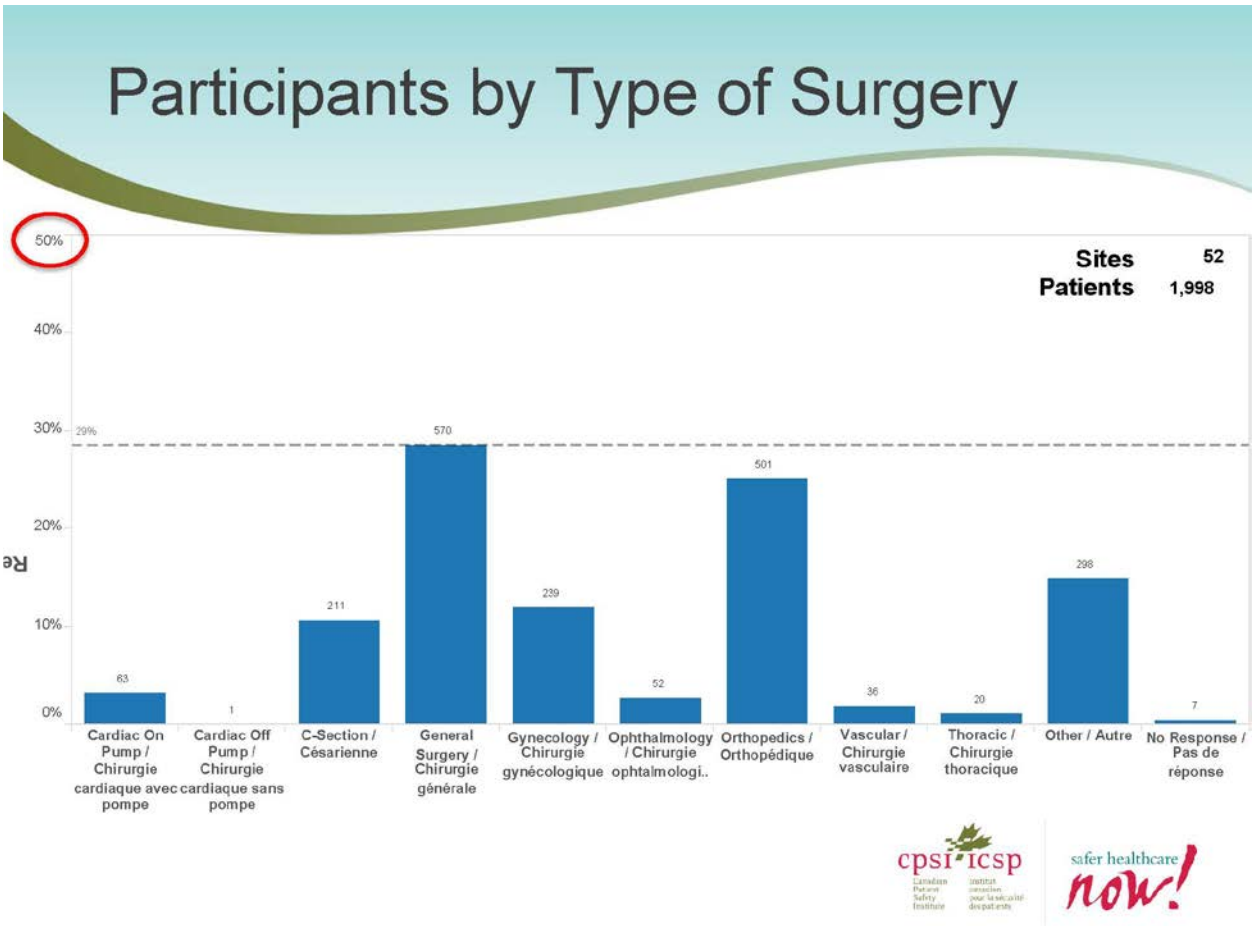
Contact Name, E-Mail and Phone Number (include area code):

FAX in FINE Resolution NO COVER PAGE
1-877-846-5153

YEAR	MONTH	DAY
2015 15	JAN FEB MAR APR MAY JUN	10 20 30
2016 16	JUL AUG SEP OCT NOV DEC	1 2 3 4 5 6 7 8 9

Enter Day as double digit (e.g. 13, with 10 on top row and 3 on bottom

A. Type of Surgery	Cardiac On Pump	C-Section	Gynecology	Orthopedic	Vascular
	Cardiac Off Pump	General Surgery	Ophthal mology	Thoracic	Other
B. Surgical Class	Clean (I)	Clean- Conta minated(II)	Conta minated (III)	Dirty (IV)	Not Recorded



B. Surgical Class

SSI - Reducing Surgical Site Infection

Organization: 100 ABC Demo Hospital
In/Out: In Patient
Adult/Paeds: Adult
Age Group:
Program:
Service:
Procedure/Diagnostic Group:
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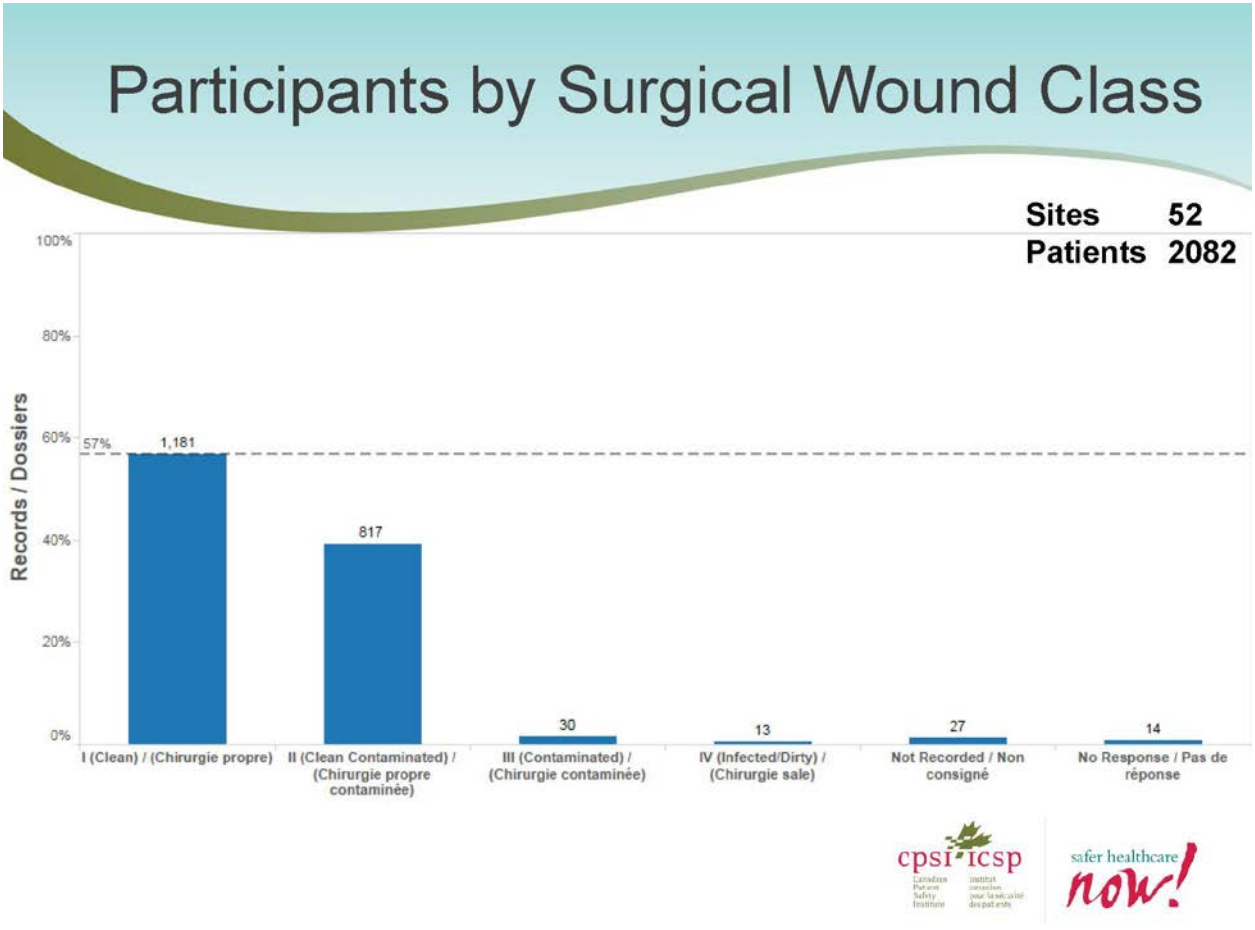
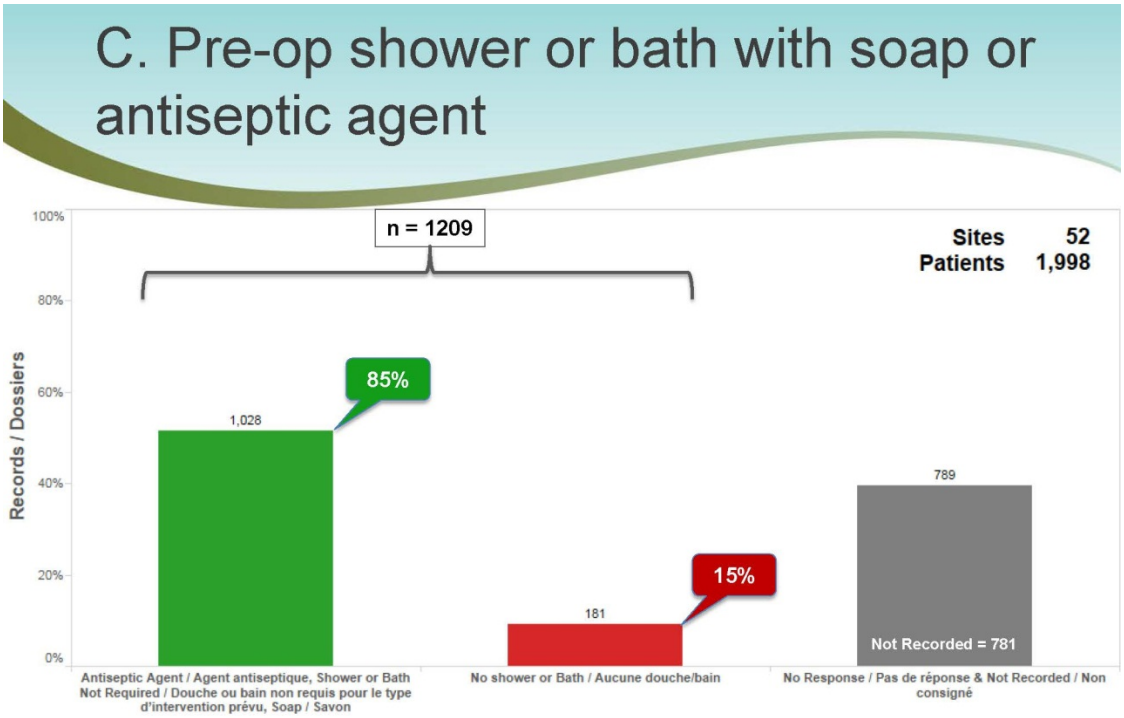
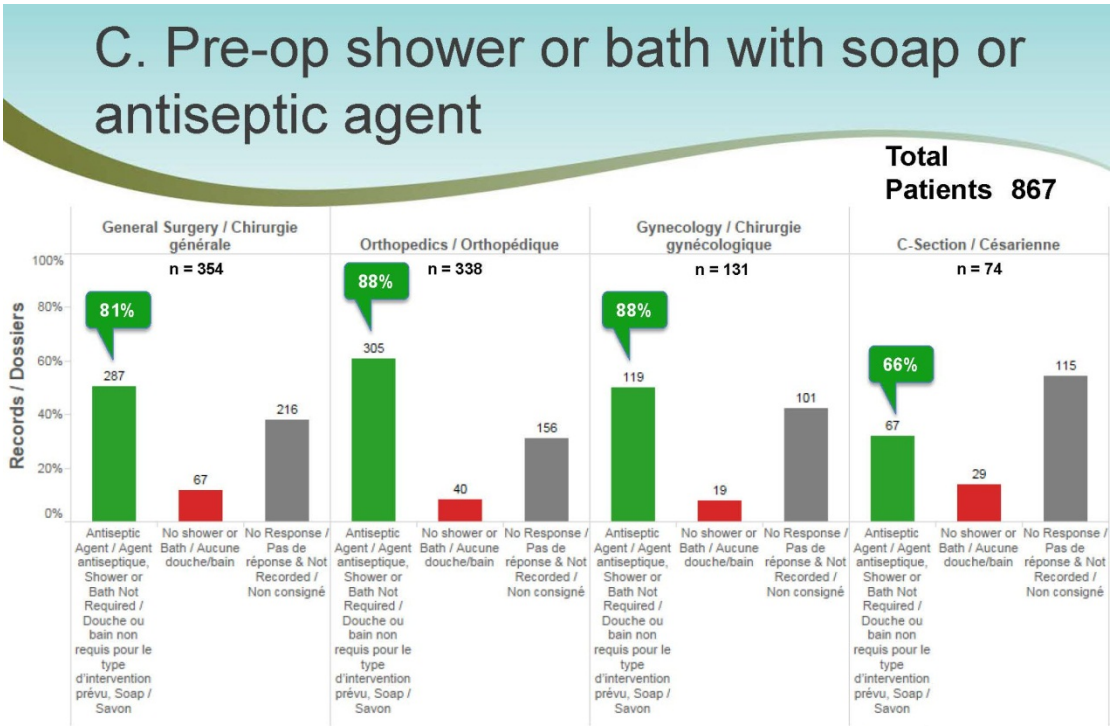


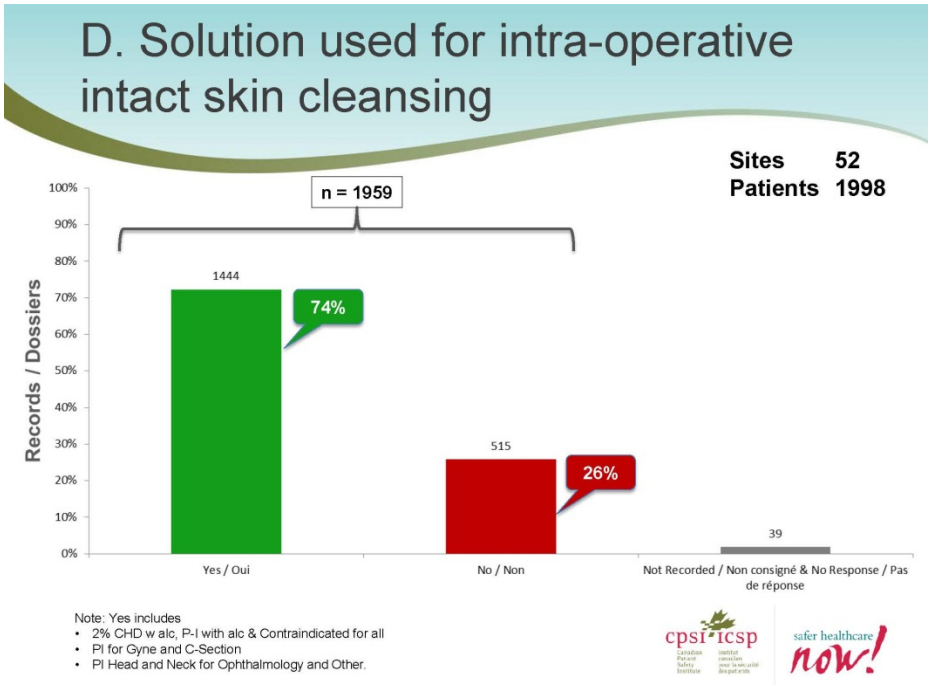
C. Pre-Op shower or bath with soap or antiseptic agent

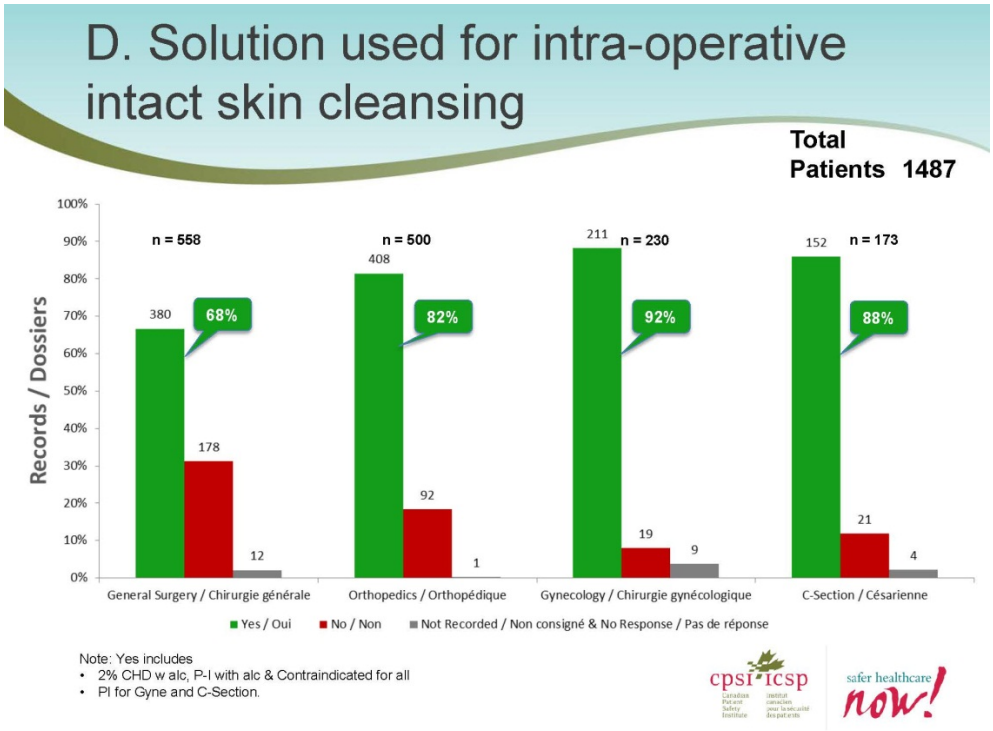




D. Solution used for intra-operative intact skin cleaning

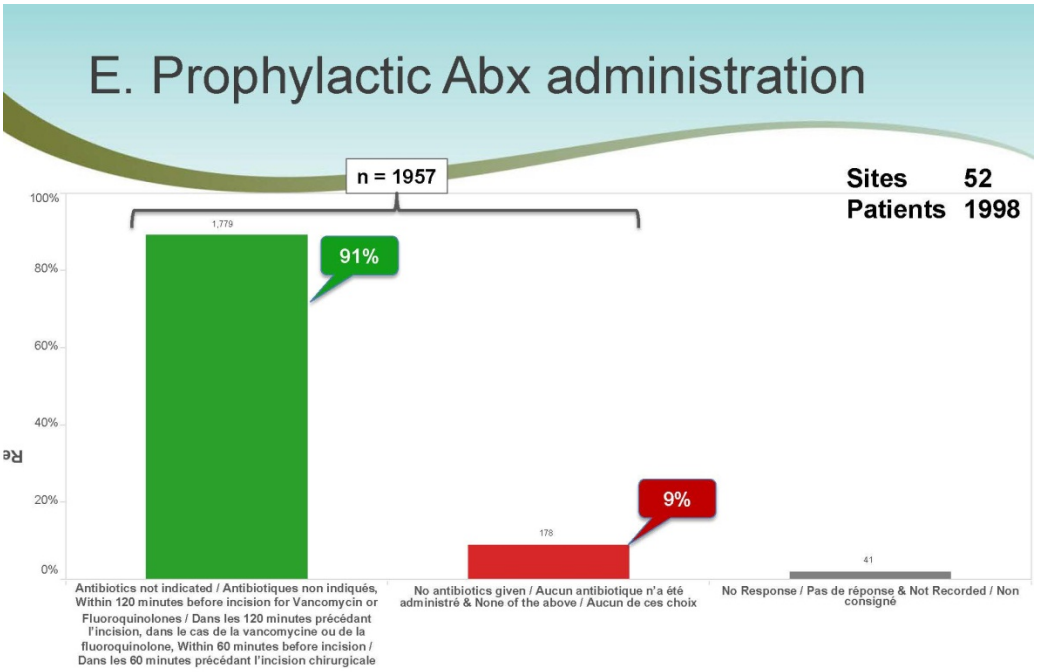
D. Solution used for intra-operative intact skin cleansing	2% Chlor-hexidine in 70% Alcohol	Povidone-Iodine with Alcohol	Povidone-Iodine for Head & Neck	Contra-indicated	Not Recorded
	Chlor-hexidine	Povidone-Iodine	Other	Not Applicable	

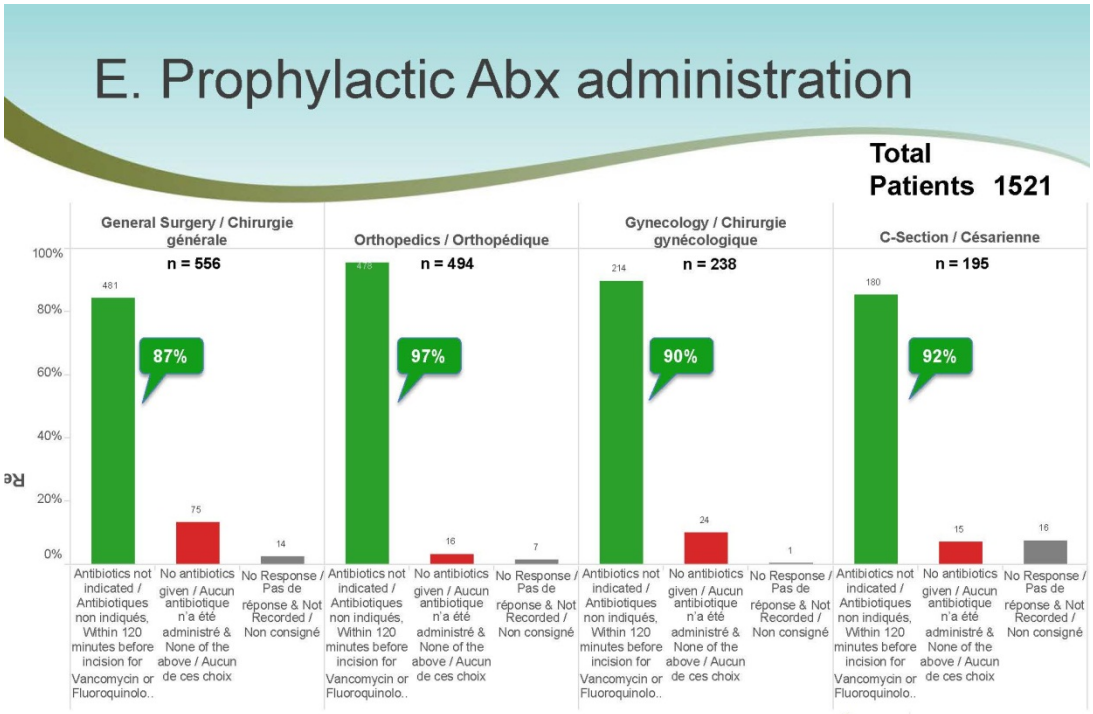




E. Prophylactic Abx Administration

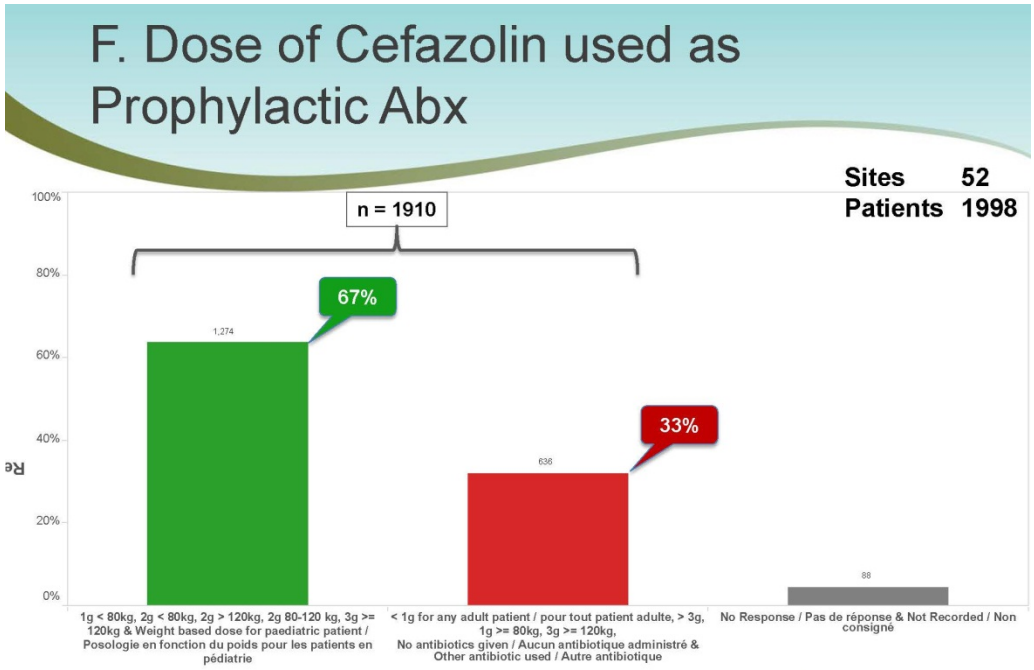
E. Prophylactic Abx administration	Within 60 minutes before incision	None of the above	Antibiotics not indicated
	Within 120 minutes before incision for Vancomycin or Fluroquinolones	No Abx given	Not Recorded

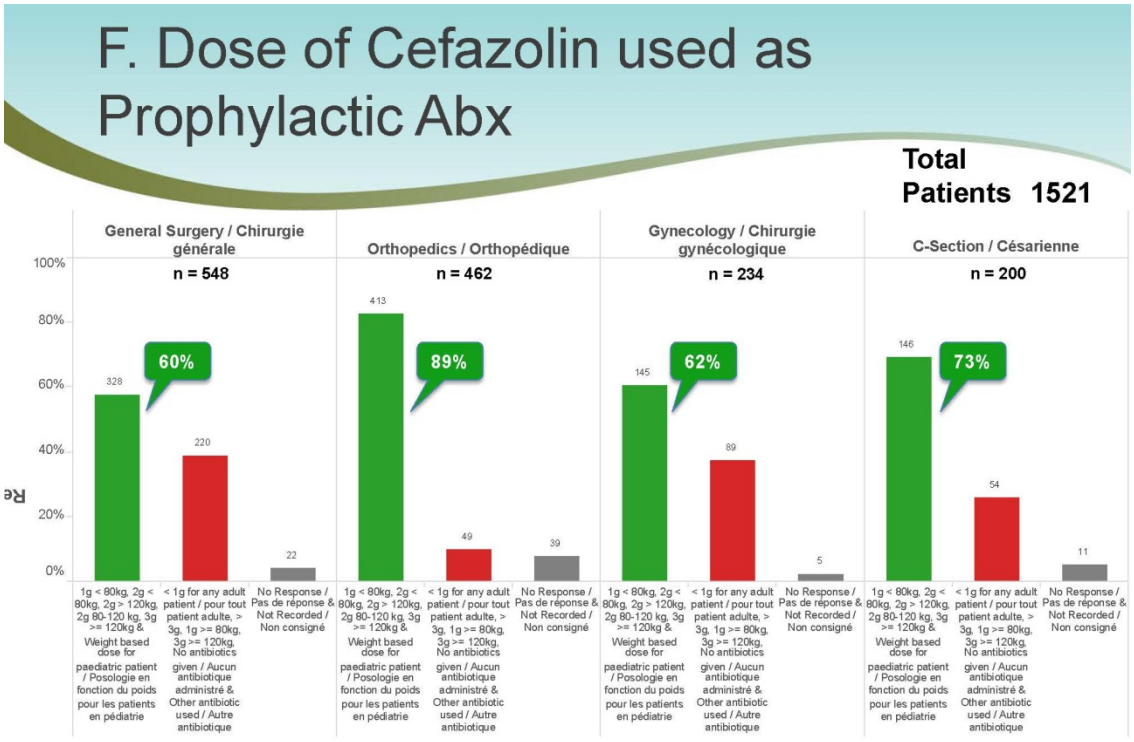




F. Dose of Cefazolin used as prophylactic ABX (Adults only)

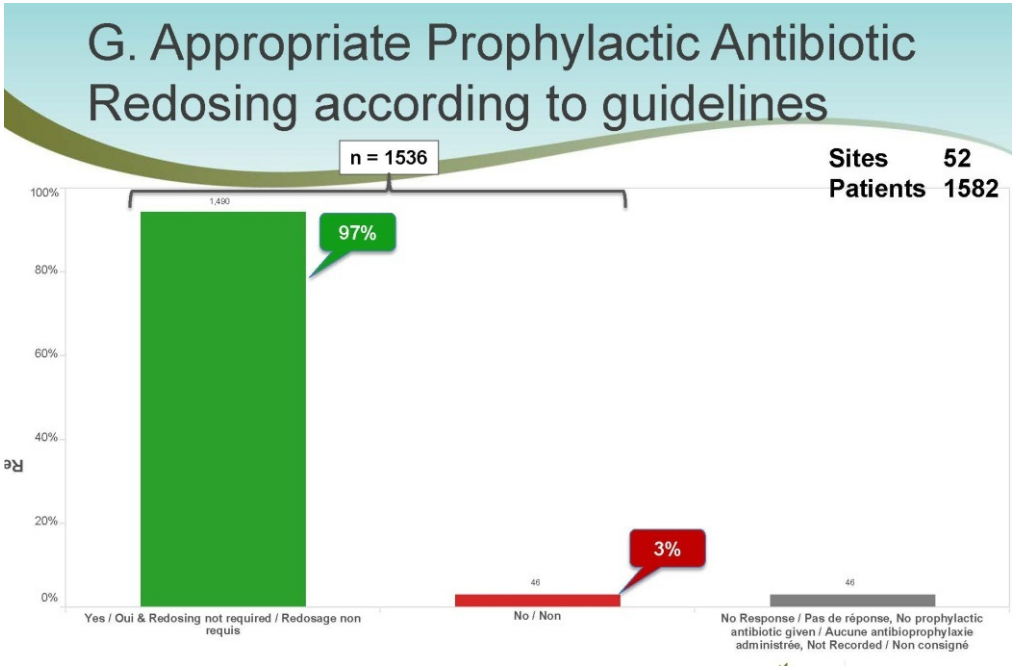
F. Dose of Cefazolin used as prophylactic Abx (Adults only)					
Weight based dose for pediatric pt	< 1g for any adult pt	Other Abx used			
1g <80kg	1g >=80kg	2g <80kg	2g 80-120kg	2g >120kg	
3g <120kg	3g >=120 kg	>3g	No Abx given	Not Recorded	

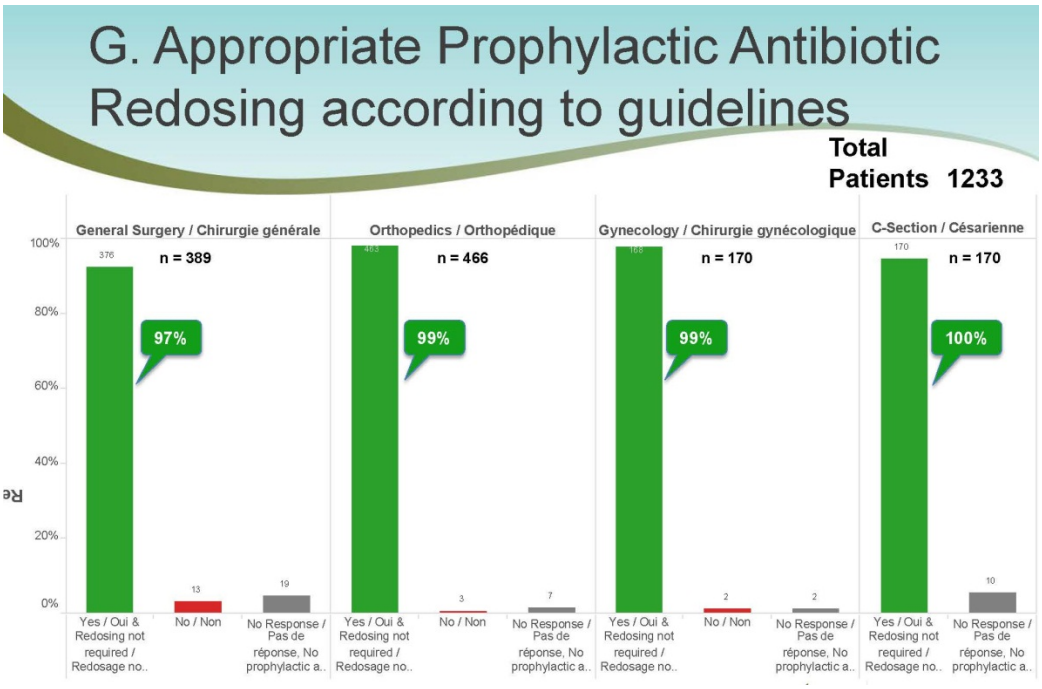




G. Appropriate prophylactic ABX redosing according to guidelines

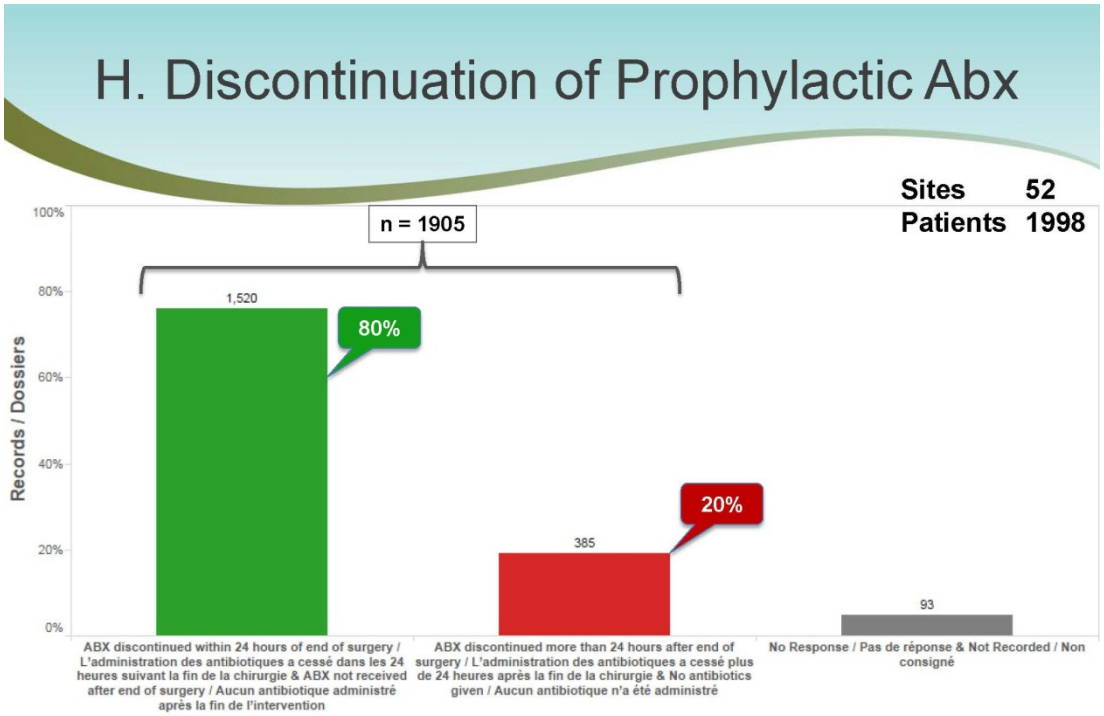
G. Appropriate prophylactic Abx redosing according to guidelines	No prophylactic antibiotic given	Yes	No	Redosing not required	Not Recorded

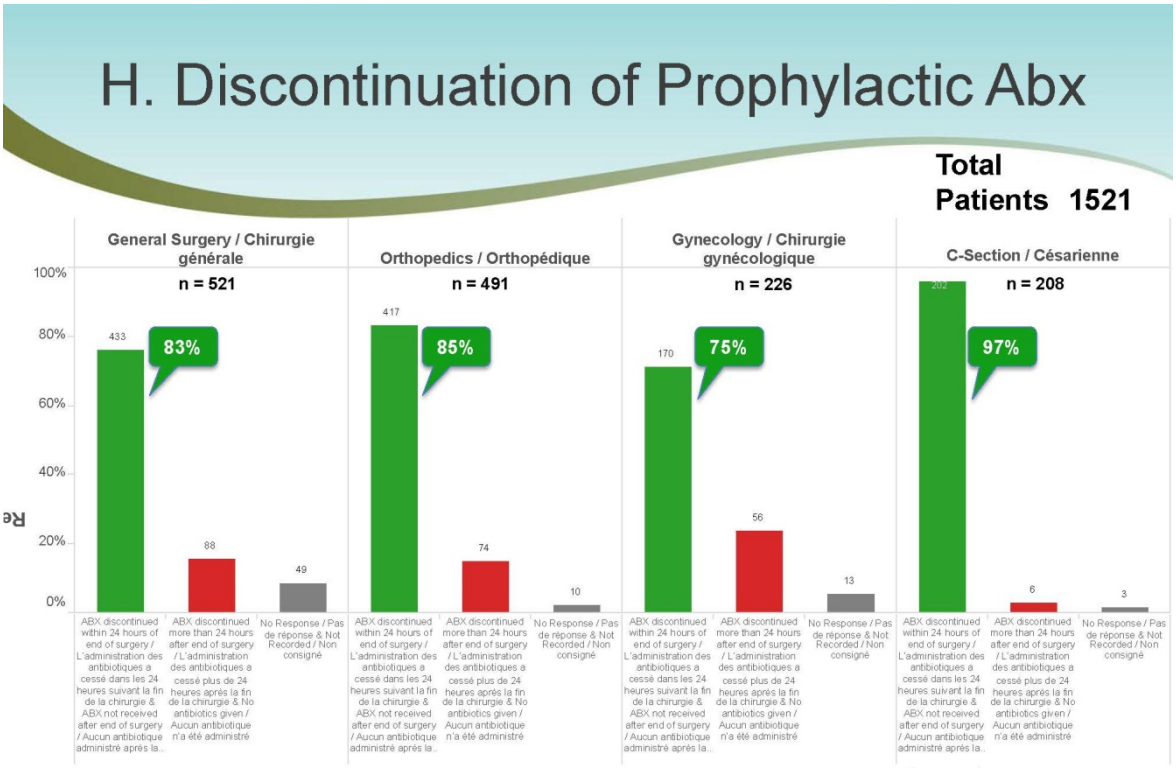




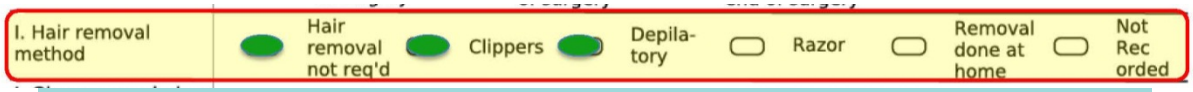
H. Discontinuation of Prophylactic Antibiotics

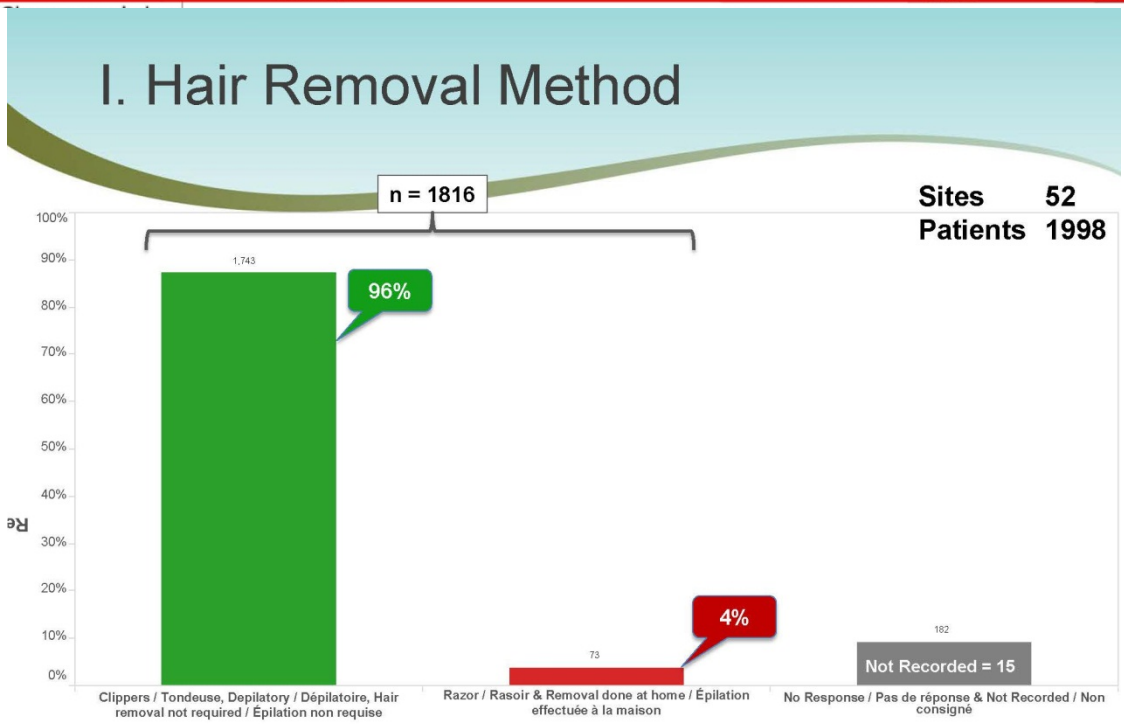
H. Discontinuation of prophylactic Abx	Abx not received after end of surgery	Abx discont'd within 24 hrs of end of surgery	Abx discont'd more than 24 hrs after end of surgery	No Abx given	Not Recorded

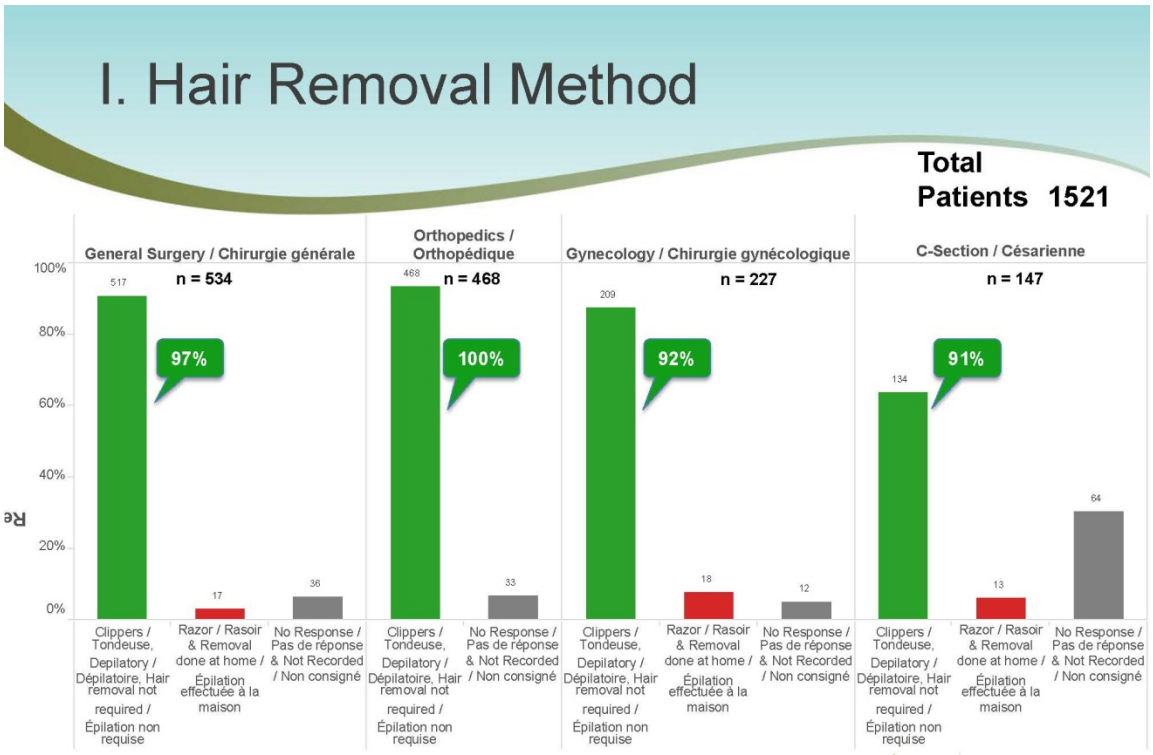




I. Hair Removal Method

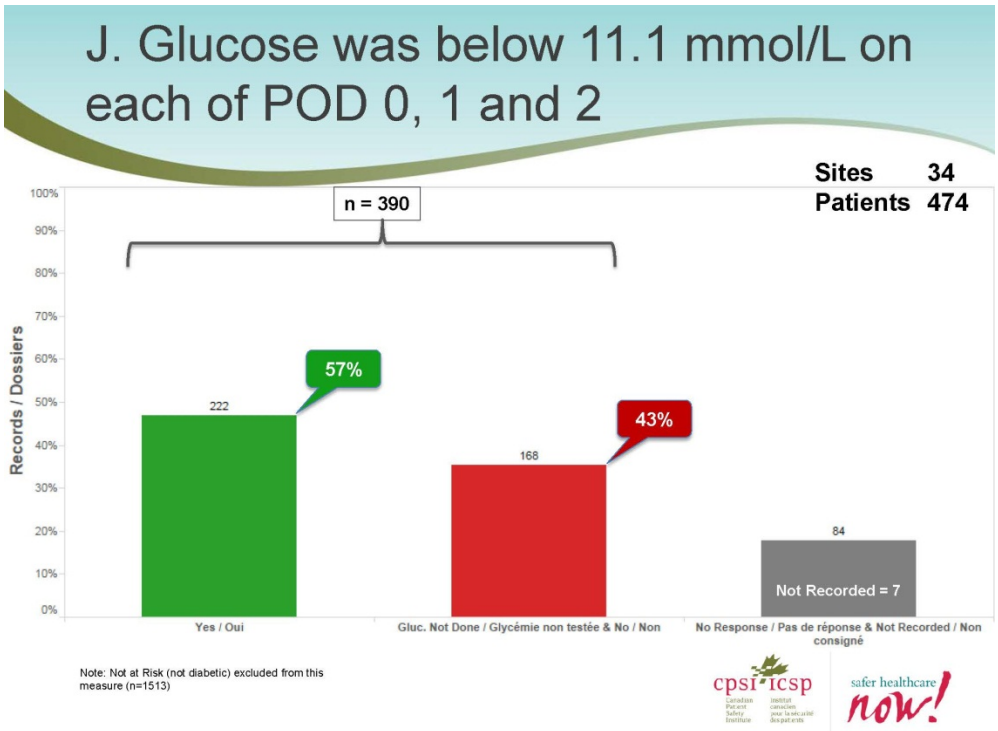


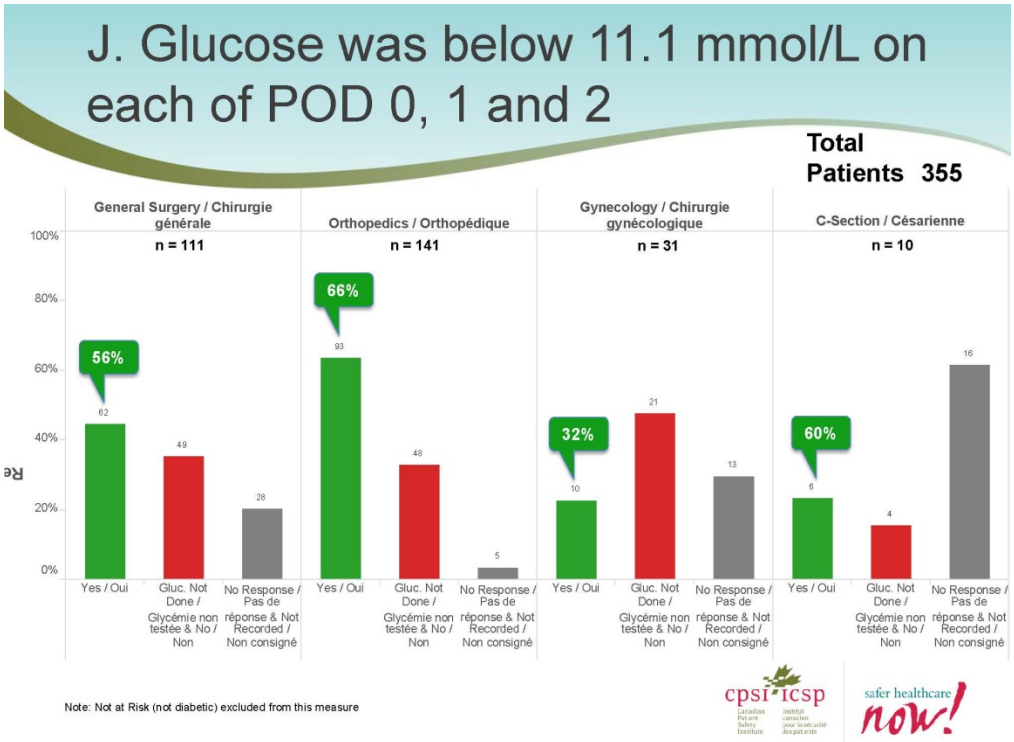




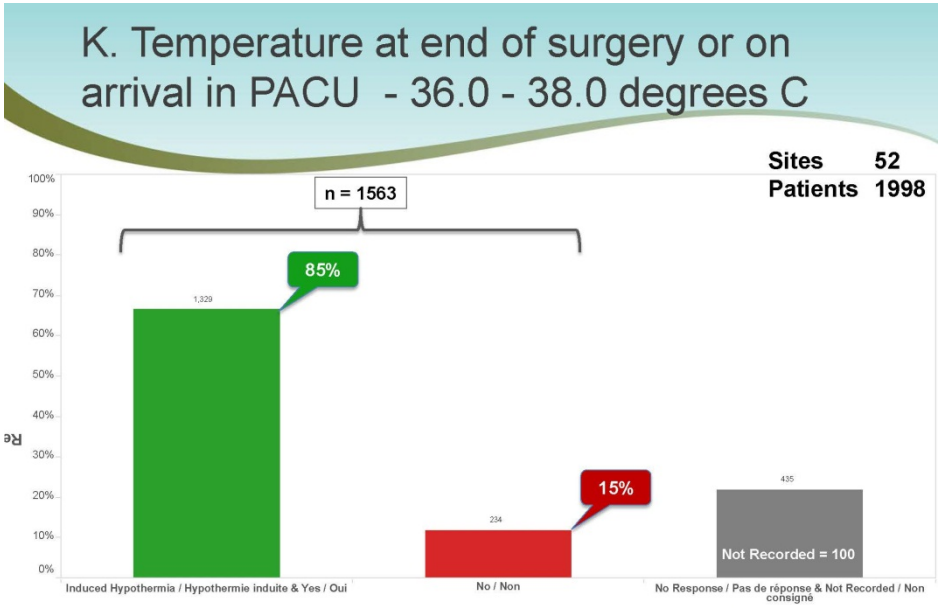
J. Glucose was below 11.1 mmol/L on each of POD 0, 1 & 2

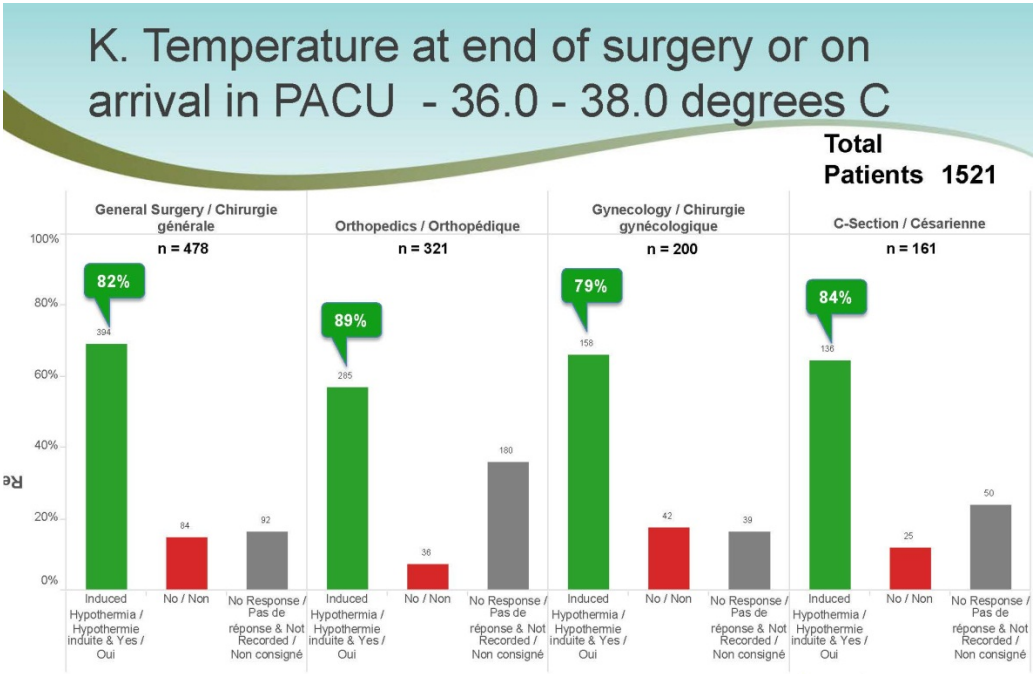
J. Glucose was below 11.1 mmol/L on each of POD 0, 1, & 2 | Not at risk | Yes | No | Glucose not done | Not Recorded





K. Temperature at end of surgery or on arrival in PACU was within range of 36.0-38.0 C





Overall SSI Scores

SSI Infection PRE-OP Score

SSI PRE-OPERATIVE SCORE (14)

SSI - Reducing Surgical Site Infection

Organization: 100 ABC Demo Hospital
In/Out: In Patient
Adult/Paeds: Adult
Age Group:
Program:
Service:
Procedure/Diagnostic Group:
Unit/Site: EXAMPLE
Patient Sample: DEMO
Printed On: 2015-12-17

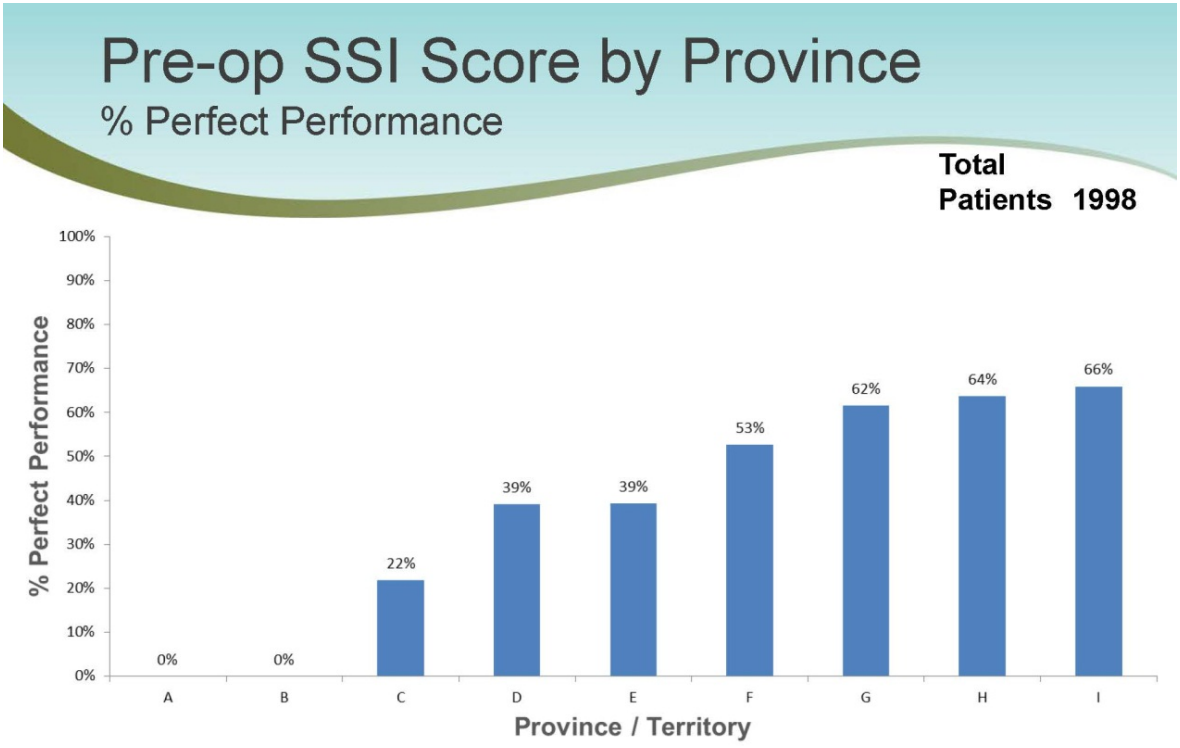
Contact Name, E-Mail and Phone Number (include area code):

FAX in FINE Resolution NO COVER PAGE
1-877-846-5153

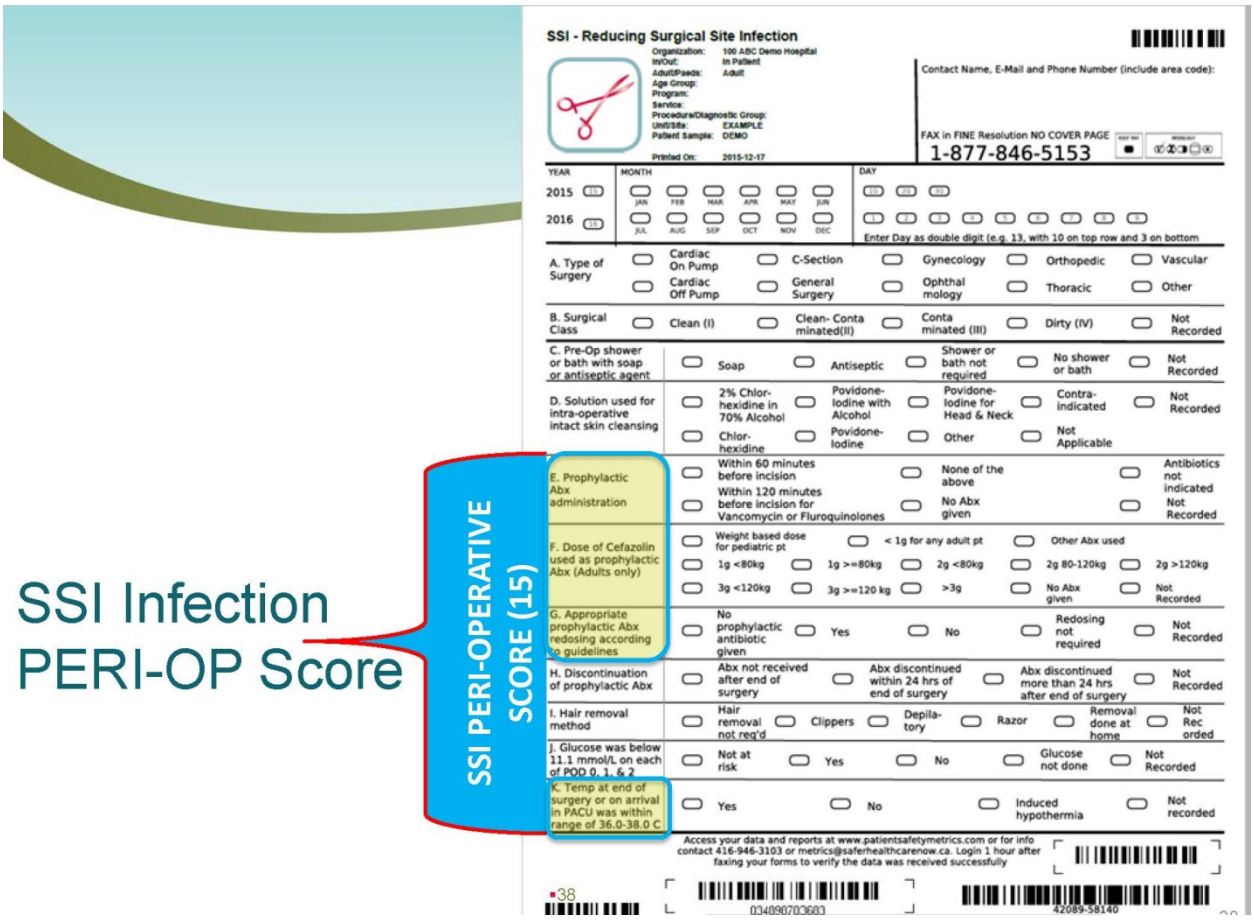
YEAR: 2015, 2016
MONTH: JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
DAY
Enter Day as double digit (e.g. 13, with 10 on top row and 3 on bottom

A. Type of Surgery	Cardiac On Pump	C-Section	Gynecology	Orthopedic	Vascular	
	Cardiac Off Pump	General Surgery	Ophthal mology	Thoracic	Other	
B. Surgical Class	Clean (I)	Clean- Conta minated(II)	Conta minated (III)	Dirty (IV)	Not Recorded	
C. Pre-Op shower or bath with soap or antiseptic agent	Soap	Antiseptic	Shower or bath not required	No shower or bath	Not Recorded	
D. Solution used for intra-operative intact skin cleansing	2% Chlor-hexidine in 70% Alcohol	Povidone-Iodine with Alcohol	Povidone-Iodine for Head & Neck	Contra-indicated	Not Recorded	
	Chlor-hexidine	Povidone-Iodine	Other	Not Applicable		
E. Prophylactic Abx administration	Within 60 minutes before incision	None of the above	Antibiotics not indicated			
	Within 120 minutes before incision for Vancomycin or Fluroquinolones	No Abx given	Not Recorded			
F. Dose of Cefazolin used as prophylactic Abx (Adults only)	Weight based dose for pediatric pt	< 1g for any adult pt	Other Abx used			
	1g <80kg	1g >=80kg	2g <80kg	2g 80-120kg	2g >120kg	
	3g <120kg	3g >=120 kg	>3g	No Abx given	Not Recorded	
G. Appropriate prophylactic Abx redosing according to guidelines	No prophylactic antibiotic given	Yes	No	Redosing not required	Not Recorded	
H. Discontinuation of prophylactic Abx	Abx not received after end of surgery	Abx discontinued within 24 hrs of end of surgery	Abx discontinued more than 24 hrs after end of surgery	Not Recorded		
I. Hair removal method	Hair removal not req'd	Clippers	Depila-tory	Razor	Removal done at home	Not Rec orded
J. Glucose was below 11.1 mmol/L on each of POD 0, 1, & 2	Not at risk	Yes	No	Glucose not done	Not Recorded	
K. Temp at end of surgery or on arrival in PACU was within range of 36.0-38.0 C	Yes	No	Induced hypothermia	Not recorded		

Access your data and reports at www.patientsafetymetrics.com or for info contact 416-946-3103 or metrics@saferhealthcarenow.ca. Login 1 hour after faxing your forms to verify the data was received successfully



SSI Infection PERI-OP Score



SSI - Reducing Surgical Site Infection

Organization: 100 ABC Demo Hospital
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SSI PERI-OPERATIVE SCORE (15)

A. Type of Surgery	Cardiac On Pump	C-Section	Gynecology	Orthopedic	Vascular	
	Cardiac Off Pump	General Surgery	Ophthal mology	Thoracic	Other	
B. Surgical Class	Clean (I)	Clean- Conta minated(II)	Conta minated (III)	Dirty (IV)	Not Recorded	
C. Pre-Op shower or bath with soap or antiseptic agent	Soap	Antiseptic	Shower or bath not required	No shower or bath	Not Recorded	
D. Solution used for intra-operative intact skin cleansing	2% Chlor-hexidine in 70% Alcohol	Povidone-Iodine with Alcohol	Povidone-Iodine for Head & Neck	Contra-indicated	Not Recorded	
	Chlor-hexidine	Povidone-Iodine	Other	Not Applicable		
E. Prophylactic Abx administration	Within 60 minutes before incision	None of the above	Antibiotics not indicated			
	Within 120 minutes before incision for Vancomycin or Fluroquinolones	No Abx given	Not Recorded			
F. Dose of Cefazolin used as prophylactic Abx (Adults only)	Weight based dose for pediatric pt	< 1g for any adult pt	Other Abx used			
	1g <80kg	1g >=80kg	2g <80kg	2g 80-120kg	2g >120kg	
	3g <120kg	3g >=120 kg	>3g	No Abx given	Not Recorded	
G. Appropriate prophylactic Abx redosing according to guidelines	No prophylactic antibiotic given	Yes	No	Redosing not required	Not Recorded	
H. Discontinuation of prophylactic Abx	Abx not received after end of surgery	Abx discontinued within 24 hrs of end of surgery	Abx discontinued more than 24 hrs after end of surgery	Not Recorded		
I. Hair removal method	Hair removal not req'd	Clippers	Depila-tory	Razor	Removal done at home	Not Rec orded
J. Glucose was below 11.1 mmol/L on each of POD 0, 1, & 2	Not at risk	Yes	No	Glucose not done	Not Recorded	
K. Temp at end of surgery or on arrival in PACU was within range of 36.0-38.0 C	Yes	No	Induced hypothermia	Not recorded		

Access your data and reports at www.patientsafetymetrics.com or for info contact 416-946-3103 or metrics@saferhealthcarenow.ca. Login 1 hour after faxing your forms to verify the data was received successfully

38

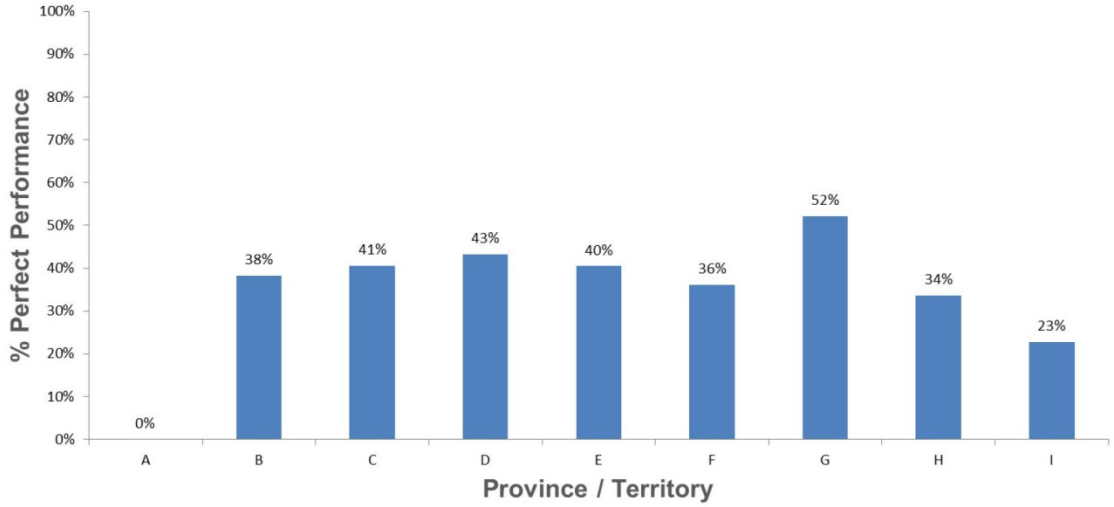
034090703603

42089-58140

Peri-op SSI Score by Province

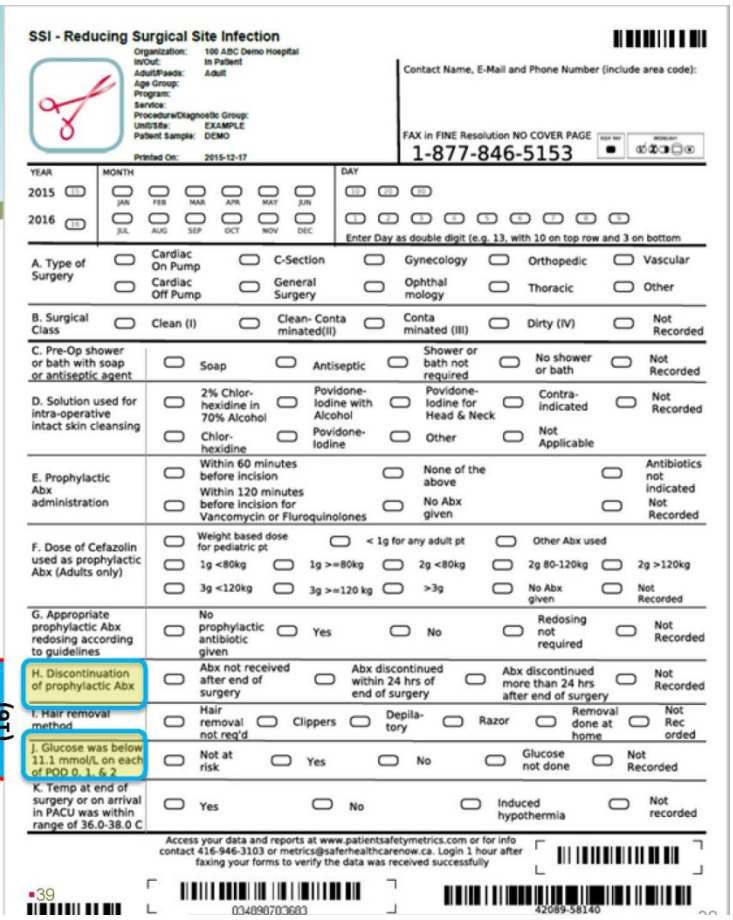
% Perfect Performance

Total Patients 1998



SSI Infection
POST-OP Score

SSI POST-OP SCORE (16)



SSI - Reducing Surgical Site Infection

Organization: 100 ABC Demo Hospital
In/Out: In Patient
Adult/Paeds: Adult
Age Group:
Program:
Service:
Procedure/Diagnostic Group:
Unit/Site: EXAMPLE
Patient Sample: DEMO
Printed On: 2015-12-17

Contact Name, E-Mail and Phone Number (include area code):

FAX in FINE Resolution NO COVER PAGE
1-877-846-5153

YEAR: 2015, 2016
MONTH: JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
DAY
Enter Day as double digit (e.g. 13, with 10 on top row and 3 on bottom

A. Type of Surgery: Cardiac On Pump; Cardiac Off Pump; C-Section; General Surgery; Gynecology; Ophthal mology; Orthopedic; Thoracic; Vascular; Other

B. Surgical Class: Clean (I); Clean- Conta minated(II); Conta minated (III); Dirty (IV); Not Recorded

C. Pre-Op shower or bath with soap or antiseptic agent: Soap; Antiseptic; Shower or bath not required; No shower or bath; Not Recorded

D. Solution used for intra-operative intact skin cleansing: 2% Chlor-hexidine in 70% Alcohol; Povidone-Iodine with Alcohol; Povidone-Iodine for Head & Neck; Contra-indicated; Not Recorded; Chlor-hexidine; Povidone-Iodine; Other; Not Applicable

E. Prophylactic Abx administration: Within 60 minutes before incision; Within 120 minutes before incision for Vancomycin or Fluroquinolones; None of the above; No Abx given; Antibiotics not indicated; Not Recorded

F. Dose of Cefazolin used as prophylactic Abx (Adults only): Weight based dose for pediatric pt; < 1g for any adult pt; Other Abx used; 1g <80kg; 1g >=80kg; 2g <80kg; 2g 80-120kg; 2g >120kg; 3g <120kg; 3g >=120 kg; >3g; No Abx given; Not Recorded

G. Appropriate prophylactic Abx redosing according to guidelines: No prophylactic antibiotic given; Yes; No; Redosing not required; Not Recorded

H. Discontinuation of prophylactic Abx: Abx not received after end of surgery; Abx discontinued within 24 hrs of end of surgery; Abx discontinued more than 24 hrs after end of surgery; Not Recorded

I. Hair removal method: Hair removal not req'd; Clippers; Depila-tory; Razor; Removal done at home; Not Rec orded

J. Glucose was below 11.1 mmol/L on each of POD 0, 1, & 2: Not at risk; Yes; No; Glucose not done; Not Recorded

K. Temp at end of surgery or on arrival in PACU was within range of 36.0-38.0 C: Yes; No; Induced hypothermia; Not recorded

Access your data and reports at www.patientsafetymetrics.com or for info contact 416-946-3103 or metrics@saferhealthcarenow.ca. Login 1 hour after faxing your forms to verify the data was received successfully

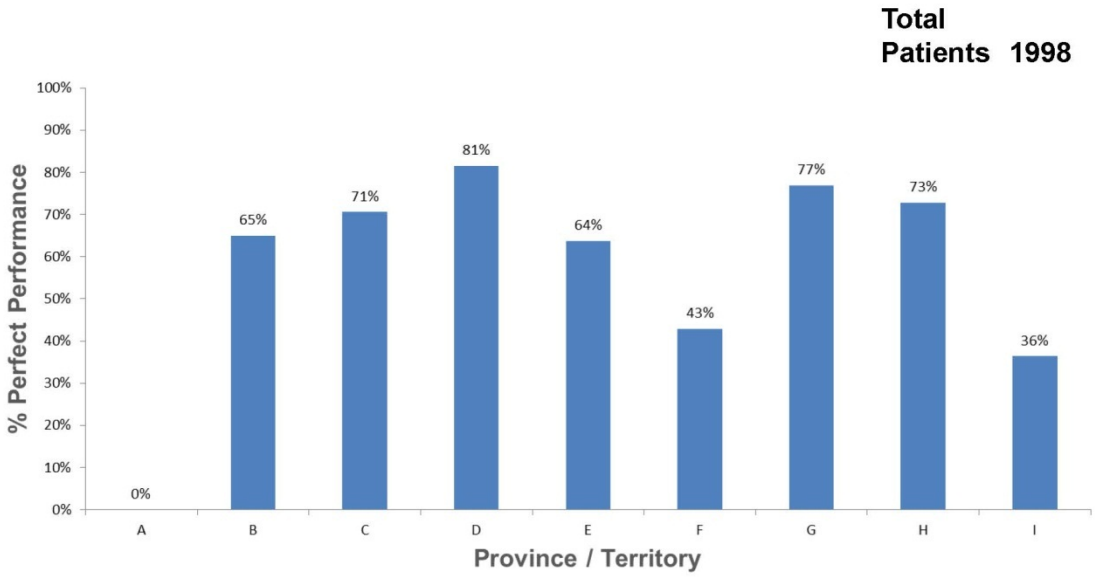
39

034090703603

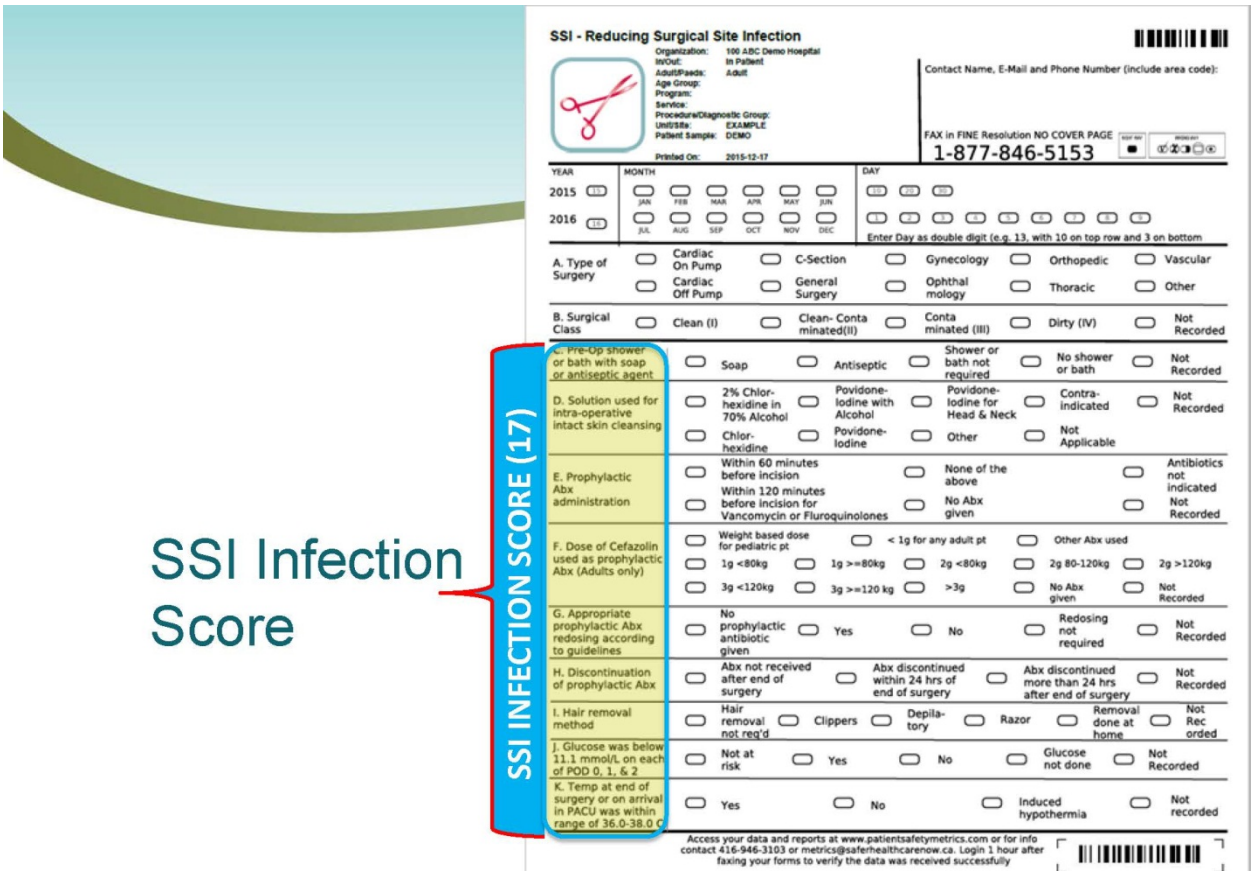
42089-58140

Post-op SSI Score by Province

% Perfect Performance



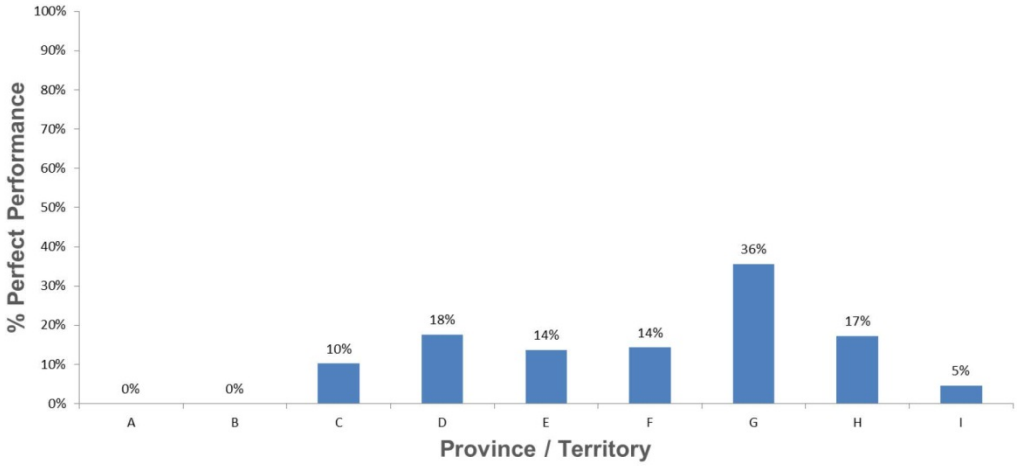
SSI Infection Score

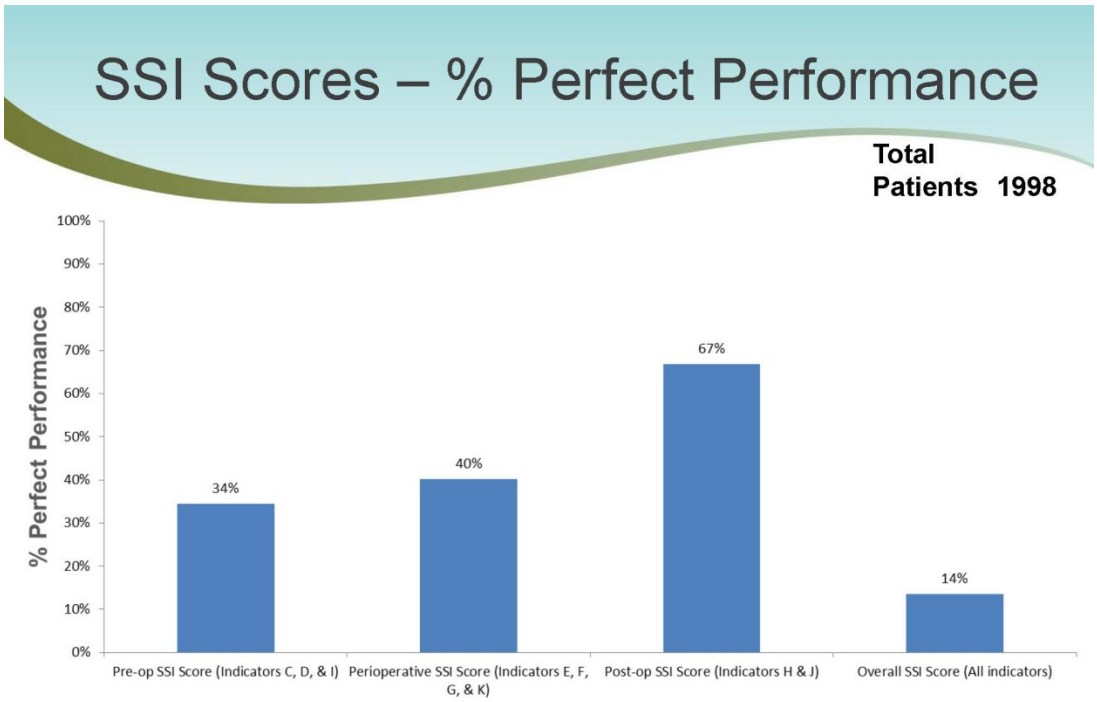


Overall SSI Score by Province

% Perfect Performance

Total Patients 1998




SSI Scores – % Perfect Performance
Total Patients 1998
% Perfect Performance
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
34%
40%
67%
14%
Pre-op SSI Score (Indicators C, D, & I)
Perioperative SSI Score (Indicators E, F, G, & K)
Post-op SSI Score (Indicators H & J)
Overall SSI Score (All indicators)

SUCCESS STORIES

Whitehorse General Hospital shares key learnings from the SSI Audit

As the sole Infection Control Practitioner for the Yukon Hospital Corporation, Samantha Stewart is pulled in many directions addressing infections and finding ways to keep infection rates down. Whitehorse General Hospital (WGH) was looking to develop a system for timelier reporting so that they could respond quicker when infections surface. When plans for the Surgical Site Infection (SSI) Audit were announced, Samantha eagerly signed-up to participate.

"The audit was our jumping off point," says Samantha Stewart. "There was no formal tracking system in place and we really did not know if we were compliant with any of the SSI prevention best practices, or just one or two components of them. We were having trouble getting data, we did not know how we compared with other hospitals, and we were not sure how to benchmark, other than against ourselves. The audit provided a good baseline to see how we were doing with best practices and recommendations outlined in the *Safer Healthcare Now!* SSI Getting Started Kit."

Samantha led the charge for the audit, first getting buy-in from the OR, Surgical Unit and Surgical Daycare Managers. Forms were place on patient charts and she had quick information sessions with front-line staff so that they would know what they were auditing. An envelope system was created where completed forms were placed on the unit, to be collected and verified by Samantha prior to being submitted to Patient Safety Metrics. If information was missed, or had to be redone, it was easy to update to ensure the data was as accurate as possible. With the help of front-line staff, 133 patient charts were audited during the month of February 2016.

"Our staff were more receptive and accepting of the audit form once they could see the end goal and better understand what they were participating in would help us to improve care for the safety of our patients," says Samantha. "Generally, people did not find it a difficult form to fill out, but some had challenges finding the time to do it during their busy work day."

Samantha noted several key learnings as a result of participating in the audit. Often, staff will presume that the infection may have been caused by the surgeon or the OR team. However, when the audit information is broken down to the pre-operative, peri-operative and post-operative stage, staff hopefully had that ah-ha moment that surgical site infection and prevention applies across the continuum of care, from before the patient is admitted -- straight through to discharge home.

"Amongst all of our best efforts and the best practices put forward in the SSI Getting Started Kit, it is also important to emphasize the role of the patient," says Samantha. "Specifically, hand hygiene and wound care after discharge, can also play a role in infection rates. We are currently focussing on how to empower patients and emphasize their role in infection prevention as it relates to performing hand hygiene."

The audit also identified what they do well and what they need to improve on. "The audit provided the opportunity to benchmark against other participants, as well as specific aspects in the Getting Started Kit," says Samantha. "Based on national trends, we now know we can do better with pre-warming

patients and will be looking at best practices for accomplishing that. Another, was improving documentation of a pre-operative bath/shower and glucose monitoring, and whether it is being done appropriately, or if the information was not readily noted on the chart. These are just some of the pieces we need to look at to ensure we are in compliance with the bundle approach outlined in the SSI Getting Started Kit."

Some procedural changes under consideration are to standardize 2g Cefazolin/Ancef for applicable pre-operative patients; investigate the use of Povodine Iodine with alcohol; and to consider the discontinuation of prophylactic antibiotics appropriately. Documentation will also be improved to note the completion time of the antibiotic infusion pre-op; the patient's temperature at end of surgery; and if the patient had a pre-operative shower.

Overall, Samantha was quite pleased to see that Whitehorse General matched larger jurisdictions and several other hospitals on their results. "I am quite proud of our team," says Samantha. "We are in the process of packaging the results and presenting the information back to those stakeholders who took all that effort and energy to gather the data for us. We want to make it meaningful so that they know that all of their efforts are appreciated. If staff do not know how we are using the data, it fosters negativity. If they can see that we are using the information for quality improvement, they too will see the value in participating in an audit like this.

"In my mind, the SSI Audit is a nice, tidy parcel with a bow on it," says Samantha. "You are provided with the audit tool to compare with national best practices, it is easy to use, and the data analysis is provided for you. It makes it very easy to get and use the information effectively. If I had to do all of the auditing, data collection, analyzing and reporting, an audit like this would not have been a feasible option.

University Health Network's approach to reducing surgical site infections

University Health Network (UHN) has embarked on a patient safety transformation following the principles and approaches that are used by high reliability organizations.

Known as *Caring Safely*, the approach focuses on four pillars, one of which aims to reduce hospital-acquired conditions (HACs) to zero over time. Six HACs, chosen because they are the ones with the most impact on patients, are being addressed first: surgical site infections, central line infections, Clostridium *difficile* (C. *diff*), pressure ulcers, falls and adverse drug events.

UHN is participating in the National Surgical Quality Improvement Program (NSQIP), to evaluate its performance and benchmark against other U.S. and Canadian hospitals. This is helping them evaluate their surgical site infections. Developed by the American College of Surgeons, NSQIP enhances a hospital's ability to zero in on preventable complications. UHN has also joined Health Quality Ontario's Ontario Surgical Quality Improvement Network, a community of surgical teams across the province who are working to achieve long-term surgical quality improvement goals. The program is designed to deliver better patient outcomes, shorten hospital stays, and reduce the number of surgical complications per year.

Last February, UHN also participated in the *Safer Healthcare Now!* Canadian Surgical Site Infection (SSI) Prevention Audit, which provided a snapshot of the current state of its practice related to surgical site infection prevention.

"The *Safer Healthcare Now!* SSI Audit provided a baseline granular view of where we have gaps in data collection and practice," says Wing-Si Luk, Director, Hospital Acquired Conditions Prevention & Management, UHN. "We did not have a robust ongoing mechanism to collect data on the status of practice related to surgical site infection prevention at UHN. The audit was really helpful in terms of providing a snapshot of what we are doing well and where we need to improve. It created a current state for us and an opportunity to compare our data with other healthcare organizations across Canada."

Patient care coordinators and nurses in the surgical program at both the Toronto Western (TWH) and Toronto General Hospital (TGH) sites of UHN participated and were tasked with reviewing 270 paper-based patient charts for the SSI audit. These clinicians recorded data on all components of the *Safer Healthcare Now!* SSI bundles, which included temperature, glucose levels, hair removal and perioperative antimicrobial coverage, and trailed the patient's journey from pre-op to the operating room to recovery, to collect relevant information.

"The audit was a lot of work, but the information is so valuable," says Laura Corman, Patient Care Coordinator in Perioperative Services at TGH. "We found gaps in the way we document across sites and the audit showed where we have work to do. By extracting the data, we can now give valuable feedback to the direct caregivers."

Joe Brubaker, Nurse Manager on the 9B Surgical Unit at TWH, adds: "We are now looking at trends and feeding information back to groups and managers of those areas so that they can take that information back to the staff, to look at how and what they are documenting. Our clinicians have gathered a great deal of knowledge from the audit and we will be involving them to recommend changes in our processes."

The audit results are being review by UHN's Surgical Quality Review Committee and the Surgical Divisions at both TWH and TGH.

RESOURCES

- **Surgical Site Infection Getting Started Kit**
  http://www.patientsafetyinstitute.ca/en/toolsresources/pages/ssi-resources-getting-started-kit.aspx

- **Improvement Guide**
  http://www.patientsafetyinstitute.ca/en/toolsResources/ImprovementFramework/Documents/Improvement%20Frameworks%20GSK%20EN.PDF

APPENDIX A: CALL TO ACTION

Reducing Harm | Improving Healthcare | Protecting Canadians

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Call to action

The Canadian Surgical Site Infection Prevention Audit - February 2016

Safer Healthcare Now!, a program of the Canadian Patient Safety Institute (CPSI), along with our partners Alberta Health Services - Surgery Strategic Clinical Network, Atlantic Health Quality & Patient Safety Collaborative, BC Patient Safety & Quality Council, Health Quality Ontario, and Saskatchewan Ministry of Health - Patient Safety Unit, invite you to participate in the Canadian Surgical Site Infection (SSI) Prevention Audit, designed to establish a national baseline for compliance with best practices in the prevention SSI.

Surgical site infection is the most common healthcare associated infection among surgical patients, with 77 per cent of patient deaths reported to be related to infection.

By participating in this first SSI Prevention Audit you will be part of an ongoing movement to measure the quality of care related to SSI prevention. Your participation will help contribute to the reduction of SSIs and associated deaths by identifying both areas of excellence and improvement in perioperative care. Measurement is critical in the journey to improve the delivery of safe and effective cares for all surgical patients.

MARK YOUR CALENDARS!

National Call:
Call to Action for the 2016 Canadian SSI Prevention Audit - January 7th, 2016 at 10 am MT / 12 pm ET

2016 Canadian SSI Prevention Audit
February, 2016

National Call:
Results from Canadian SSI Prevention Audit March 24th, 2016 at 10 am MT / 12 pm ET

For more information, join our FREE information call January 7th, 2016

To join the training session, go to:
https://cpsi-icsp.webex.com/cpsi-icsp/k2/j.php?MTID=t1cba43c146aae3275d127fc5e9c63aa1

- Enter the session password: SSIaudit2016
- Click 'Join Now' and follow the instructions that appear on your screen
- Time:
  - 09:00 a.m. - 10:00 a.m. PT
  - 10:00 a.m. - 11:00 p.m. MT
  - 11:00 p.m. - 12:00 p.m. CT
  - 12:00 p.m. - 13:00 p.m. ET
  - 13:00 p.m. - 14:00 p.m. AT
  - 13:30 p.m. - 14:30 p.m. NT

Visit www.patientsafetyinstitute.ca to register!

www.saferhealthcarenow.ca cpsi icsp November 2015

APPENDIX B: SSI AUDIT MONTH INSTRUCTION BOOK

Canadian SSI Prevention Audit: February 2016

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Canadian Surgical Site Infection Prevention Audit Instructions

February 2016 is Canadian SSI Prevention Audit Month

Thank you for participating in the **Canadian Surgical Site Infection (SSI) Prevention Audit Month**. During the month of February 2016, we will be challenging all **acute care hospitals offering surgical services** to audit *their established processes for SSI prevention.* .

By participating in the first annual Canadian SSI Prevention Audit you will be part of an ongoing movement to measure the quality of the SSI prevention processes. This instruction booklet is intended to provide the guidance required to participate in the audit month. It is divided into four sections as follows:

1- Background
2- Preparing for the audit
3- Completing the audit and submitting results
4- Appendices

Section 1: Background

Surgical site infection is the most common healthcare associated infection among surgical patients, with 77 per cent of patient deaths reported to be related to infection[1]. During the month of February, we challenge all acute care organizations providing surgical services to audit their established processes for preventing surgical site infections (SSI).

Auditing the process will help to identify areas of excellence and areas for improvements. Measurement is critical in the journey to improve the delivery of safe and effective surgical care.
The purpose of the Canadian Surgical Site Infection Prevention Audit is to encourage all surgical care service providers to:

- Measure compliance with established processes for preventing SSI;
- Use results to inform and drive local and systemic improvement efforts.

Using the Surgical Site Infection Data Collection Form **(Appendix A)** your organization can evaluate the quality of your established SSI prevention best practice processes. **The Data Collection Form is to be used in February for the National Audit. We recommend that following the audit you continue to submit data using the SSI Data Collection Form** to help you on your journey to improve the delivery of safe and effective care for your surgical patients.

[1] Cataife G, Weinberg DA, Wong HH, et al. The effect of Surgical Care Improvement Project (SCIP) compliance on surgical site infection (SSI). Med Care 2014;52(suppl1):S66-73.

Canadian SSI Prevention Audit: February 2016

Section II: Preparing for the audit

STEP 1* – *Determine the appropriateness for the use of the SSI Prevention Data Collection Tool.

Participation in audit month encourages the use of the SSI Prevention Data Collection Form. The form was developed for monitoring the care your surgical patients received during their hospitalization or day surgery visit. All Canadian healthcare facilities providing surgical care services are eligible to participate in the Canadian SSI Prevention Audit.

The SSI Data Collection form is most appropriate for adult and pediatric NHSN Class I and Class II patients. **We do not recommend the tool for trauma patients and emergency surgical cases.**

- NHSN Class I - Clean - An Uninfected operative wound in which no inflammation is encountered and the respiratory, alimentary, genital, or uninfected urinary tract is not entered
- NHSN Class II - Clean Contaminated - An operative wound in which the respiratory, alimentary, genital, or urinary tracts are entered under controlled conditions and without unusual contamination.

We recommend that you:

- Listen to the past national Call "Increase Your SSI Data Collection Efficiency".
- Participate in the "Call to Action for the 2015 Canadian SSI Prevention Audit"
  - January 7th, 2016 - 10 am MT / 12 pm ET
  - Enter the session password: *SSIaudit2016*
- **Click here to Register for the audit**

STEP 2* – *Consider which care areas you would like to audit and how you might wish to group/analyze the audit results.

Determine the areas **where you would like to evaluate your SSI prevention processes.** You may decide to audit the organization as a single entity, individual units, or different surgical patient populations within your organization. Your decision will determine at what level(s) you are able to analyze your data. That is, if you decide to collect data from different units or surgical populations you will be able to compare quality performance across units or populations, roll it up to the organization level and compare to the region, province and the country. Whereas, if you choose to collect data for the organization as a single entity your analysis will be limited to comparing the organization's performance to the region, province and country.

Please note: All data submitted to the "Canadian SSI Prevention Audit" will be presented at provincial and national aggregate form only.

We would encourage organizations to audit as many areas as resources will allow. You may conduct your SSI Prevention audit(s) any time during the month of February.

Canadian SSI Prevention Audit: February 2016

The sample size and sampling strategy is at the discretion of your facility (see **Step 5** for sample size recommendation).

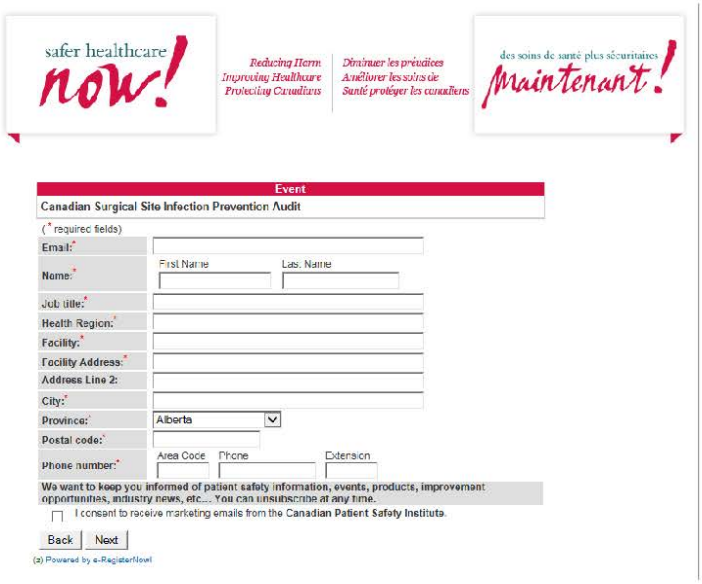
STEP 3* - *Register/Enroll to participate in Canadian SSI Prevention Audit Month.

Register your organization for Canadian SSI Prevention Audit. By registering, you are committing to conducting an audit during the month of February, 2016. There is no charge for registration and there are no pre-determined numbers of charts that you must audit. (Refer to step 5 for recommended sample sizes).

By registering it will allow a member of the Central Measurement Team (CMT) *of Safer Healthcare Now!* to contact you for next steps. This may include assistance in creation of SSI Prevention Data Collection Forms (Audit Tools) tailored for your site/organization.

Results of individual healthcare facilities will not be shared publicly without explicit consent. All data submitted to the "Canadian SSI Prevention Audit" will be presented in national and provincial aggregate form only.

Image of the registration page



Canadian SSI Prevention Audit: February 2016

***STEP 4** - Access your organization or unit specific audit tool*

There are two ways to access your organization's area-specific audit tool/data collection form:

1. You may already have existing SSI Prevention Data Collection Forms (audit tools), in which case you will use those
2. If you do not have existing SSI Prevention Data Collection Form (audit tool), or need additional forms,
   a. Central Measurement Team (CMT) will contact you upon registration and will create them for you.
      OR
   b. You may generate your data collection form yourself. See **Appendix B** for the instructions to generate your own form.

***STEP 5** – Determine number of charts to audit and how the charts will be selected*

Given that organizations differ in size, patient volumes, and availability of resources to conduct audits, we do not have **specific requirements** for the number of charts to audit. ***Both the number of charts (sample size) and the method used to select charts for audit is at the discretion of the end users.***

The table below, details a recommended sampling strategy for this audit event and future data collection.

Quality Improvement Sampling strategy

Average Monthly Population Size *"N"*	**Minimum required sample *"n"***
< 20	No sampling; 100% of population required *(minimum of 10 audits)*
20 – 100	20
> 100	15 - 20% of population size

Data Collection Methodology

- **Concurrent**: place the SSI data collection form on the patient chart and complete each element over time up to the day of discharge.
- **Retrospective chart review** to collect data for clean and clean-contaminated patients discharged the previous day, week, or month.

Note:

- *The larger the number of charts included (the sample size), the more robust the results.*
- *You will need one data collection form for each patient audited. Once the area-specific form has been generated, print as many forms as you require for your audit. Do not photocopy the forms.*

Canadian SSI Prevention Audit: February 2016

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Section III: Completing the Audit and Submitting Results

STEP 1 - *Determine the auditor(s)*

Ideally an auditor(s) should:

- be someone familiar with the Surgical Care program, documentation and the overall chart format for your organization.
- not audit their own work
- have some training or guidance provided (to ensure consistency in application of org-specific criteria)

STEP 2 - *Complete the audit*

Purpose of the Data collection Form

The SSI Data Collection Form is designed for use in Acute Care, and was developed to allow organizations to assess the quality of their surgical site infection prevention practices and determine the areas requiring quality improvement(s). Details of evidence-based practice are available in the ***Safer Healthcare Now!* Getting Started Kit** (GSK, 2014)
http://www.patientsafetyinstitute.ca/en/toolsresources/pages/ssi-resources-getting-started-kit.aspx

Row by Row explanation

1. **Row A- Type of Surgery** – indicate what type of surgery the patient underwent – select one only. If the type is not listed select 'Other'. **Response options include**: Cardiac On Pump; Cardiac Off Pump; C-Section; General Surgery; Gynecology; Ophthalmology; Orthopedics; Thoracic; Vascular; or Other.
    - Select "other" for Head and Neck Surgery or if type of surgery is not listed.

2. **Row B. Surgical Class** - Indicate the category of surgery the patient underwent during this reporting period. If the patient underwent more than one surgery enter data for the first procedure only.
    - NHSN Class I - **Clean** - An Uninfected operative wound in which no inflammation is encountered and the respiratory, alimentary, genital, or uninfected urinary tract is not entered
    - NHSN Class II - **Clean Contaminated** - An operative wound in which the respiratory, alimentary, genital, or urinary tracts are entered under controlled conditions and without unusual contamination.
    - NHSN Class III - **Contaminated** - Open, fresh, accidental wounds. In addition, operations with major breaks in sterile technique (e.g., open cardiac massage) or gross spillage from the gastrointestinal tract, and incisions in which acute, non–purulent inflammation is encountered are included in this category.
    - NHSN Class IV - **Infected/Dirty** - Old traumatic wounds with retained devitalized tissue and those that involve existing clinical infection or perforated viscera. This definition suggests that the organisms causing post-operative infection were present in the operative field before the operation.
    - Not Recorded – no documentation regarding NHSN Class

Canadian SSI Prevention Audit: February 2016

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3. **Row C. Pre-Op Shower or bath with soap or antiseptic agent?** - Based on the evidence clean and clean-contaminated surgical patients should shower or full bath or partial body wash pre-operatively with soap or antiseptic agent on at least the night before the operative day. **Select one of**:
   - Soap: bar/bath soap
   - Antiseptic Agent: e.g. Chlorhexidine
   - Shower or Bath not required: i.e. shower or bath is not required for the type of surgery e.g. ophthalmologic or oral
   - No shower or bath – a shower or bath was required but the patient did not have either
   - Not Recorded – no evidence of having a shower or bath recorded in the patient chart

4. **Row D. Solution used for intra-operative intact skin cleansing?** - Based on available evidence, clean and clean-contaminated surgical patients with appropriate intra-op skin cleansing on intact skin. 2% Chlorhexidine in 70% alcohol antiseptic solution is the preferred agent unless contraindicated. Other alcohol-based solutions (povidone-iodine) are acceptable. **Select one of:**
   - **2% Chlorhexidine in 70% alcohol** – has been demonstrated to be more effective as a surgical skin preparation solution than other agents.
   - **Chlorhexidine**
   - **Povidone-iodine with alcohol**
   - **Povidone-iodine**
   - **Povidone-iodine for Head/Neck** – select this response option if povidone-iodine was used for skin cleansing for a Head and Neck surgery patient
   - **Other** – other solution used
   - **Contraindicated** - i.e. skin sensitivity, allergy, rash, or contact with the eye, inner ear, mucosa or meninges.
   - **Not Applicable** - i.e. ophthalmologic or oral
   - **Not Recorded** no evidence of intra-operative intact skin cleansing recorded in the patient chart

5. **Row E. Prophylactic antibiotic administration** - Select one of:
   - **Within 60 minutes before incision** administration of antibiotic was completed within 0 to 60 minutes prior to the first surgical incision time.
   - **Within 120 minutes before incision for Vancomycin or Fluoroquinolones** which was administered over 120 minutes and completed within 0 to 60 minutes prior to the first surgical incision.
   - **None of the above** – gave antibiotics but did not meet the timing requirements described above.
   - **No antibiotics given.**
   - **Not recorded** - no documentation of prophylactic antibiotics recorded in the patient chart
   - **Antibiotics not indicated** – some surgeries may not require prophylactic antibiotics according to your hospital's policy. Antibiotic prophylaxis in clean surgeries is only indicated for cardiac, neurosurgery, vascular and sometimes thoracic depending on the intervention.

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6. **Row F. Dose of Cefazolin used as prophylactic antibiotic** - Select one of:
   - **Weight based dose for pediatric pt.** – Cefazolin dose for pediatric patient based on patient's weight
   - **<1g for any adult patient**
   - **1 g** (gram) **<80 kg** –1g Cefazolin administered as the prophylactic antibiotic to patient less than 80 kg
   - **1 g** (gram) **≥80 kg** –1g Cefazolin administered as the prophylactic antibiotic to patient weighing 80 kg or more
   - **2g** (grams) **<80 kg** – 2g Cefazolin administered as the prophylactic antibiotic to patient less than 80 kg
   - **2 g** (gram) **80-120 kg** –2g Cefazolin administered as the prophylactic antibiotic to patient weighing 80 to 120 kg
   - **2 g** (gram) **>120 kg** –2g Cefazolin administered as the prophylactic antibiotic to patient weighing more than 120 kg
   - **3 g (gram) <120 kg** – 3g Cefazolin administered as the prophylactic antibiotic to patient weighing less than 120 kg
   - **3 g** (gram) **≥120 kg** –3g Cefazolin administered as the prophylactic antibiotic to patient weighing 120 kg or more
   - **>3g** (grams) – more than 3g of Cefazolin administered as the prophylactic antibiotic
   - **Other antibiotic used** – any antibiotic other than Cefazolin was administered as the prophylactic antibiotic.
   - **No antibiotics given** – Select this response if you responded "No antibiotics given" or "Antibiotics not indicated" in Row E above. (not in denominator)
   - **Not recorded** – the type of prophylactic antibiotic given was not recorded in the patient chart.

7. **Row G. Appropriate prophylactic antibiotic redosing according to guidelines** - Select one of: **No prophylactic antibiotic given; Yes; No; Redosing was not required.**
   - For appropriate prophylactic antibiotic redosing guidelines (see GSK p. 21-22).
   - **No prophylactic antibiotic given** – prophylactic antibiotic was not administered prior to the first incision therefore even if an antibiotic was delivered during the surgery it would not be considered 'redosing'.
   - **Yes** – prophylactic antibiotic was given prior to the first incision and at least one other dose of the antibiotic was given during the surgery as per recommended guidelines (SSI GSK p. 21-22).
   - **No** - prophylactic antibiotic was given prior to the first incision and despite the length of the surgery exceeded the recommended intraoperative prophylactic antibiotic redosing interval (see GSK Table 1. p. 22) No repeat dose of the antibiotic was given during the surgery.
   - **Redosing was not required** - prophylactic antibiotic was given prior to the first incision but due to the length of the surgery being less than the intraoperative prophylactic antibiotic redosing interval no other dose of the antibiotic was required during the surgery. Redosing is not applicable for some antibiotics (see GSK Table 1. p. 22)

- **Not Recorded** - no documentation of prophylactic antibiotics redosing recorded in the patient chart

8. **Row H. Discontinuation of prophylactic antibiotic** - Select one of:
   - **Antibiotic not received after end of surgery** – no prophylactic antibiotics were administered at any time following the surgery.
   - **Antibiotic discontinued within 24 hours of end of surgery** – prophylactic antibiotics were administered up to 24 hours following the end of surgery.
   - **Antibiotic discontinued more than 24 hours after end of surgery** - prophylactic antibiotics were administered more than 24 hours following the end of surgery.
   - **Not Recorded** - no documentation of discontinuation of prophylactic antibiotics recorded in the patient chart

9. **Row I. Hair removal method?** - Select one of: **Hair removal not required; Clippers; Depilatory; Razor; or Removal done at home**
   - SSI Faculty recommends no hair removal prior to surgery. If hair removal is necessary, clippers (not razors) should be used. Ideally, hair removal should occur outside of the OR theatre or procedure room, but inside of the operating room department, within two hours of surgery.
   - **Hair removal not required** - hair should not be removed unless it interferes with the surgical procedure. Select this response option if there is no hair to remove or hair present but was not remove.
   - **Clippers** – clipper use is sufficient for any body part but clippers should be used as close to the time of surgery as possible (within 2 hours is recommended)
   - **Depilatory** - Depilatory creams are a potential option, but, have some disadvantages. They may require an allergy and irritant patch test 24 hours before the full application. Also, hair removal using a depilatory cream would have to be carried out in the patient's own home due to reduced pre-admission time
   - **Razor** - razor use is not appropriate for any operative site
   - **Removal done at home** – hair removal is not recommended. Patients should be educated not to shave or use a depilatory agent in the vicinity of the surgical site before surgery. Incorporate this message into the printed preoperative patient information and surgeon's office communication
   - **Not Recorded** - no documentation of hair removal method recorded in the patient chart

10. **Row J. Glucose was below 11.1 mmol/L on each of POD 0, 1, & 2** - Select one of:
    - **Not at risk** – risk is defined as patients who are diabetic or have a pre-op HBA1C higher than 7% or a pre-op BG over 10mmol/L during their pre-op visit
    - **Yes** – patient was at risk (i.e. diabetic or has a pre-op HBA1C higher than 7% or a pre-op BG over 10mmol/L during their pre-op visit) and the post-op glucose was below 11.1 mmol/L on each of post-op day 0, 1, & 2 (or to discharge if prior to POD2)

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- **No** - patient was at risk (i.e. diabetic or has a pre-op HBA1C higher than 7% or a pre-op BG over 10mmol/L during their pre-op visit) and the post-op glucose was **not** below 11.1 mmol/L on each of post-op day 0, 1, & 2 (or to discharge if prior to POD2)
- **Glucose not done** – patient was at risk (i.e. diabetic or has a pre-op HBA1C higher than 7% or a pre-op BG over 10mmol/L during their pre-op visit) and the serum glucose was not measured post-operatively.
- **Not Recorded** - no documentation of post-op glucose levels recorded in the at risk patient chart

11. **Row K. Temperature at end of surgery or on arrival in PACU was within range of 36.0-38.0 degrees C?** - Select one of:
    - Safer Healthcare Now! SSI Faculty recommend that measures are taken to ensure that surgical patient's core temperatures remain between 36.0°C and 38.0°C pre-operatively, intra-operatively, and in PACU.
    - **Yes** – the patient's temperature at the end of surgery or on arrival in PACU was within range of 36.0-38.0 degrees C
    - **No** – the patient's temperature at the end of surgery or on arrival in PACU was not within range of 36.0-38.0 degrees C i.e. higher or lower
    - **Induced Hypothermia** – Induced hypothermia has been used as an organ protective strategy since the beginning of cardiac surgery.
    - **Not Recorded** – the patient's temperature at the end of surgery or on arrival in PACU was not recorded in the patient chart

Submitting the completed form(s)

- Once all Rows are completed for all eligible patients/residents/clients, you have completed the audit sheet.
- Be sure that you have inserted your name, phone number with area code and email in the upper left corner of the form on space provided **on every form**.
- Fax the form using **FINE/SUPER FINE RESOLUTION** to the number printed in the bottom left corner of the form. Ask someone to assist you if necessary.
- You may fax batches of forms but we do not recommended faxing more than 10 at one time.
- If there is a problem with the faxed form (error report), you will be notified by the Central Measurement Team if you have remembered to include your contact information.

STEP 3 – Fax/Submit the completed data collection form

- **Prior to submitting your results, write your name and phone number in the upper right hand corner on each page /data collection form that is faxed.**
- The audit tool should be faxed to the toll-free fax number located in the top right corner of the form. *Use a fine resolution setting.* ***Do not use cover sheet and do not fax more than 10 sheet at a time.***

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Once faxed, the system will automatically process the data and make it available for viewing within Patient Safety Metrics. There may be a up to 60 minute delay before the results can be viewed (as the system needs to process the data).

Important tips about using the "bubble tool"

- Do **NOT** use a cover sheet
- Fax form in **FINE RESOLUTION** (setting on fax machine)
- Use a flatbed fax machine if possible e.g. place form on glass
- **Fill** in bubble completely (Sharpie is best)
- Do not have the forms stacked one on top of the other when filling in the bubbles
- Do not colour **outside the line**
- Do not hole punch or **fold** the form
- No **extra markings** on form
- To **void** fill in the VOID bubble
- If you spill anything on the form – start again!

Questions? We are here to help!

info@saferhealthcarenow.ca or metrics@saferhealthcarenow.ca

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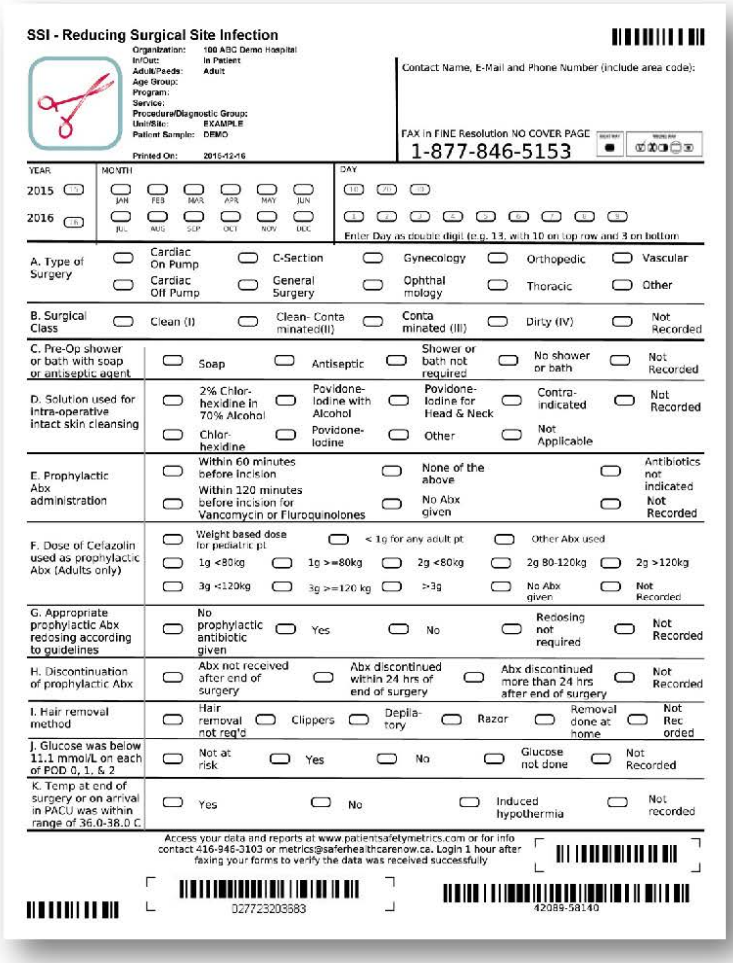
Section IV: Appendices

Appendix A- Example of SSI Prevention Data Collection Form



SSI - Reducing Surgical Site Infection

Organization: 100 ABC Demo Hospital
In/Out: In Patient
Adult/Peds: Adult
Age Group:
Program:
Service:
Procedure/Diagnostic Group:
Unit/Site: EXAMPLE
Patient Sample: DEMO
Printed On: 2016-12-16

Contact Name, E-Mail and Phone Number (include area code):

FAX in FINE Resolution NO COVER PAGE
1-877-846-5153

YEAR: 2015 (15), 2016 (16)
MONTH: JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
DAY: (10) (20) (30) 1 2 3 4 5 6 7 8 9
Enter Day as double digit (e.g. 13, with 10 on top row and 3 on bottom)

A. Type of Surgery	Cardiac On Pump	C-Section	Gynecology	Orthopedic	Vascular
	Cardiac Off Pump	General Surgery	Ophthal mology	Thoracic	Other
B. Surgical Class	Clean (I)	Clean- Conta minated(II)	Conta minated (III)	Dirty (IV)	Not Recorded
C. Pre-Op shower or bath with soap or antiseptic agent	Soap	Antiseptic	Shower or bath not required	No shower or bath	Not Recorded
D. Solution used for intra-operative intact skin cleansing	2% Chlor-hexidine in 70% Alcohol	Povidone-Iodine with Alcohol	Povidone-Iodine for Head & Neck	Contra-indicated	Not Recorded
	Chlor-hexidine	Povidone-Iodine	Other	Not Applicable	
E. Prophylactic Abx administration	Within 60 minutes before Incision	None of the above			Antibiotics not indicated
	Within 120 minutes before incision for Vancomycin or Fluroquinolones	No Abx given			Not Recorded
F. Dose of Cefazolin used as prophylactic Abx (Adults only)	Weight based dose for pediatric pt	< 1g for any adult pt	Other Abx used		
	1g <80kg	1g >=80kg	2g <80kg	2g 80-120kg	2g >120kg
	3g <120kg	3g >=120 kg	>3g	No Abx given	Not Recorded
G. Appropriate prophylactic Abx redosing according to guidelines	No prophylactic antibiotic given	Yes	No	Redosing not required	Not Recorded
H. Discontinuation of prophylactic Abx	Abx not received after end of surgery	Abx discontinued within 24 hrs of end of surgery	Abx discontinued more than 24 hrs after end of surgery		Not Recorded
I. Hair removal method	Hair removal not req'd	Clippers	Deplia-tory	Razor	Removal done at home	Not Rec orded
J. Glucose was below 11.1 mmol/L on each of POD 0, 1, & 2	Not at risk	Yes	No	Glucose not done	Not Recorded
K. Temp at end of surgery or on arrival in PACU was within range of 36.0-38.0 C	Yes	No	Induced hypothermia		Not recorded

Access your data and reports at www.patientsafetymetrics.com or for info contact 416-946-3103 or metrics@saferhealthcarenow.ca. Login 1 hour after faxing your forms to verify the data was received successfully

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Appendix B- Steps to generate your SSI Prevention Data Collection Form in Patient Safety Metrics

Flowchart: Steps to generate your SSI audit tool(s) in Patient Safety Metrics