Surgical Site Infection (SSI) Surveillance in HA

LAM Hung Suet
CICO (Chief Infection Control Officer) Office
24 Aug 2010

Contents

1. Data submitted to KPI (Key Performance Indicator)
2. Data flow : cleaning and analysis
3. Roles of ICN, ICB & CICO office
4. Method
5. The way forward
6. IT support

surgeon specific SSI rate

- surgeon specific SSI rate will be prepared by the hospital ICT and be reported to unit head every 3-monthly.
- The hospital Infection Control Team is responsible for reporting surgeon-specific SSI rates to individual surgeons confidentially. All surgeon-specific SSI rates will be confidentially coded and **ONLY made known to the individual surgeons, the Chief of Service (COS) of corresponding unit and hospital ICT** for the evaluation of SSI.

Suggested at TFIC :
communicate with HCE for the SSI rate
Hospital : presented in ICCM

Surgeon specific SSI rate quarterly

ABC HOSPITAL [CONFIDENTIAL]

SURGEON-SPECIFIC WOUND INFECTION RATE - SUR

FOR THE PERIOD OF Oct/2009 To Mar/2010

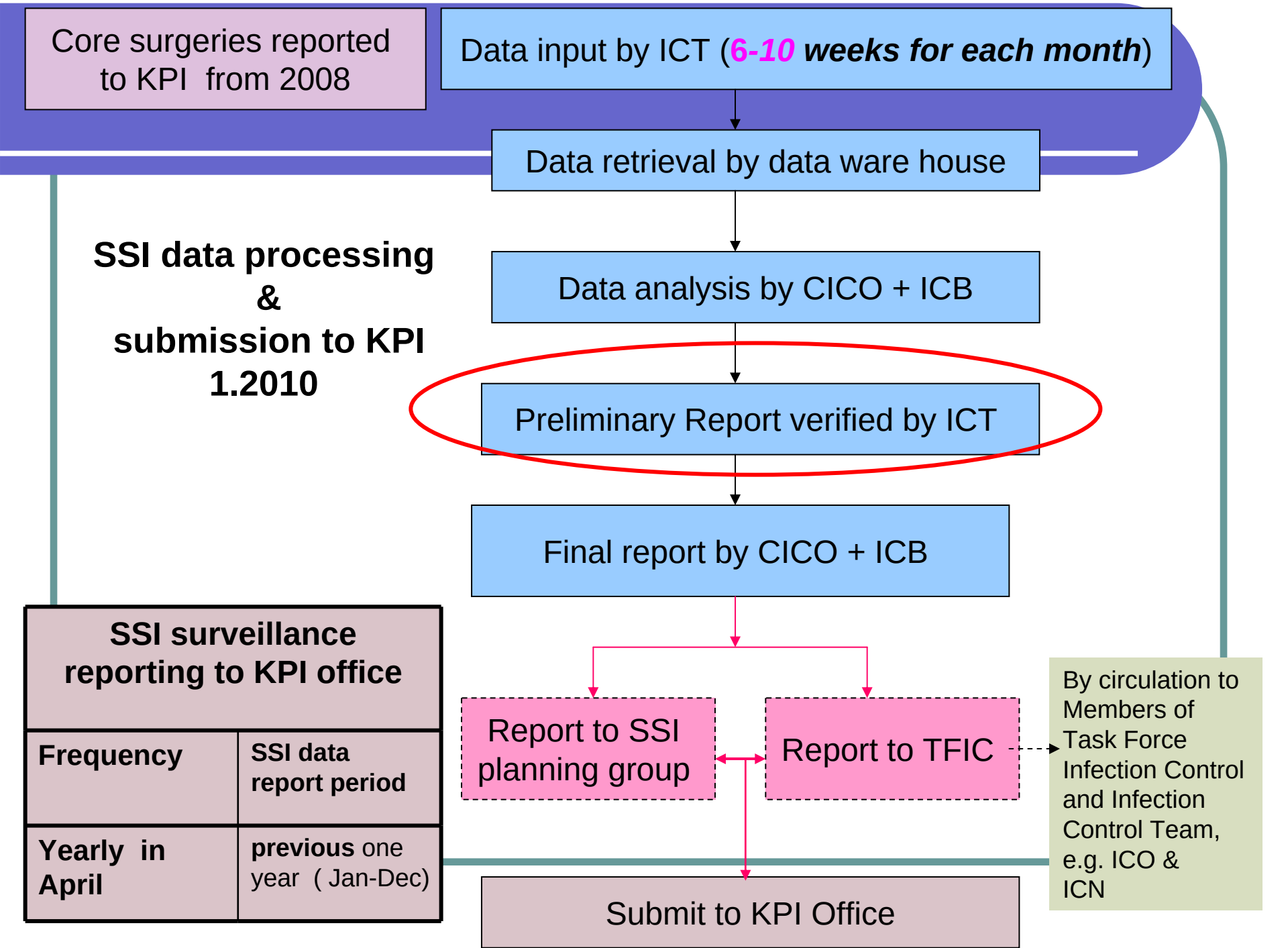
LAPRO. CASE = ALL

	Jan/2010-Mar/2010			Oct/2009-Dec/2009		
SURGEON	TOTAL OPERATION	TOTAL INFECTION (WOUND CLASS)	INFECTION RATE (%)	TOTAL OPERATION	TOTAL INFECTION (WOUND CLASS)	INFECTION RATE (%)
1	6	1 - 1(4)	16.67	9	0	0.00
11	9	0	0.00	17	0	0.00
12	18	1 - 1(3)	5.56	22	1 - 1(2)	4.55
13	10	0	0.00	19	5 - 3(2)2(4)	26.32
14	3	0	0.00	9	1 - 1(4)	11.11
15	4	0	0.00	13	0	0.00
16	0	0	0.00	13	0	0.00
22	3	0	0.00	13	2 - 1(2)1(4)	15.38
27	14	0	0.00	0	0	0.00
47	22	3 - 3(4)	13.64	19	0	0.00
48	31	4 - 1(2) 1(3) 2(4)	12.90	18	1 - 1(1)	5.56
6	10	2 - 1(1) 1(3)	20.00	26	3 - 1(3)2(4)	11.54
7	26	1 - 1(2)	3.85	0	0	0.00
8	0	0	0.00	12	0	0.00
9	3	0	0.00	6	0	0.00
SUR0023	16	0	0.00	32	0	0.00
SUR0068	19	1 - 1(4)	5.26	23	0	0.00
SUR0069	0	0	0.00	31	4 - 1(2)1(3)2(4)	12.90
SUR0070	0	0	0.00	1	0	0.00
SUR0075	9	0	0.00	0	0	0.00
SUR0077	10	0	0.00	0	0	0.00
TOTAL	213	13	6.10	283	17	6

Report Date: Monday, 9 August, 2010

REMARK 1: WOUND CLASS
1. CLEAN
2. CLEAN CONTAMINATED
3. CONTAMINATED
4. DIRTY

You are surgeon : 1

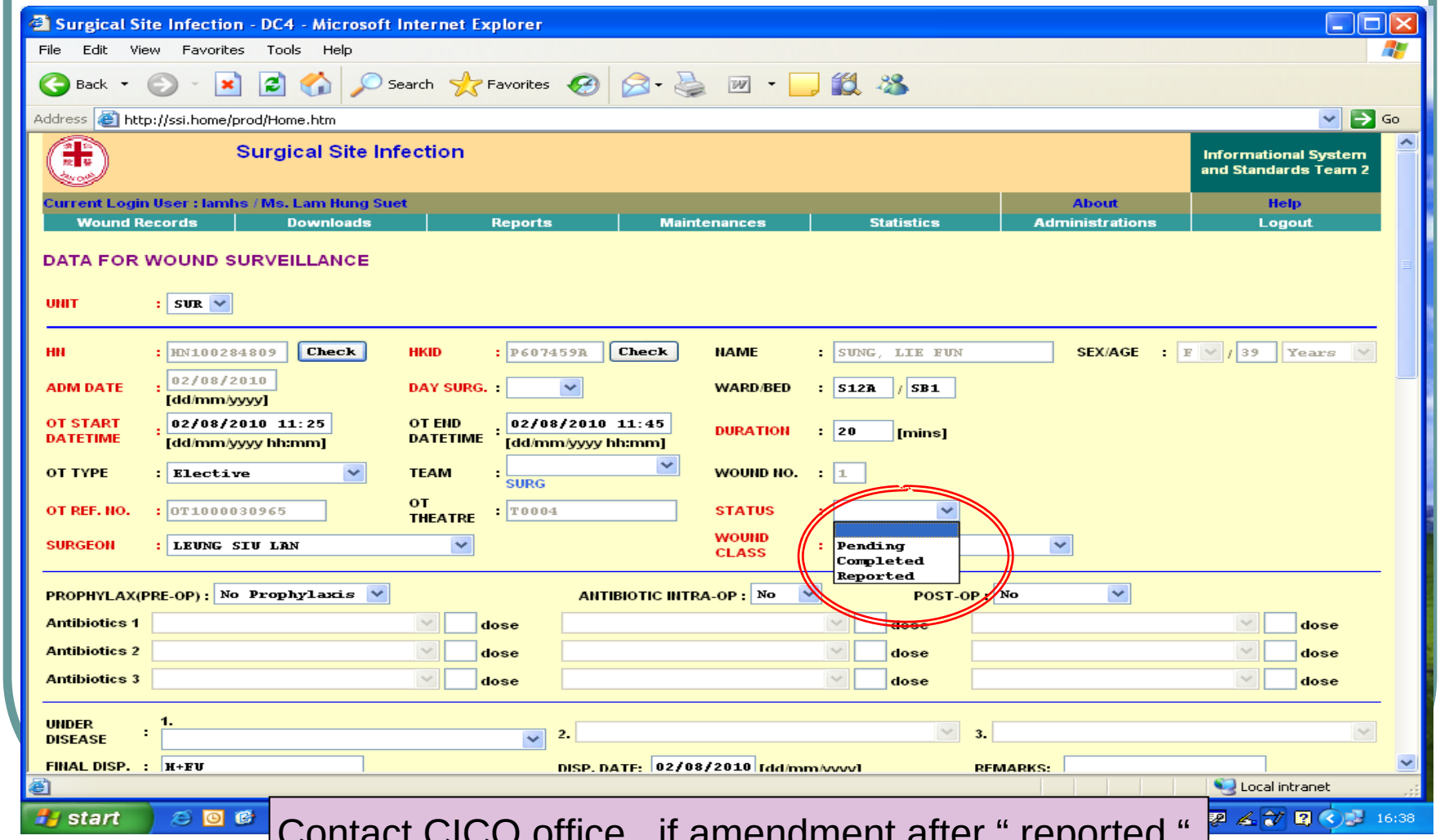

Core surgeries reported to KPI from 2008
Data input by ICT (6-10 weeks for each month)
Data retrieval by data ware house
SSI data processing & submission to KPI 1.2010
Data analysis by CICO + ICB
Preliminary Report verified by ICT
Final report by CICO + ICB
SSI surveillance reporting to KPI office
Frequency
SSI data report period
Yearly in April
previous one year (Jan-Dec)
Report to SSI planning group
Report to TFIC
By circulation to Members of Task Force Infection Control and Infection Control Team, e.g. ICO & ICN
Submit to KPI Office

Timeline for SSI data processing

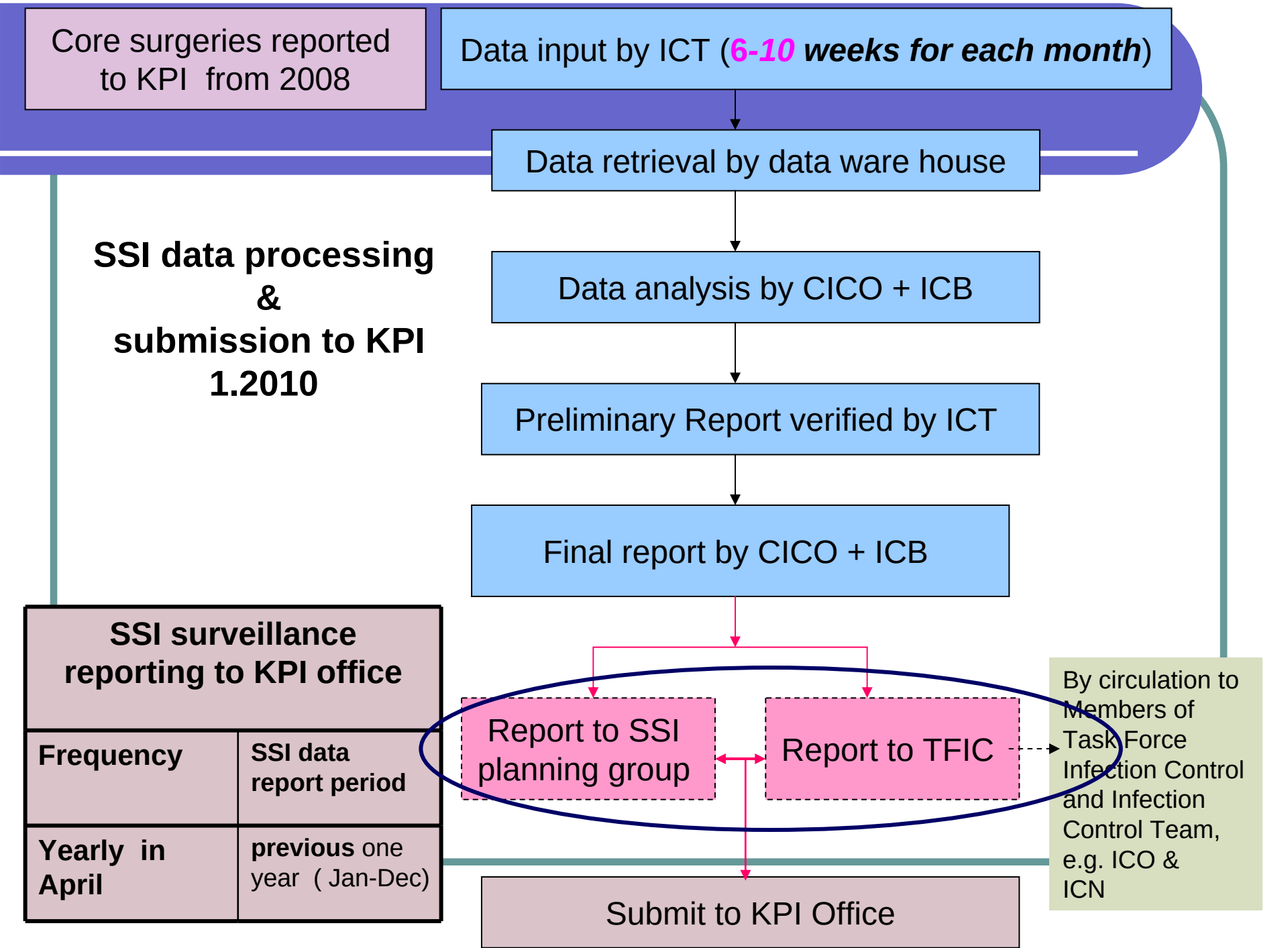
SSI data of Month	1	2	3	4	5	6	7	8	9	10	11	12
Month : **ICN data entering and cleaning : not later than 2nd week**	3	4	5	6	7	8	9	10	11	12	1	2
Month **Data retrieval by data warehouse for analysis : 3-4th week**	3	4	5	6	7	8	9	10	11	12	1	2
Transferring data to SOMIP	5	6	7	8	9	10	11	12	1	2	3	4

Auto transfer by IT since July 2010

Freezed Status if reported



Contact CICO office , if amendment after “ reported “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Membership of Meeting of SSI Surveillance / KPI Planning Group

- CICO : Dr Dominic TSANG **(CHAIR)**
- LAM Hung Suet, SNO,CICO office ;(Secretary)
- K S YU Dr, TMH CON(**O&T**)
- W C YUEN Dr, RHTSK COS (**Surg**);
- K M MOK Dr, KEC CCOS(O&G);
- Fei Chau PANG Dr, HOQ&S CM(**Q&St**);
- Dr Hong CHEN, HOQ&S SMO(IDCTC);
- T Y WONG Dr, HOQ&S Dep CONS in-charge (IDCTC)

Frequency of meeting : before reporting KPI

Terms of Reference

- To review on method of SSI
- To review on reporting to KPI
- To review on usage of pre-operative antibiotics prophylaxis
- To collaborate on research
- To review on SSI result
- To help in communicating and promulgating relevant information and improvement measures to the COC
- To review finished products for improving practices , if needed.

Actions by Meeting of SSI Surveillance / KPI Planning Group

- Colectomy
- Appendectomy
- Cholecystectomy

KPI Submissions

SSI KPI reports:	Date of submission
Jan-June 2008	2008
April 2008-March 2009	2009
Jan 2008- Dec 2009	8. 2010

Access to KPI website. The address of the site is

http://shis.home/kpi/Default.aspx

Access right : cluster administration

KPI Web - Microsoft Internet Explorer
File Edit View Favorites Tools Help
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Address http://shis.home/kpi/Default.aspx
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KPI Web

Welcome M Y KONG, HOQ&S RN(CICO)

Home
Definitions
Production Schedule
KPIs
- Monthly
- Half-yearly

CMM
QPR
COR
Related Materials
Enquiry

The purpose of this web page is to provide convenient access to the management and nominated staff of both HA Head Office and Clusters to Key Performance Indicators (KPIs) presented to the Administrative & Operational Meeting (AOM) / HA Board, Directors Meeting (DM) and Cluster Management Meeting (CMM) for performance monitoring and accountability reporting. Quarterly Progress Report (QPR) submitted to the Food and Health Bureau (FHB) on quarterly basis and the yearly Controlling Officers Report (COR) are also made available in this web page.

KPI reports mentioned above are retrievable from this web-page under the following categories:

Report	Frequency	Reporting Forum / Reporting to	Remarks
KPI	Monthly	• AOM/HA Board • DM	Mainly items covered in Controlling Officer' s Report (COR).
KPI	Half-yearly	• AOM/HA Board • DM	KPIs developed to reflect access, quality and efficiency of the service
CMM	Quarterly	CMM	
QPR	Quarterly	FHB	Covers mainly COR items
COR	Yearly	FHB	COR items form the basis monthly KPIs

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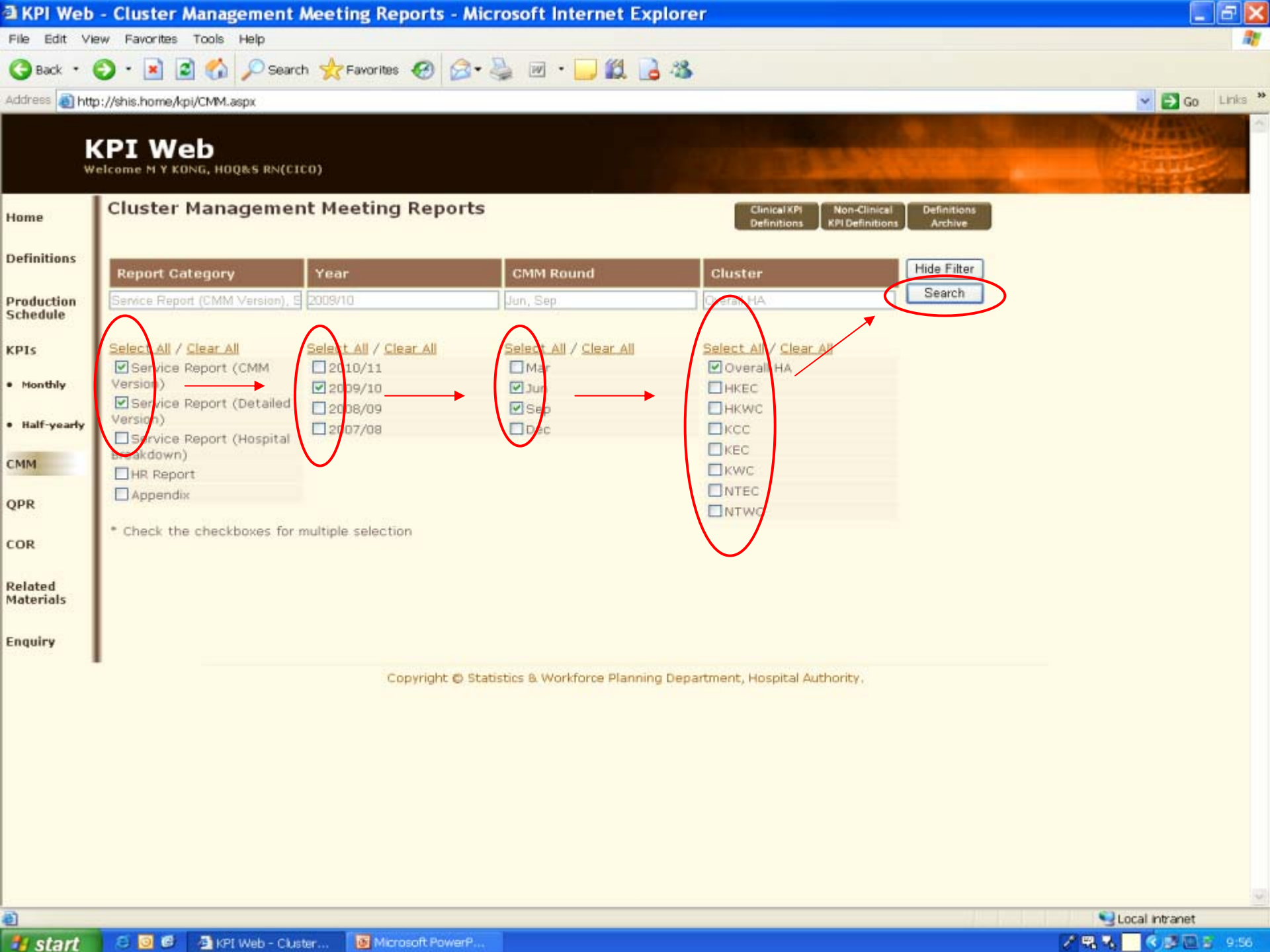
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Jun, Sep
Overall HA
Select All / Clear All
Service Report (CMM Version)
Service Report (Detailed Version)
Service Report (Hospital Breakdown)
HR Report
Appendix
2010/11
2009/10
2008/09
2007/08
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Sep
Dec
Overall HA
HKEC
HKWC
KCC
KEC
KWC
NTEC
NTWC
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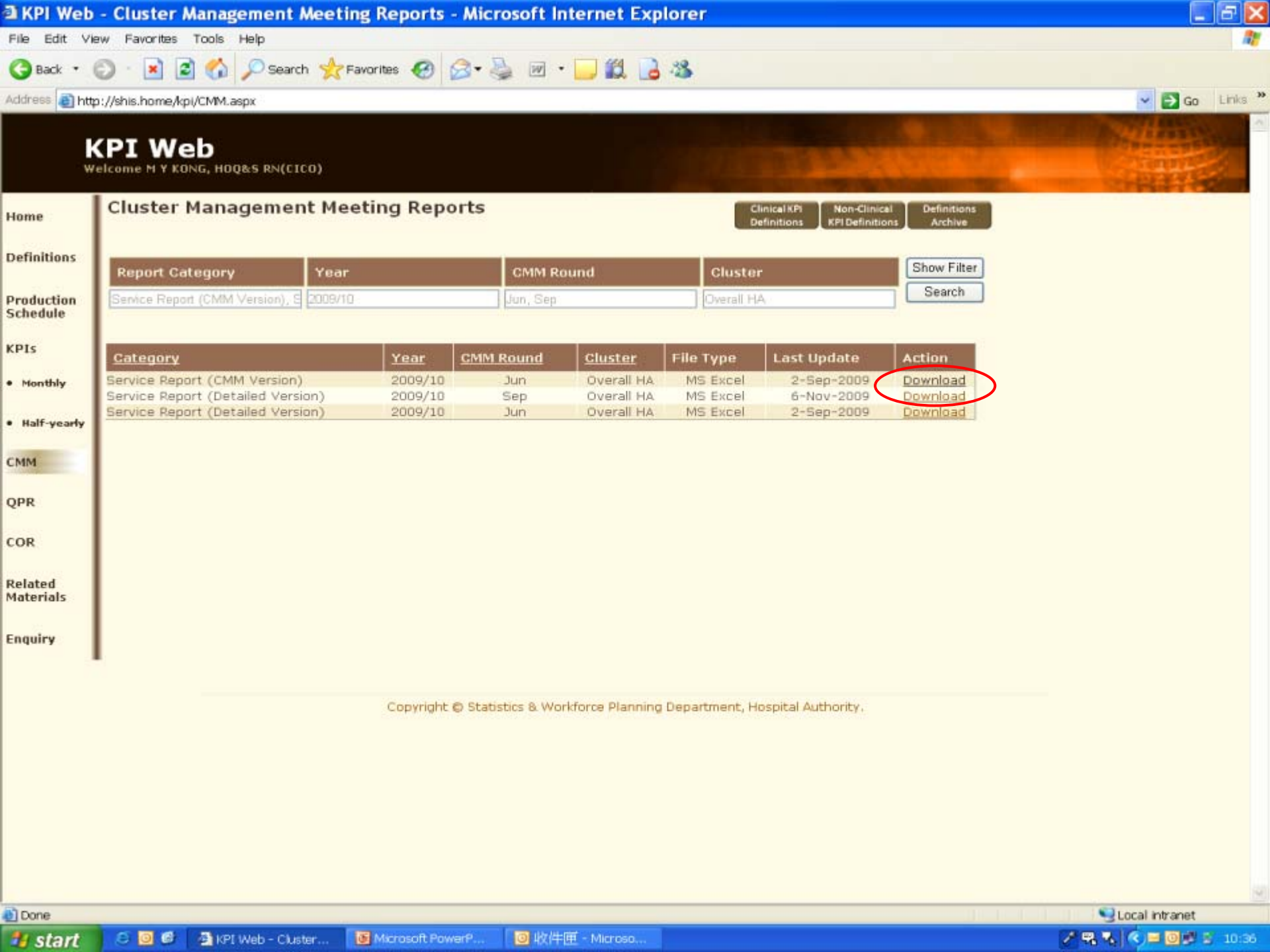
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Jun, Sep
Overall HA
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CMM Round
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Last Update
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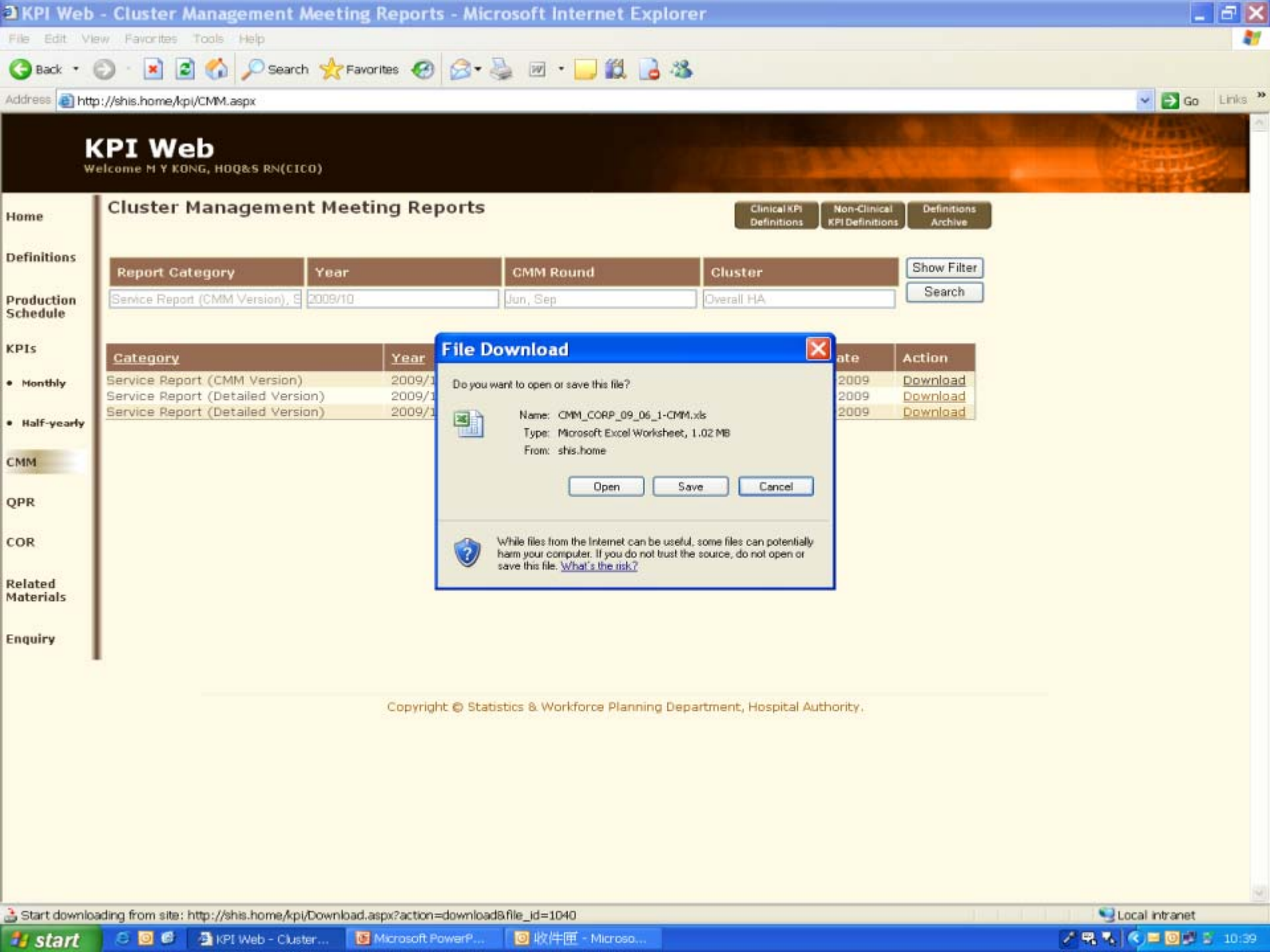
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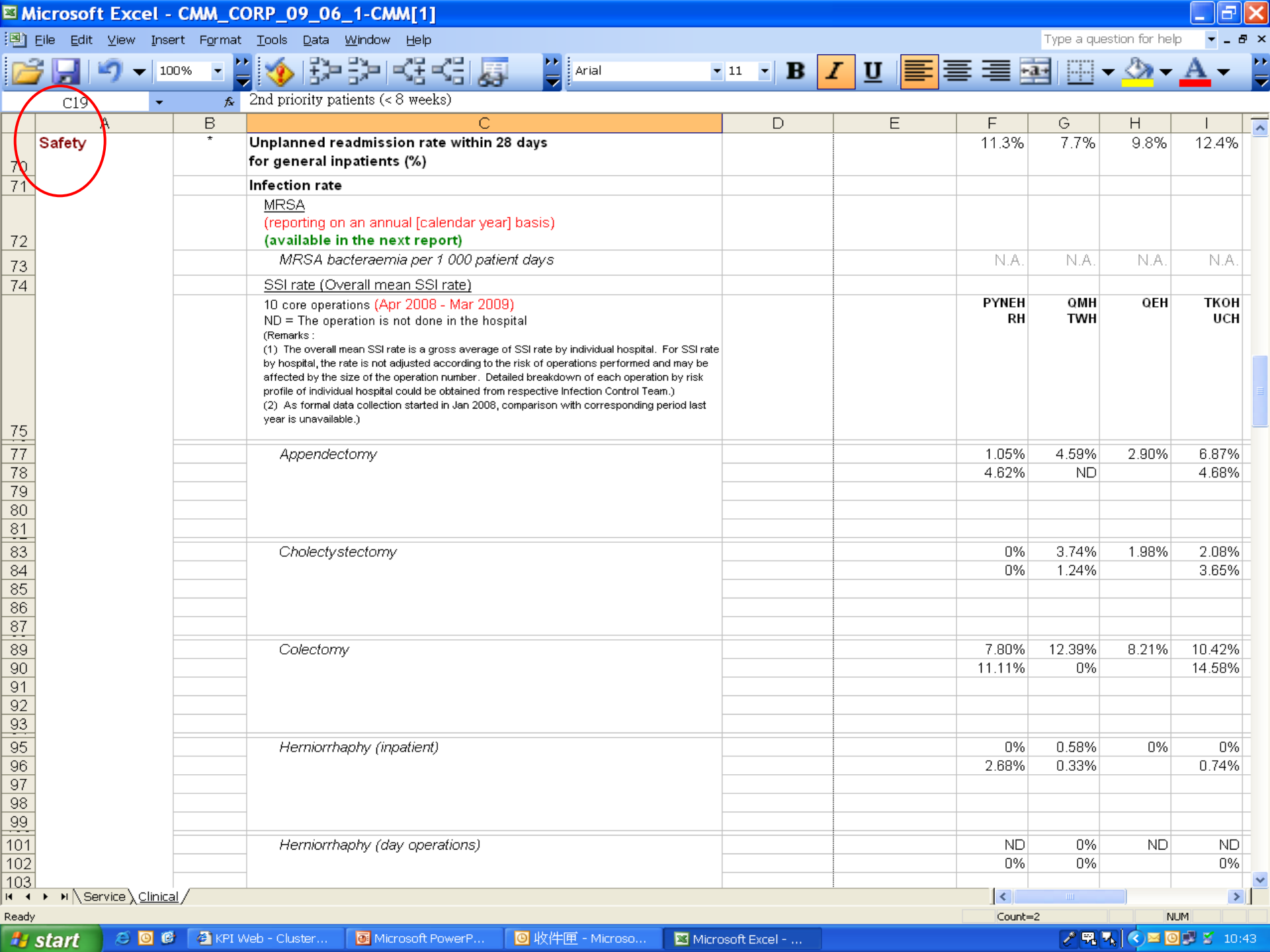
Microsoft Excel - CMM_CORP_09_06_1-CMM[1]
File Edit View Insert Format Tools Data Window Help
Type a question for help
100%
Arial
11
C19
2nd priority patients (< 8 weeks)
Safety
Unplanned readmission rate within 28 days for general inpatients (%)
11.3% 7.7% 9.8% 12.4%
Infection rate
MRSA
(reporting on an annual [calendar year] basis)
(available in the next report)
MRSA bacteraemia per 1 000 patient days
N.A. N.A. N.A. N.A.
SSI rate (Overall mean SSI rate)
10 core operations (Apr 2008 - Mar 2009)
ND = The operation is not done in the hospital
(Remarks :
(1) The overall mean SSI rate is a gross average of SSI rate by individual hospital. For SSI rate by hospital, the rate is not adjusted according to the risk of operations performed and may be affected by the size of the operation number. Detailed breakdown of each operation by risk profile of individual hospital could be obtained from respective Infection Control Team.)
(2) As formal data collection started in Jan 2008, comparison with corresponding period last year is unavailable.)
PYNEH RH
QMH TWH
QEH
TKOH UCH
Appendectomy
1.05% 4.59% 2.90% 6.87%
4.62% ND 4.68%
Cholecystectomy
0% 3.74% 1.98% 2.08%
0% 1.24% 3.65%
Colectomy
7.80% 12.39% 8.21% 10.42%
11.11% 0% 14.58%
Herniorrhaphy (inpatient)
0% 0.58% 0% 0%
2.68% 0.33% 0.74%
Herniorrhaphy (day operations)
ND 0% ND ND
0% 0% 0%
Service Clinical
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Microsoft Excel - ...
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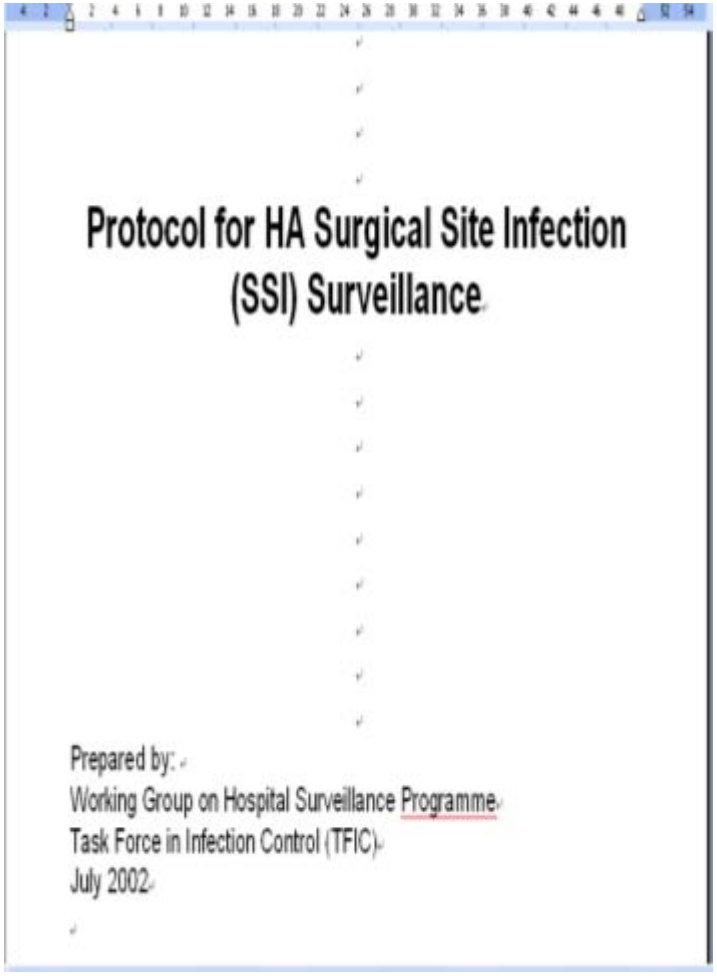
Roles

Responsible by	Roles Description
CICO Office	• SSI policy direction in HA (in collaboration with ICB/CHP) • SSI program implementation in HA through ICPIC • Supervise SSI data collection in HA • Data cleaning, analysis and reporting • Submission of KPI on SSI to KPI subject officer
ICB	• SSI policy direction in community and HA in collaboration with CICO office • Assisting in data cleaning , analysis and organization
Task Force on Infection Control (TFIC)	• Give advice on SSI policy , direction in HA (in collaboration with ICB/CHP) • Endorse SSI program implementation in HA
HICT	• Set up SSI surveillance program • Data entry into web-based program • Liaise and co-operate with surgical departments on SSI data collection and verification • Liaise with hospital surgical departments for quarterly report of surgeon-specific SSI rates to individual surgeons • SSI surveillance report to ICC
COCs	• Close collaboration with COCs members related to SSI surveillance • Officially nominate representatives from respective COC as member of SSI surveillance / KPI Working Group
Surgical Teams	• Closely collaborate with hospital ICT and facilitates SSI surveillance • Partner with ICT in the implementation as necessary

Protocol



Protocol for HA Surgical Site Infection (SSI) Surveillance

Prepared by:
Working Group on Hospital Surveillance Programme
Task Force in Infection Control (TFIC)
July 2002

Protocol for HA Surgical Site Infection (SSI) Surveillance

Revised Version Sep 2006 (Draft)

National nosocomial infections surveillance system (NNIS): Description of surveillance methods

T. Grace Emori, RN, MS
David H. Culver, PhD
Teresa C. Horan, MPH, CIC
William R. Jarvis, MD
John W. White, PhD
David R. Olson, PhD
Shailen Banerjee, PhD
Jonathan R. Edwards, MS
William J. Martone, MD
Robert P. Gaynes, MD
James M. Hughes, MD
Atlanta, Georgia

The National Nosocomial Infections Surveillance System (NNIS) is an ongoing collaborative surveillance system sponsored by the Centers for Disease Control (CDC) to obtain national data on nosocomial infections. The CDC uses the data that are reported voluntarily by participating hospitals to estimate the magnitude of the nosocomial infection problem in the United States and to monitor trends in infections and risk factors. Hospitals collect data by prospectively monitoring specific groups of patients for infections with the use of protocols called surveillance components. The surveillance components used by the NNIS are hospitalwide, intensive care unit, high-risk nursery, and surgical patient. Detailed information including demographic characteristics, infections and related risk factors, pathogens and their antimicrobial susceptibilities, and outcome, is collected on each infected patient. Data on risk factors in the population of patients being monitored are also collected; these permit the calculation of risk-specific rates. An infection risk index, which includes the traditional wound class, is being evaluated as a predictor of the likelihood that an infection will develop after an operation. A major goal of the NNIS is to use surveillance data to develop and evaluate strategies to prevent and control nosocomial infections. The data collected with the use of the surveillance components permit the calculation of risk-specific infection rates, which can be used by individual hospitals as well as national health-care planners to set priorities for

June 2010

NHSN Operative Procedure Categories – FY 2010 Update				
Legacy Code	**New Code**	**Operative Procedure**	**Description**	**ICD-9-CM Codes**
AAA	2105-5	Abdominal aortic aneurysm repair	Resection of abdominal aorta with anastomosis or replacement	38.34, 38.44, 38.64
AMP	2126-1	Limb amputation	Total or partial amputation or disarticulation of the upper or lower limbs, including digits	84.00-84.19, 84.91
APPY	2108-9	Appendix surgery	Operation of appendix (not incidental to another procedure)	47.01, 47.09, 47.2, 47.91, 47.92, 47.99
AVSD	2102-2	Shunt for dialysis	Arteriovenostomy for renal dialysis	39.27, 39.42
BILI	2109-7	Bile duct, liver or pancreatic surgery	Excision of bile ducts or operative procedures on the biliary tract, liver or pancreas (does not include operations only on gallbladder)	50.0, 50.12, 50.14, 50.21-50.23, 50.25, 50.26, 50.29, 50.3, 50.4, 50.61, 50.69, 51.31-51.37, 51.39, 51.41-51.43, 51.49, 51.51, 51.59, 51.61-51.63, 51.69, 51.71, 51.72, 51.79, 51.81-51.83, 51.89, 51.91-51.95, 51.99, 52.09, 52.12, 52.22, 52.3, 52.4, 52.51-52.53, 52.59-52.6, 52.7, 52.92, 52.95, 52.96, 52.99
BRST	2110-5	Breast surgery	Excision of lesion or tissue of breast including radical, modified, or quadrant resection, lumpectomy, incisional biopsy, or mammoplasty.	85.12, 85.20-85.23, 85.31-85.36, 85.41-85.48, 85.50, 85.53, 85.54, 85.6, 85.70-85.76, 85.79, 85.93-85.96

Prepared by CICO office and ICB, CHP

First Issue : 2002

Revision no : 1 (August 2009)

Protocol for Hospital Authority (HA) Surgical Site Infection (SSI) Surveillance

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SEARCH

A-Z Index A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #

National Healthcare Safety Network (NHSN)

The National Healthcare Safety Network (NHSN) is a voluntary, secure, internet-based surveillance system that integrates and expands legacy patient and healthcare personnel safety surveillance systems managed by the Division of Healthcare Quality Promotion (DHQP) at CDC. NHSN also includes a new component for hospitals to monitor adverse reactions and incidents associated with receipt of blood and blood products. Enrollment is open to all types of healthcare facilities in the United States, including acute care hospitals, long term acute care hospitals, psychiatric hospitals, rehabilitation hospitals, outpatient dialysis centers, ambulatory surgery centers, and long term care facilities. For more information, click on the topics below.

Text size: S M L XL

Email page

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Topics

About NHSN
Overview, Purposes, Confidentiality statement, How data are used, External Peer Review report...

Enrollment Requirements
Eligibility, Required Training, Reporting & System Requirements, Security, Begin Enrollment...

Forms
Component-specific manuals containing data collection protocols, instructions for completing forms...

Training
Self-study slide sets and corresponding materials for NHSN modules...

NHSN Manuals
Component-specific manuals

Patient Safety Component
Overview of the Modules: Device-

Data & Statistics

CDC currently supports more than

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To receive email updates about NHSN, enter your email address:

Internet

Objectives of HA SSI Surveillance

1. To standardize the SSI surveillance method among HA hospitals.
2. To look for trend of infections and feedback to clinical unit.
3. To monitor the use of prophylactic antibiotic for appropriate types, timing and duration.
4. To identify problems and set out to look for possible solution.

Scope of SSI Surveillance (2002)

1. General surgery: Focus on selected operative procedures (refer to G.2) resulting in clean and clean-contaminated wounds.

2. Orthopaedics surgery: Focus on wounds with implants and prosthesis.

- Participating hospitals may conduct surveillance in other surgical procedures e.g. contaminated / dirty wounds or laparoscopic surgery, if they find it feasible with the present manpower level.

- Other post-operative complication such as pneumonia, urinary catheter related infection, IV-line related bacteremia and purulent phlebitis will also be studied if hospital find it is feasible with the present manpower level.

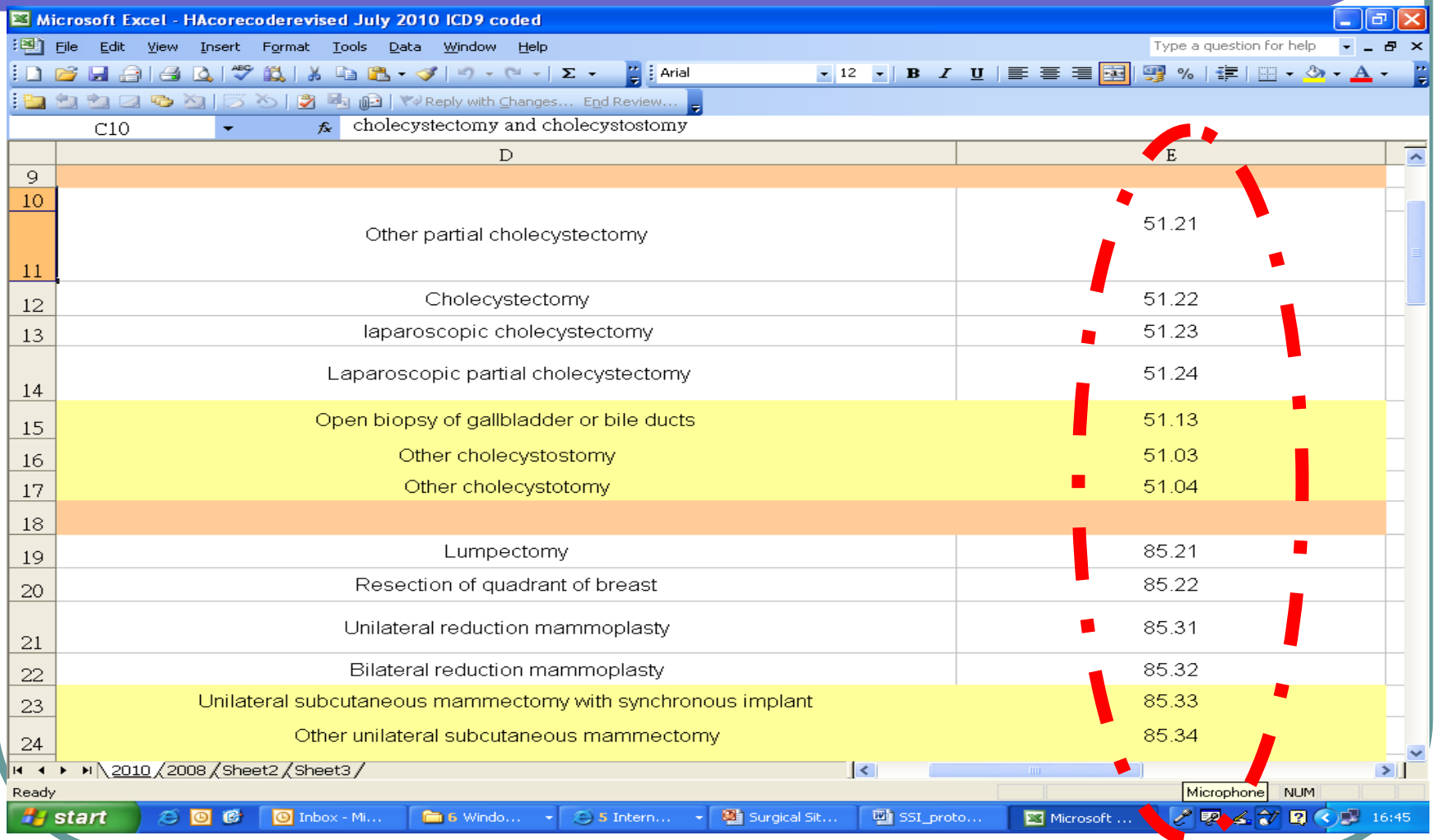
11 core operations as the Key Performance Indicators (KPI), these include

1. - Appendicectomy (both open and laparoscopic)
2. - Cholecystectomy (both open and laparoscopic)
3. - Colectomy (both open and laparoscopic)
4. - Herniorrhaphy with or without mesh/graft (both open and laparoscopic)
5. - Thyroidectomy
6. - Mastectomy (with or without breast reconstruction)
7. - **Rectal surgery (Q3/2010 starts)**

Hip/Knee surgery (Non traumatic / close traumatic with implants or prosthesis disregard of the size, all foreign material purposely implanted should be included)

1. Dynamic Hip Screw
2. Hip Replacement including total and partial
3. Total Knee Replacement
4. **Laminectomy (Q3/2010 starts)**

ICD 9 codes added



	D	E
9		
10	Other partial cholecystectomy	51.21
11		
12	Cholecystectomy	51.22
13	laparoscopic cholecystectomy	51.23
14	Laparoscopic partial cholecystectomy	51.24
15	Open biopsy of gallbladder or bile ducts	51.13
16	Other cholecystostomy	51.03
17	Other cholecystotomy	51.04
18		
19	Lumpectomy	85.21
20	Resection of quadrant of breast	85.22
21	Unilateral reduction mammoplasty	85.31
22	Bilateral reduction mammoplasty	85.32
23	Unilateral subcutaneous mammectomy with synchronous implant	85.33
24	Other unilateral subcutaneous mammectomy	85.34

June 2010

NHSN Operative Procedure Categories – FY 2010 Update

Legacy Code	New Code	Operative Procedure	Description	ICD-9-CM Codes
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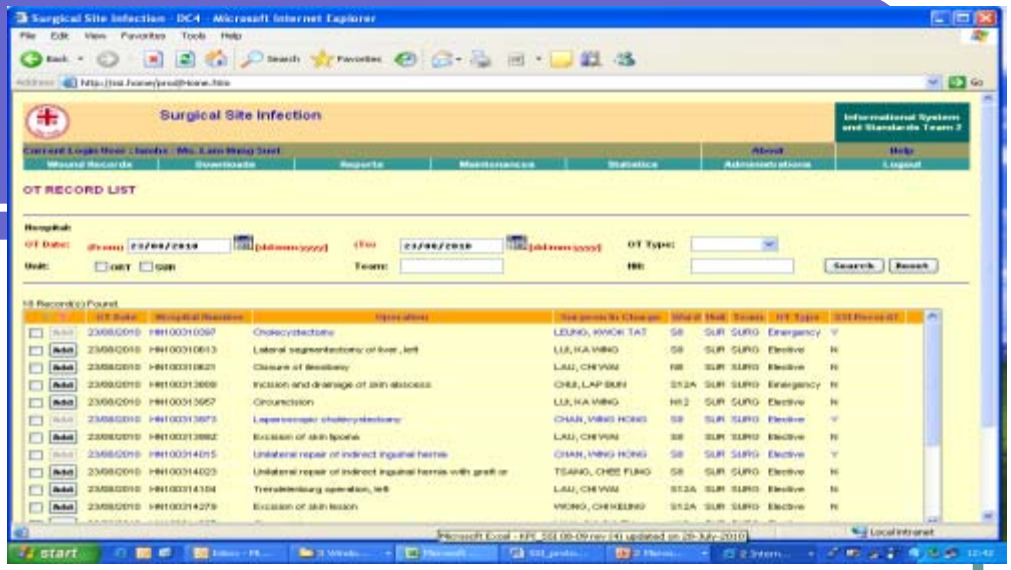
Method



- Active
- Ongoing
- Prospective
- Done By ICP
- Within 30 days including Post discharge surveillance

Inclusion criteria

a procedure

- a) **Inpatient**: A patient whose date of admission to the healthcare facility and the date of discharge are different calendar days.
- **# Outpatient / day patient** : A patient whose date of admission to the healthcare facility and the date of discharge are same calendar days.

- b) takes place during an operation (defined as a single trip to the operating room (OR) where a surgeon makes at least one incision through the skin or mucous membrane, including laparoscopic approach, and closes the incision before the patient leaves the OR; **and**
- c) that is included in the core operations.

Operative procedure (NHSN, USA)

is a procedure

1) that is performed on a patient who is an NHSN inpatient or an NHSN outpatient;

and

2) takes place during an operation (defined as a single trip to the operating room (OR) where a surgeon makes at least one incision through the skin or mucous membrane, including laparoscopic approach, and closes the incision before the patient leaves the OR;

- NHSN Inpatient: A patient whose date of admission to the healthcare facility and the date of discharge are different calendar days.
- NHSN Outpatient: A patient whose date of admission to the healthcare facility and date of discharge are the same calendar day.

Denominator

If more than one core procedure is performed during the same trip to the Operating theatre, a denominator for procedure record is reported for each procedure being monitored. Even if more than one core procedure is done through the same incision, a denominator for procedure record is reported for each.

If more than one procedure is performed through the same incision, record the combined duration of all procedures, which is the time from skin incision to closure.

If a patient had a coronary artery bypass graft with a chest incision and a donor site incision it is a CBGB. The CBGC is only used when there is only a chest incision. CBGB and CBGC are never reported for the same patient for the same trip to OT

For bilateral operative procedures, two separate denominators are entered. To document the duration of the procedure, indicate the incision time to closure time for each surgery separately or, alternatively, take the total time for both surgeries and split it evenly between the two.

If a patient goes to OR more than once during the same admission and another procedure is performed through the same incision within 24 hours of the original operative incision, report only one procedure on the denominator for procedure combining the durations for both procedures. For example, a patient has a CBGB lasting 4 hours. He returns to OR six hours later to correct a bleeding vessel. The surgeon re-opens the initial incision, makes the repairs and recloses in 1.5 hours. Record the operative procedure as one CBGB and the duration of operation as 5 hours 30 minutes,. If the wound class has changed, report the higher wound class. If the ASA score has changed, report the higher ASA class.

Exclusion

- If a patient died within 7 days post-operation [i.e. before the wound epithelialised, and therefore could not be subjected to initial assessment], the case would not be included into the database.

Data Analyses:

- The SSI rates per 100 operative procedures are calculated by dividing the number of SSIs by the number of specific operative procedures and multiplying the results by 100.
- These calculations will be performed separately for the different types of operative procedures and stratified by risk index.

Basic SSI Risk Index.

The index used in NHSN assigns surgical patients into categories based on the presence of three major risk factors:

1. Operation lasting more than the duration cut point hours, where the duration cut point is the approximate 75th percentile of the duration of surgery in minutes for the operative procedure.
2. Contaminated (Class 3) or Dirty/infected (Class 4) wound class.
3. ASA classification of 3, 4, or 5.

- **The patient's SSI risk category is simply the number of these factors present at the time of the operation**.

Wound class

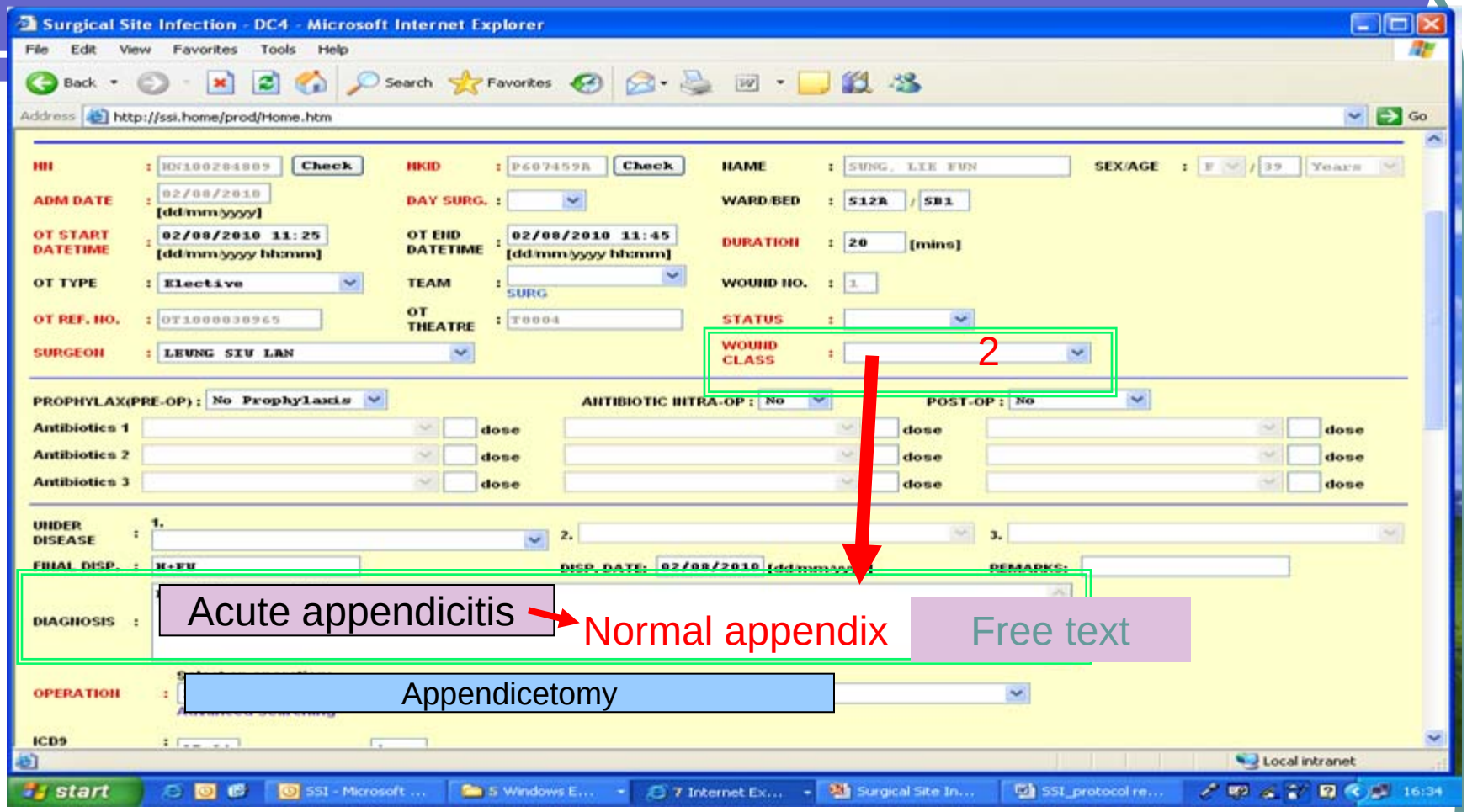
- **Class I,** or clean wounds, are those in which no inflammation was encountered. No contaminated spaces (gastrointestinal, respiratory, genitourinary, and genital)were encountered, and the wound was primarily closed and drained if necessary with closed drains.e.g. **thyroidectomy, mastectomy, hernio , TKR**
- Class II, or clean-contaminated wounds, are those in which the respiratory, urinary, gastrointestinal, orgenital tracts were involved under controlled conditions and without unusual contamination. The genitourinary and biliary tracts may be entered in the absence of infection. A minor break in surgical sterile technique in an otherwise class I procedure would also fit into this class. **E.g. Gall stone for cholecystectomy , appendicetomy for normal appendix .**

- Class III, or contaminated wounds, are open, fresh wounds. There may be gross spillage from the gastrointestinal tract. Entry into the genitourinary or biliary tracts in the presence of infected urine or bile or a major break in surgical technique may have occurred. Incisions in which acute, non purulent inflammation is present are also included in this class. **Acute appendicitis for appendicetomy**
- Class IV, or dirty and infected wounds, are those with retained devitalized tissue, foreign bodies, fecal contamination, or delayed treatment, or from a dirty source. A perforated viscus may be encountered. A wound with acute bacterial inflammation with pus is encountered during the operation is also included in this class.

P**erforated appendicitis for appendicetomy .**

	of infection.	
3 : contaminated	Are open , fresh wounds. There may be gross spillage from the GI tract. Entry into the Genitourinary or biliary tract in the presence of infected urine or bile. Incisions in which acute , non-purulent inflammation is present are also included in this class.	1. Acute inflammatory pelvic disease, 2. Acute appendicitis ± of gangrene, 3. Acute appendicitis with turbid fluid 4. acute appendicitis with peritonitis 5. Acute cholecystitis, 6. Gangrene gallbladder, 7. Acute peritonitis
4 Dirty / infected	Those with retained devitalized tissue, foreign bodies, fecal contamination, or delayed treatment, or from a dirty source, A perforated viscus may be encountered. A wound with acute bacterial inflammation with pus is encountered during the operation is also included.	1. Recurrent Pyogenic Cholangitis (RPC) 2. suppurative gall bladder, 3. perforated gallbladder, 4. empyema gallbladder 5. Ruptured appendicitis 6. Ruptured appendicitis with acute peritonitis. 7. Acute appendicitis with turbid fluid **and** perforation 8. Subphrenic purulent collection 9 Perforation / fistula /

Diagnosis matching with Wound class



Example

Pre-op diagnosis : acute appendicitis but Normal append recorded in OT record and no other inflammatory noted, add additional information into diagnosis

Numerator Data :

all patients having a selected core surgery are monitored for signs of SSI.

- If a patient has several operative procedures prior to an infection, report the operative procedure that was performed most closely in time prior to the infection data, unless there is evidence that the infection is associated with a different operation.
- If more than one operative procedure was done through a single incision, attempt to determine the procedure that is thought to be associated with the infection. If it is not clear (as is often the case when the infection is a superficial incisional SSI), or if the infection site being reported is not an SSI, use the table (appendix VII) to select which surgery to report.

Revision no 1 : August 2009

Appendix VII

NHSN Principal Operative Procedure Selection Lists

Priority	Code	Abdominal Operations
1	SB	Small bowel surgery
2	KTP	Kidney transplant
3	LTP	Liver transplant
4	BILI	Biliary surgery
5	REC	Rectal surgery
6	COLO	Colon surgery
7	GAST	Gastric surgery
8	CSEC	Cesarean section
9	SPLE	Spleen surgery
10	APPY	Appendectomy
11	HYST	Abdominal hysterectomy
12	OVRY	Ovarian surgery
13	HER	Hernia repair
14	CHOL	Cholecystectomy
15	AAA	Abdominal aortic aneurysm repair
16	NEPH	Kidney surgery
17	XLAP	Laparotomy
Priority	**Code**	**Thoracic Operations**
1	HTP	Heart transplant
2	CBGB	Coronary artery bypass graft and donor site
3	CBGC	Coronary artery bypass graft, chest only

Class of **SSI**

1. **superficial incisional**
2. **deep incisional**
3. **organ/space**

A **superficial incisional SSI**

- must meet one of the following criteria:
- Infection occurs within 30 days after the operative procedure
- and
- involves only skin and subcutaneous tissue of the incision
- and
- patient has at least one of the following:

a. purulent drainage from the superficial incision.

b. organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision.

c. at least one of the following signs or symptoms of infection: pain or tenderness, localized swelling, redness, or heat, and superficial incision is deliberately opened by surgeon, and is culture-positive or not cultured. A culture-negative finding does not meet this criterion.

d. diagnosis of superficial incisional SSI by the surgeon or attending physician. This must be supported by clinical signs and symptoms

A deep incisional SSI

- must meet on of the following criteria:
- Infection occurs within 30 days after the operative procedure if no implant is left in place or within one year if implant is in place and the infection appears to be related to the operative procedure
- and
- involves deep soft tissues (e.g., fascial and muscle layers) of the incision
- and
- patient has at least one of the following:

a. purulent drainage from the deep incision but not from the organ/space component of the surgical site

b. a deep incision spontaneously dehisces or is deliberately opened by a surgeon and is culture-positive or not cultured when the patient has at least one of the following signs or symptoms: fever (>38˚C), or localized pain or tenderness. A culture-negative finding does not meet this criterion.

c. an abscess or other evidence of infection involving the deep incision is found on direct examination, during reoperation, or by histopathologic or radiologic examination

d. diagnosis of a deep incisional SSI by a surgeon or attending physician. This must be supported by clinical signs and symptoms

An **organ/space SSI**

- involves any part of the body, excluding the skin incision, fascia, or muscle layers, that is opened or manipulated during the operative procedure. Specific sites are assigned to organ/space SSI to further identify the location of the infection.
- The table below lists the specific sites that must be used to differentiate organ/space SSI.
- An example is appendectomy with subsequent subdiaphragmatic abscess, which would be reported as an organ/space SSI at the intraabdominal specific site (SSI-IAB).
- Specific sites of organ/space (Table 2) have specific criteria which must be met in order to qualify as an NHSN event. These criteria are in addition to the general criteria for and can be found **in** Chapter 17

Table 22. Pooled means and key percentiles of the distribution of SSI rates* by operative procedure and risk index categories, PA module, 2006 through 2008

Procedure code	Operative procedure description	Duration cutpoint, minutes	Risk index category	No. of hospitals†		No. of procedures	No. of SSI	Pooled mean	Percentiles				
									10%	25%	50% (median)	75%	90%
Inpatient procedures													
AAA	Abdominal aortic aneurysm repair	217	0, 1	41	(18)	1465	31	2.12					
AAA	Abdominal aortic aneurysm repair	217	2, 3	39	(6)	480	31	6.46					
AMP	Limb amputation	81	0, 1	15	(8)	560	7	1.25					
AMP	Limb amputation	81	2, 3	16	(8)	854	26	3.04					
APPY	Appendix surgery	81	0, 1	31	(22)	5211	60	1.15	0.00	0.00	0.60	1.23	2.76
APPY	Appendix surgery	81	2, 3	27	(9)	663	23	3.47					
AVSD	AV shunt for dialysis	112	0, 1, 2, 3	16	(8)	868	11	1.27					
BILI	Bile duct, liver or pancreatic surgery	321	0, 1	14	(7)	595	48	8.07					
BILI	Bile duct, liver or pancreatic surgery	321	2, 3	11	(4)	293	40	13.65					
BRST	Breast surgery	196	0	22	(9)	1478	14	0.95					
BRST	Breast surgery	196	1	21	(11)	1422	42	2.95					
BRST	Breast surgery	196	2, 3	15	(5)	236	15	6.36					
CARD	Cardiac surgery	306	0, 1	150	(124)	21,555	238	1.10	0.00	0.00	0.49	1.64	2.60
CARD	Cardiac surgery	306	2, 3	145	(83)	7130	131	1.84	0.00	0.00	1.24	3.25	4.71
CBGB	Coronary bypass with chest and donor incision	301	0	135	(4)	1738	6	0.35					
CBGB	Coronary bypass with chest and donor incision	301	1	292	(264)	91,007	2319	2.55	0.00	0.65	1.90	3.45	5.37
CBGB	Coronary bypass with chest and donor incision	301	2	285	(228)	30,204	1288	4.26	0.00	1.33	3.08	5.81	8.70
CBGB	Coronary bypass with chest and donor incision	301	3	48	(0)	106	9	8.49					
CBGC	Coronary bypass graft with chest incision	286	0, 1	246	(110)	8771	120	1.37	0.00	0.00	0.00	2.47	4.55
CBGC	Coronary bypass graft with chest incision	286	2, 3	218	(37)	2888	66	2.29	0.00	0.00	0.00	2.80	6.89
CEA	Carotid endarterectomy	124	0, 1, 2, 3	36	(26)	4536	15	0.33	0.00	0.00	0.00	0.50	1.12
CHOL	Gallbladder surgery	99	0	96	(61)	6481	15	0.23	0.00	0.00	0.00	0.00	0.86
CHOL	Gallbladder surgery	99	1	95	(60)	5726	35	0.61	0.00	0.00	0.00	0.97	2.06
CHOL	Gallbladder surgery	99	2, 3	92	(28)	2445	42	1.72	0.00	0.00	0.00	3.23	4.73
COLO	Colon surgery	187	0	278	(177)	17,126	683	3.99	0.00	1.58	3.49	5.56	8.73
COLO	Colon surgery	187	1	292	(235)	30,159	1686	5.59	0.00	2.06	4.48	7.43	11.16
COLO	Colon surgery	187	2	277	(182)	13,387	945	7.06	0.00	2.38	5.06	9.09	13.78
COLO	Colon surgery	187	3	207	(14)	1468	139	9.47					
CRAN	Craniotomy	225	0, 1	44	(37)	7902	170	2.15	0.00	0.00	1.51	2.62	6.37
CRAN	Craniotomy	225	2, 3	41	(18)	1761	82	4.66					
CSEC	Cesarean section	56	0	59	(54)	20,743	303	1.46	0.00	0.31	1.07	2.69	4.07
CSEC	Cesarean section	56	1	61	(50)	8995	219	2.43	0.00	0.00	1.82	4.32	6.45
CSEC	Cesarean section	56	2, 3	52	(15)	1256	48	3.82					
FUSN	Spinal fusion	239	0	113	(82)	20,059	140	0.70	0.00	0.00	0.24	1.04	1.84
FUSN	Spinal fusion	239	1	116	(83)	16,640	306	1.84	0.00	0.65	1.70	2.34	3.13
FUSN	Spinal fusion	239	2, 3	100	(52)	4511	187	4.15	0.00	1.64	3.35	5.66	7.11
FX	Open reduction of fracture	138	0	39	(25)	3600	40	1.11	0.00	0.00	0.00	1.13	2.43

The pooled mean infection rates required data from at least 10 different hospitals

For the percentile distributions, data from at least 20 different hospitals are required.

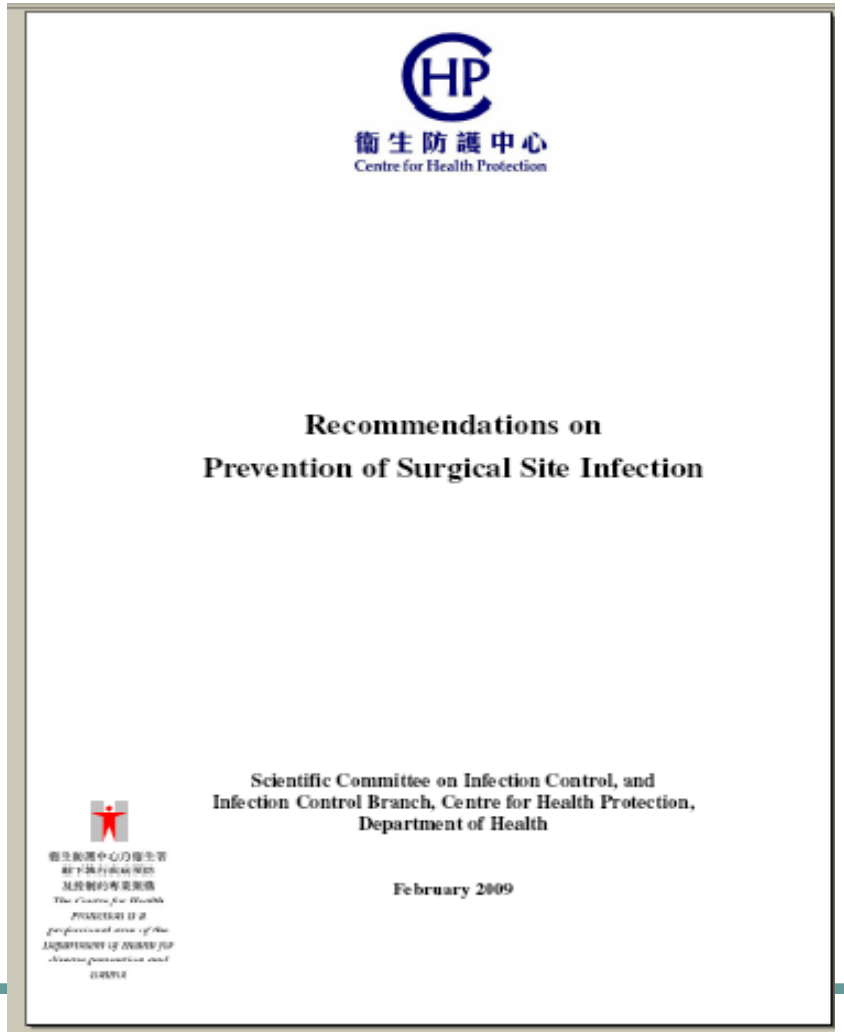
(NNIS) NHSN Method

- If you would like to compare your hospital's rates and ratios with those in this report, you must first collect information from your hospital in accordance with the methods described for NHSN

Roles

Responsible by	Roles Description
CICO Office	• SSI policy direction in HA (in collaboration with ICB/CHP) • SSI program implementation in HA through ICPIC • Supervise SSI data collection in HA • Data cleaning, analysis and reporting • Submission of KPI on SSI to KPI subject officer
ICB	• SSI policy direction in community and HA in collaboration with CICO office • Assisting in data cleaning , analysis and organization
Task Force on Infection Control (TFIC)	• Give advice on SSI policy , direction in HA (in collaboration with ICB/CHP) • Endorse SSI program implementation in HA
HICT	• Set up SSI surveillance program • Data entry into web-based program • Liaise and co-operate with surgical departments on SSI data collection and verification • Liaise with hospital surgical departments for quarterly report of surgeon-specific SSI rates to individual surgeons • SSI surveillance report to ICC
COCs	• Close collaboration with COCs members related to SSI surveillance • Officially nominate representatives from respective COC as member of SSI surveillance / KPI Working Group
Surgical Teams	• Closely collaborate with hospital ICT and facilitates SSI surveillance • Partner with ICT in the implementation as necessary

http://www.chp.gov.hk/files/pdf/recommendations_on_prevention_of_ssi.pdf



衛生防護中心
Centre for Health Protection

Recommendations on
Prevention of Surgical Site Infection

Scientific Committee on Infection Control, and
Infection Control Branch, Centre for Health Protection,
Department of Health

February 2009

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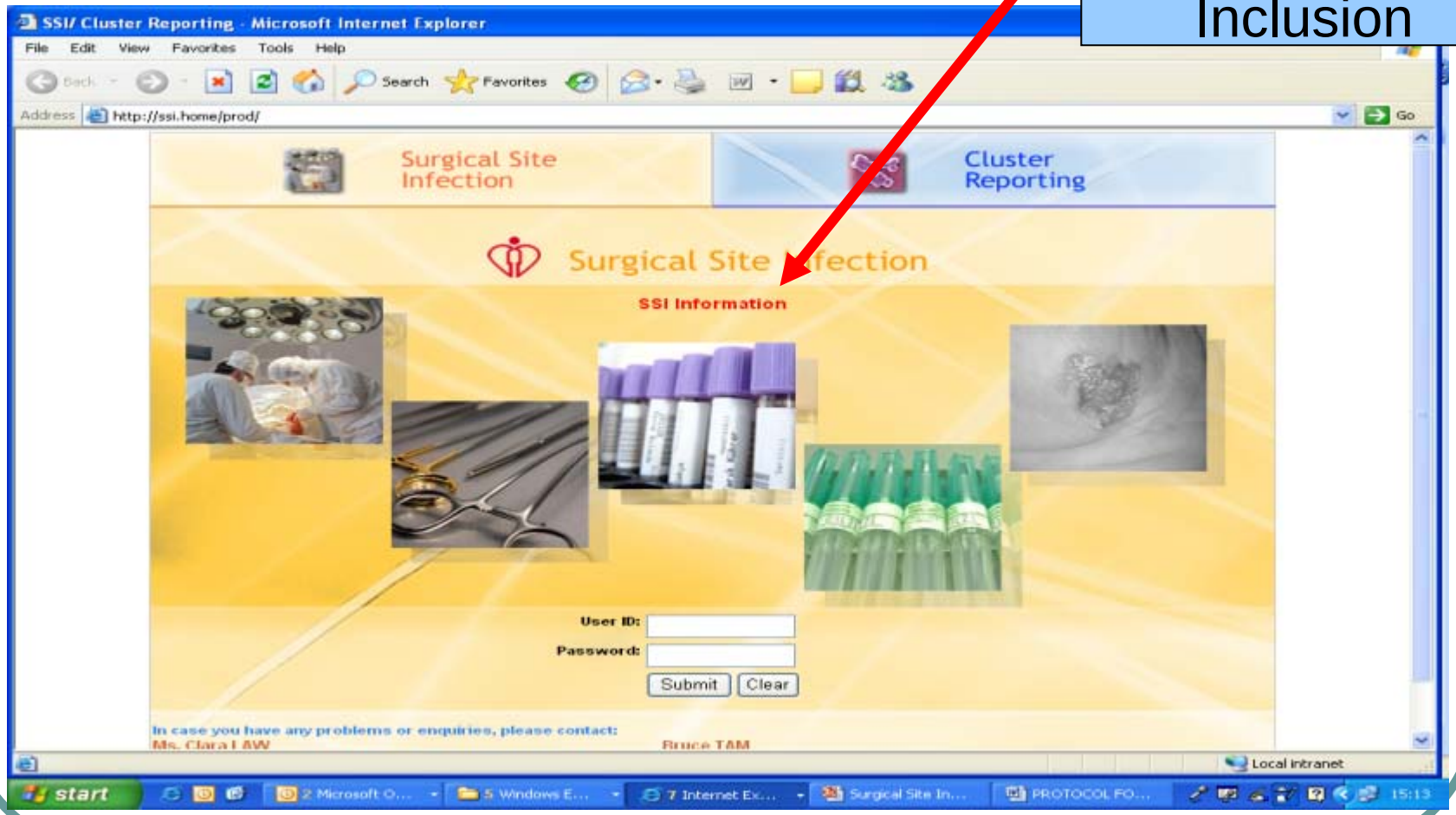
Proposal : core surgeries SSI surveillance (9.2009)

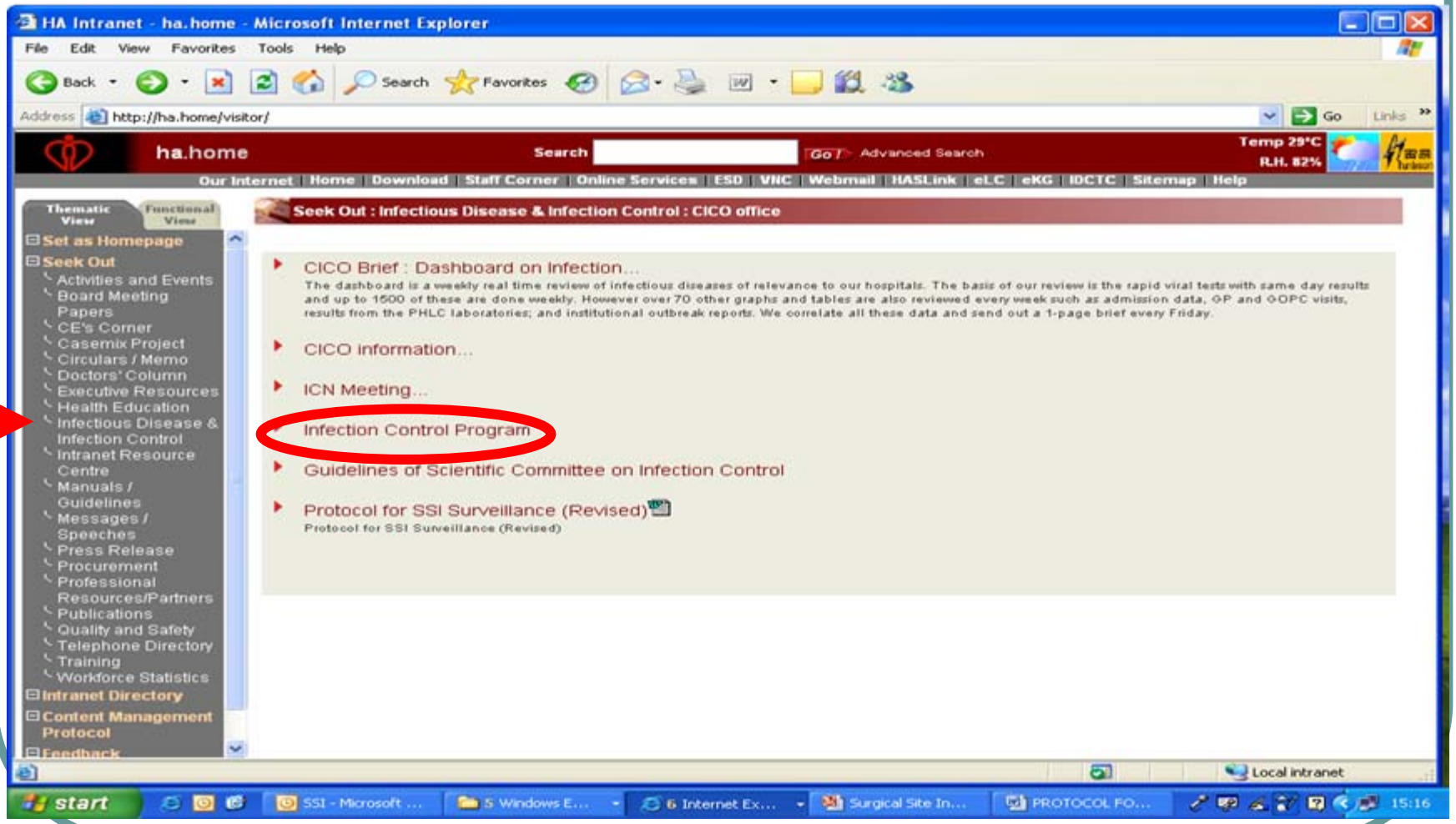
Specialty :	Core surgeries proposed	Effective
Surgical	Rectal	Q3/2010
O&T	:Laminectomy	
O&G	LSCS	Pending later , probably next year

The SSI information is uploaded and can be reached via

http://ssi.home/prod -> SSI Information (In red).

Q & A
Protocol
Inclusion

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File Edit View Favorites Tools Help
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Thematic View
Functional View
Set as Homepage
Seek Out
Activities and Events
Board Meeting Papers
CE's Corner
Casemix Project
Circulars / Memo
Doctors' Column
Executive Resources
Health Education
Infectious Disease & Infection Control
Intranet Resource Centre
Manuals / Guidelines
Messages / Speeches
Press Release
Procurement
Professional Resources/Partners
Publications
Quality and Safety
Telephone Directory
Training
Workforce Statistics
Intranet Directory
Content Management Protocol
Feedback
Seek Out : Infectious Disease & Infection Control : CICO office
CICO Brief : Dashboard on Infection...
The dashboard is a weekly real time review of infectious diseases of relevance to our hospitals. The basis of our review is the rapid viral tests with same day results and up to 1500 of these are done weekly. However over 70 other graphs and tables are also reviewed every week such as admission data, OP and OOPC visits, results from the PHLC laboratories; and institutional outbreak reports. We correlate all these data and send out a 1-page brief every Friday.
CICO information...
ICN Meeting...
Infection Control Program
Guidelines of Scientific Committee on Infection Control
Protocol for SSI Surveillance (Revised)
Protocol for SSI Surveillance (Revised)
Local intranet
start
SSI - Microsoft ...
5 Windows E...
6 Internet Ex...
Surgical Site In...
PROTOCOL FO...
15:16

The way forward

1. Follow the protocol : web
2. + / - (2008 starts --------→

- + Q3/2010
  - Laminectomy
  - Rectal Surgery
- In 2011, consider to add Caesarean Section
  - Hospitals with Caesarean Section in their current surveillance program.

3. The gap between OTRS and SSI surveillance

The way forward

- Workshop in October
- IT enhancement : control chart –by class
- and data quality
- Enquiries / Suggestions to CICO office

Thank

you