

Infection control in ambulatory care

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What we're talking about

- What kinds of outpatient health care settings
- What is infection control and prevention in the ambulatory setting
(highlighting differences between the acute hospital setting and ambulatory care)?
- Trends in the future

- **“Infection control is the discipline concerned with preventing nosocomial or healthcare-associated infection, a practical (rather than academic) sub-discipline of epidemiology. It is an essential, though often under-recognized and under-supported, part of the infrastructure of health care. Infection control and hospital epidemiology are akin to public health practice, practiced within the confines of a particular health-care delivery system rather than directed at society as a whole.”**

--https://en.wikipedia.org/wiki/Infection_control

Atrius Health



- 675,000 adult and pediatric patients
- 2.2 million visits a year
- 42 practice locations
- 750 physicians
- 6,800 employees

Components of infection control

- **Prevention**
- Preparedness
- Surveillance
- Management

- For all of these
 - Policies, procedures, consultation in individual cases, coordinating larger response when necessary

Prevention

- Cleaning, disinfection, sterilization
- Hand hygiene
- TB control program
- Transmission-based precautions
- Vaccines for patients
- Immunity/vaccines for staff
- Antibiotic stewardship
- Blood borne pathogens program





醫院管理局
HOSPITAL
AUTHORITY

潔手技巧

Hand Hygiene Technique

搓手20秒

Rub hands for 20 seconds



衛生防護中心
Centre for Health Protection



1

手掌 Palms



2

手背
Back of hands



3

指隙
Between fingers



4

指背
Back of fingers



5

拇指 Thumbs



7

手腕 Wrists



6

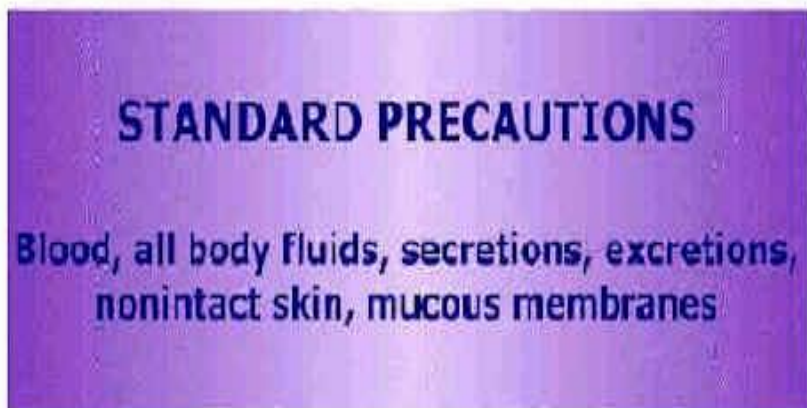
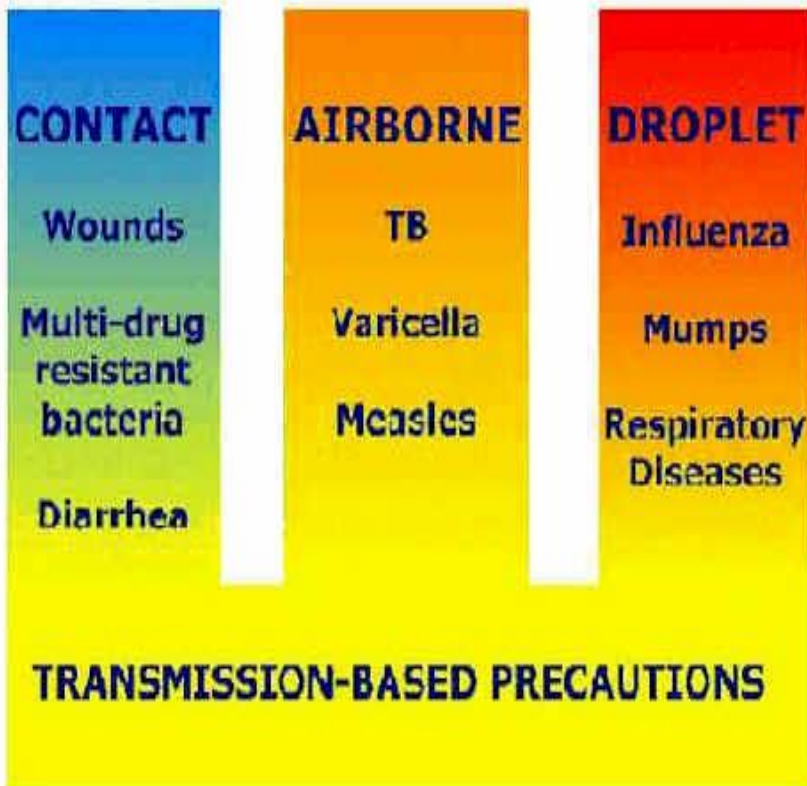
指尖 Finger tips

衛生防護中心網站
Centre for Health Protection Website
www.chp.gov.hk

政府物流服務署印



衛生署
Department of Health



Healthcare 2020





Pediatric Snapshot Report: Pediatric Snapshot

- Snapshot
- Chart Review
- Demographics
- FYI
- Flowsheets
- Problem List
- History
- Growth Chart
- Graphs
- Safety Event Re...
- Medications
- BPA Review
- Web Portals
- Immunizations/I...
- Identity Manager
- Send Patient Me...
- More Activities ▶

ONLY)
 Otitis media
 Asthma exacerbation
 Other family problem
 Family problem, other

Medications Long-Term

lisinopril 10 mg Oral tablet
TOLAZOLINE HCL (TOLAZOLINE INJ)
Administrative (VOIDED BY PHARMACY,)
Amphetamine-Dextroamphetamine (ADDERALL) 10 mg Oral tablet
Administrative (VOIDED BY PHARMACY,)
Administrative (VOIDED BY PHARMACY,)
Administrative (VOIDED BY PHARMACY,)

Medical History
None

Surgical History
None

Family History

Brother	Cancer - Breast
Father	Cancer - Colon
Mother	Cancer - Breast
Paternal Grandfather	Cancer - Ovarian
Sister	Cancer - Colon
Son	Cancer - Prostate

Immunizations/Injections

DTaP Vaccine	1/25/2014
DTaP-HFlu B Conj-IPV (Pentacel)	5/21/2014
HPV4 Vaccine(6,11,16,18) (Gardasil4)	3/28/2014
Influenza Vaccine	11/11/2013, 10/2/2013, 9/4/2013, ...
MMR-Varicella Vaccine	6/11/2015
Pneumococ/Conjugate (PCV13)	4/14/2015
Polio Vaccine (Oral, Trivalent)	7/18/2014
Varicella Disease	5/29/2001
Varicella Immune by Serology	7/1/2001

Health Maintenance Hold Soon Due Late

Topic	Due
Hepatitis A Vaccine (#1 Of 2 - Standard Series)	9/26/2013
Hepatitis B Vaccine (#2 Of 3 - Primary Series)	2/20/2014
Dtap/dtap/d Vaccine (#3 - Dtap)	6/18/2014
Well Child Exam	9/26/2015
Lead	2/5/2016
Polio Vaccine (#4 Of 4 - Ipwopy Mixed Series)	9/26/2016
Mmr Vaccine (#2)	9/26/2016
Varicella Vaccine (#2)	9/26/2016
Haemophilus Influenza Vaccine	Completed
Pneumococcal/pcv-13 Vaccine (2-15	Completed



Standard Precautions

Are every day practices that prevent potential exposure to hazardous germs- urine, feces, blood, saliva, nasal discharge, eye discharge, and injury or tissue discharges . Cleaned up immediately, as follows:

- Remove objects of **blood** or **blood**-containing body fluids and injury or tissue discharges. Then clean and disinfect the area.
- Wear gloves in these situations. Avoid exposing open skin sores or mucous membranes to blood or blood-containing body fluids or to injury and tissue discharges.
- Clean floor/objects, and or mop/rinse them with sanitizing solution. Wring the mops as dry as possible and hang to dry.
- Place **blood**-contaminated material and diapers in a plastic bag secured with a knot.
- Wash your hands properly even if you wore gloves. Wash your hands after drying tears or wiping discharge from the nose or mouth.



Components of infection control

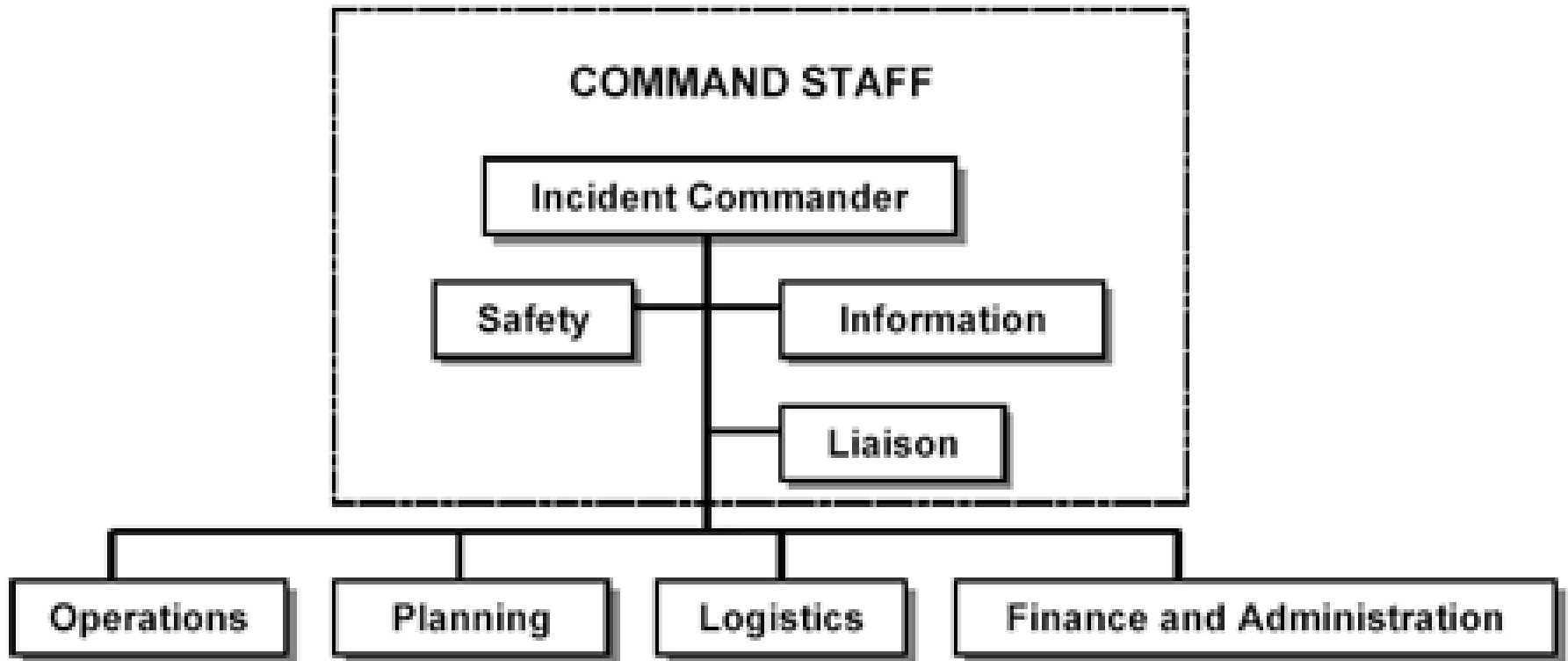
- Prevention
- **Preparedness**
- Surveillance
- Management

- For all of these
 - Policies, procedures, consultation in individual cases, coordinating larger response when necessary

Preparedness

- All hazards disaster preparedness
 - Infectious outbreak/pandemic plan
- Everyday possible infectious exposure preparedness

Incident command system



Pandemic flu plan

- Supply stockpile established
- Plans to increase care
 - Acuity
 - Volume
 - Triggers for when this may be necessary
 - Managing staff with illness or ill family members
- Vaccine/medication distribution plan

Everyday infectious exposure preparedness

- Transmission-based precautions
- Recognition
 - Fever and rash (Measles, varicella, meningococemia)
 - Severe, prolonged or paroxysmal cough (TB, pertussis)
 - Ad hoc: e.g. international travel (Ebola, MERS)
- Moving the patient, PPE use, HEPA filter

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- **Surveillance**
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Alternative Selection

RUBEOLA (MEASLES) IGM FOR ACUTE DISEASE: Expected-7/14/2014, Expires-11/11/2014, Routine, Qty-1, Normal

SUSPECT AND ACUTE MEASLES IS AN URGENT PUBLIC HEALTH CONCERN

- Call MDPH epidemiologists at 617-983-6800 to:
 - Vet the signs and symptoms and seek approval for State lab testing.
 - Report suspect case to MDPH. For sites within Boston proper, Boston Public health can be notified at 617-534-5611.
- Rubeola (Measles) IgM Serology and Rubeola (Measles) Virus Culture are the recommended diagnostic tests and should be carried out by the State Lab.
- For viral culture, NP swabs should be transported in BD Universal Viral Transport Media (VTM).
- Complete the State Lab Specimen submission form for each test ordered. In EPIC, go to LETTERS and download DPH Form Rubeola (Measles) IGM, letter# 28218.
- The lab will arrange transport.
- If there are additional clinical questions, page the ID Physician on-call (for HMVA staff, refer to the SharePoint on-call schedule) or your local ID consultant (other groups).
- If there are operational questions about reporting to public health, precautions or managing exposures, call Infection Control (x88311 within HVMA, 617-559-8311 outside) during regular

Web Links

For additional information or a printable copy of these instructions, please click here.

Alternative	Details	Cost
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Accept Alternative Continue With Original Order Cancel

- In Basket**
- New Msg
 - Patent Msg
 - Refresh
 - Edit Pools
 - Settings
 - Search
 - Attach
 - Out
 - Properties
 - Reply
 - Forward
 - Msg As
- Staff Message
 - Transcription
 - Patent Call
 - Results
 - Result Notes
 - Open Charts
 - Orders**
 - Open Encount
 - Addendum Notif
 - Clinical Lb
 - Unsent Lbs
 - CC'd Charts
 - OOB Notification
 - Referral Message

Orders 0 unread, 113 total Sort ▾ AutoAdmin

X Doge **R** Review **P** Print Order **M** Msg to Pt **E** Enc **T** Tel Enc

Status	Time Ord	Msg S	Priority	Patient Name	Procedure Ordered	Ordered By
Read	10/13/15 7...	10/13/2015	Routine	Xb, Yella [71277323] Auth Prox: Kruskal, Benjamin, MD	RUBEOLA (MEASLES) IGM FOR ACUTE DI... Pool: 102830 HYMMAN INFECTION CONTROL POOL	Kruskal, Benjamin
Read	10/6/15 10:3...	10/06/2015	Routine	Wysocki, Alyssa Marie [2... Auth Prox: Greenwald, Michele, MD	MUMPS IGM FOR ACUTE DISEASE Pool: 102830 HYMMAN INFECTION CONTROL POOL	Greenwald, Michele

Next appt with me: None

Patient Name: XB, YELLA (71277323)
 Sex: Unknown
 DOB: 09/26/2012

PCP: NON ATRIUS PCP
 Center: NON-ATRIUS SITE

Types of orders made on 10/13/2015: LAB

Order Date: 10/13/2015
 Ordering User: KRUSKAL MD, BENJAMIN [7186]
 Encounter Provider: Epic Md, Provider [17]
 Authorizing Provider: Kruskal, Benjamin, MD [P825]
 Department: WTIN[121801]

Order Specific Information
 Order: RUBEOLA (MEASLES) IGM FOR ACUTE DISEASE [CPT(R): 86171] Order #: 219180818 Qty: 1 FUTURE

Priority: Routine
 Resulting Agency: NYMA
 Future Order Information

Expires on: 02/10/2016 Expected by: 10/13/2015

Associated Diagnoses
 P21 Rash

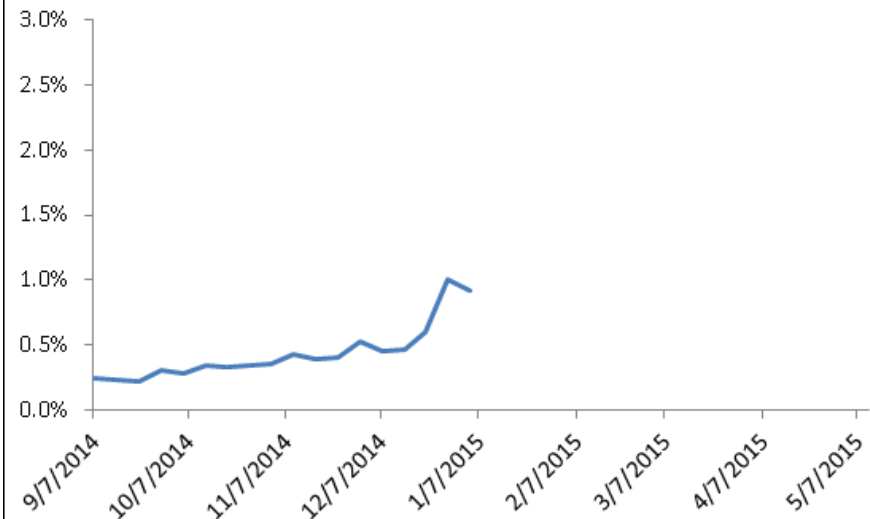
Priority: Routine Class: Normal
 Resulting Agency: NYMA
 Future Order Information



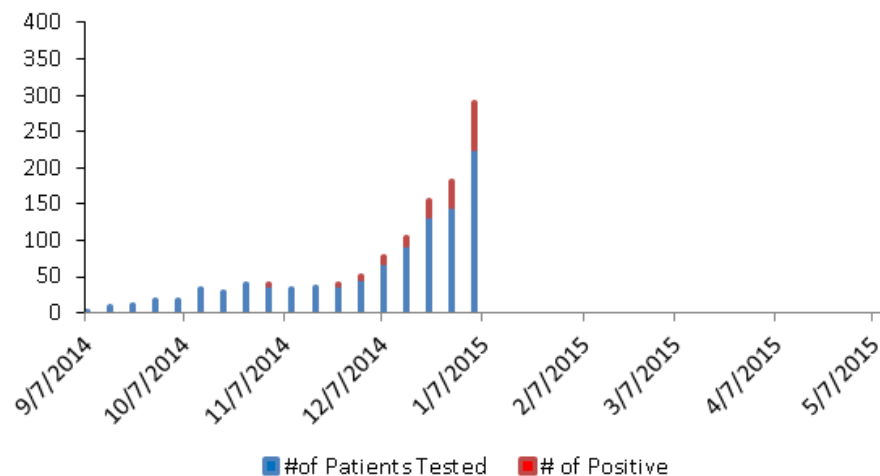
Surveillance

- Electronic health record tools: alerts
- Regulatory compliance
 - Notifiable disease reporting
 - ESP system: collaboration between DPH, HPHC/HMS DPM, and Atrius: automated reporting of commonest diseases
 - OSHA blood/body fluid report
- Useful for QI, targeting education
 - STI (including. Expedited Partner Therapy)
 - enteric (including C. diff)
 - Flu
 - TB

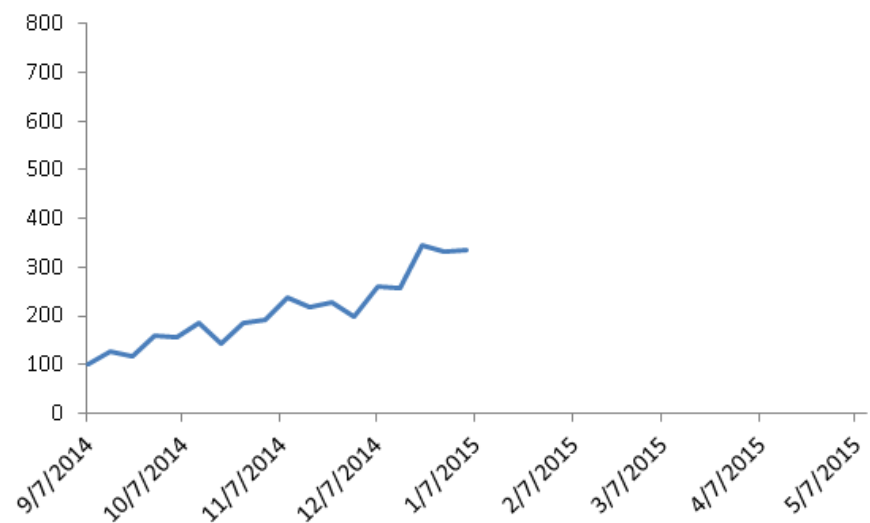
A&R Reported % of Total Visits that are ILI



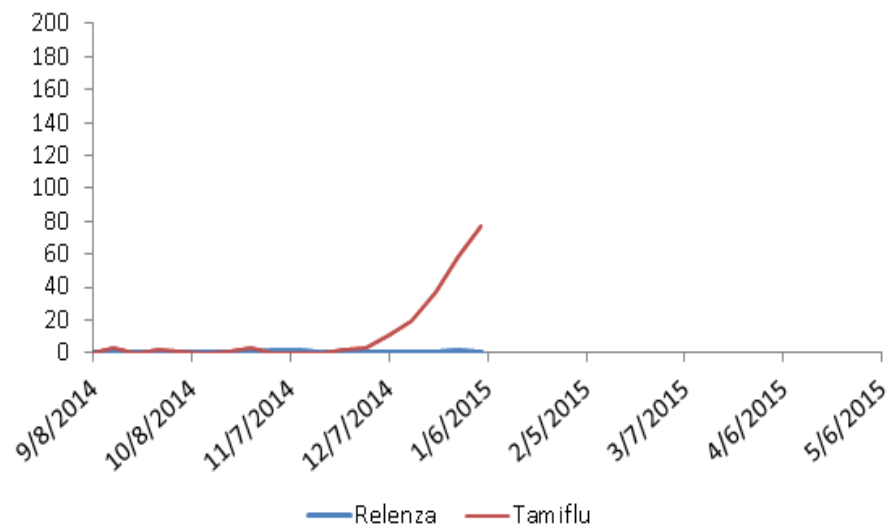
Total # of Rapid Flu Tests vs. # of Positives HVMA 2014-2015



A&R Reported # of ILI cases



Weekly Antiviral Prescriptions HVMA 2014-2015



Sample flu dashboard from week ending 1/4/2015

Weekly report of possible incident active TB cases

Any prescriptions for isoniazid+ rifampin OR ethambutol OR pyrazinamide in patients who have not had that drug within the past year

MRN	Ordering date	Location	Medication	
XXXXXXXXXX	10/1/15	Peabody	Ethambutol	
XXXXXXXXXX	10/1/15	Peabody	Isoniazid	
XXXXXXXXXX	10/1/15	Peabody	Rifampin	

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Management

- Communicable disease exposures
 - *Especially MMRV, meningococcal disease, pertussis, TB*
- Blood/body fluid exposures
- Breach of appropriate cleaning/disinfection/sterilization, medication handling, etc
- Contagious outbreak/potential outbreak

Organizational questions

- Where does IC fit in org chart?
 - Infectious disease
 - Quality and safety
 - Employee health
- Appropriate staffing ratios?
 - Inpatient
 - Infection control practitioner 1 FTE/100-200 occupied beds
 - Physician: 1 FTE/300 beds
 - Background: nurse vs med tech vs ???
 - Outpatient ratios????

Trends

- Increased metric reporting including HAI
 - Currently, mostly inpatient, e.g. NNIS—CLABSI, CAUTI, VAP
 - Likely some versions coming to ambulatory
 - Burdensome
 - Leverage existing databases?
- Consolidation
- More care delivered in ambulatory settings
 - Challenges in tracking nosocomial infections from source to presentation

- More care delivered in ambulatory settings



- Challenges in tracking nosocomial infections from source to presentation

+

leverage existing databases (and correlate across them)

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INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY®

Detection of Postoperative Surgical-Site Infections: Comparison of Health Plan-Based Surveillance With Hospital-Based Programs

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Questions?

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