

IPAC BC EDUCATION DAY 2019

***HOT TAKES ON OLD TOPICS
IN INFECTION PREVENTION***

On behalf of the VCH IPAC team:

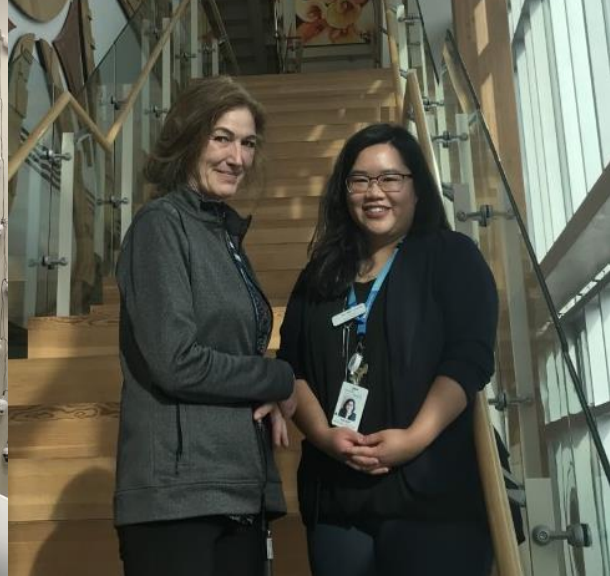
Titus Wong, MD, MHSc, FRCPC

Regional Medical Director, Infection Prevention & Control, VCH
Medical Microbiologist, Medical Microbiology and Infection Prevention, VCH
Clinical Assistant Professor, Faculty of Medicine, UBC
Department of Pathology and Laboratory Medicine, VCH, UBC

ACKNOWLEDGEMENTS

- IPAC BC & Amira, Jacquie – thank you for the invitation
- The super duper awesomeness bestest goodest incrediblest Infection Control Practitioners!!
- Our amazing technologists and the division of Medical Microbiology and Infection Prevention
- Crothall and our amazing EVS team
- FMO!!!
- Allison Muniak and VCH Quality Patient Safety and Infection Control
- Liz, Marthe, Teresa, Jaime, Meghan and the K9 team
- Marthe, Rita, Juliana, Mary, Tamara, Gail, Eric for C. auris work
- Aleksandra Gara and the Information, Solutions and Analytics team
- Richard Dixon and CHAIR Canada
- Linda Hoang, Joanne Archer and PICNET
- UBC and VGH Hospital Foundation for supporting quality improvement and research

NOT TODAY EBOLA.
NOT TODAY!!!!



Our Team

T Wong

Merck

Cubist

Pfizer

Ondine

Steriliz

Biomerieux

Theravance

Accelerate

Teck

Generic drug names
will be used

No company
sponsored trials will
be mentioned

DISCLOSURE



WHAT'S NEW IN 2018/19?



1

“See, ours isn’t so bad, is it?”

2

“Influenz”ing patient outcomes”

3

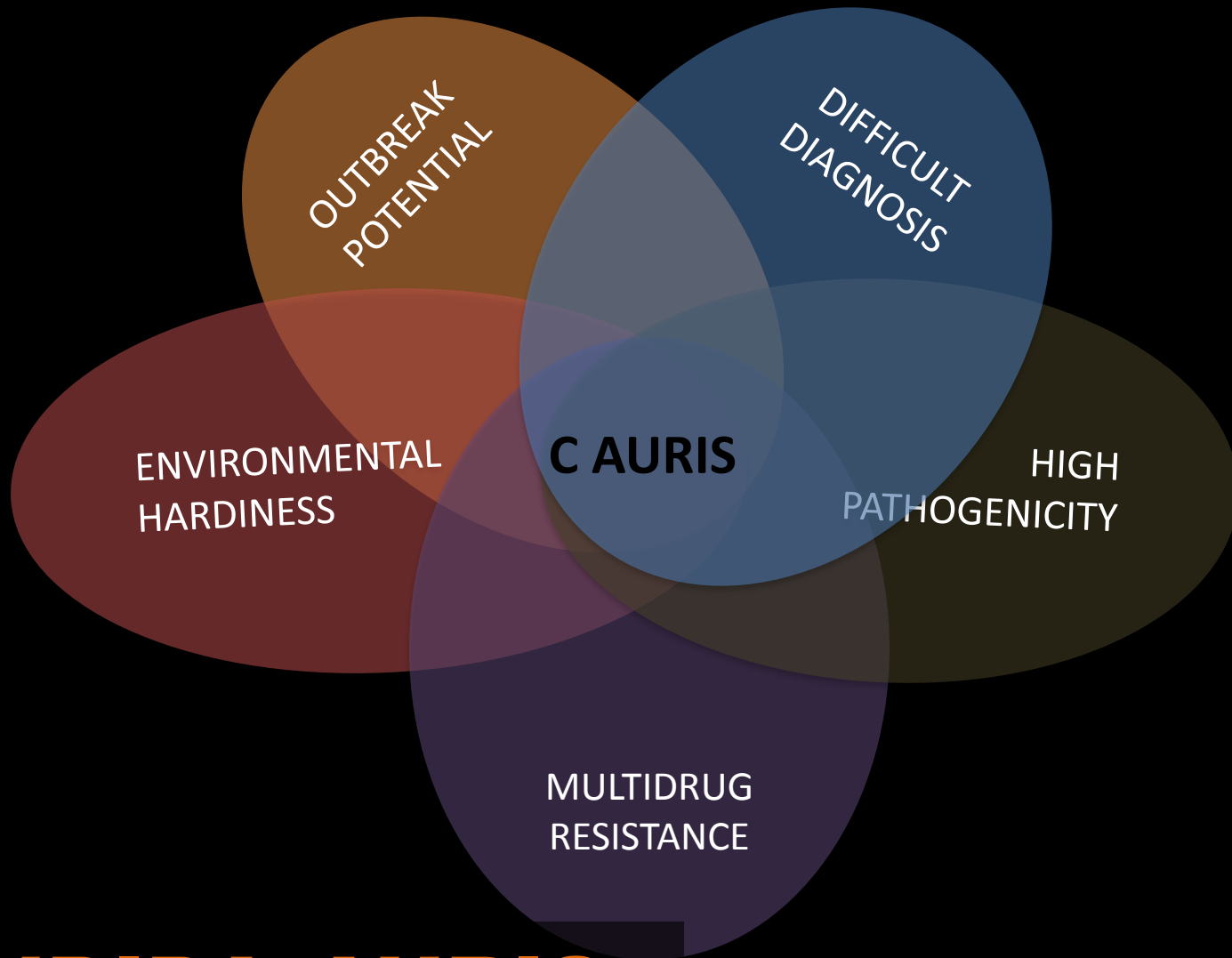
“Making a big C’difference”

4

“HAI, how you doing?”



See, aurs isn't so bad, is it?

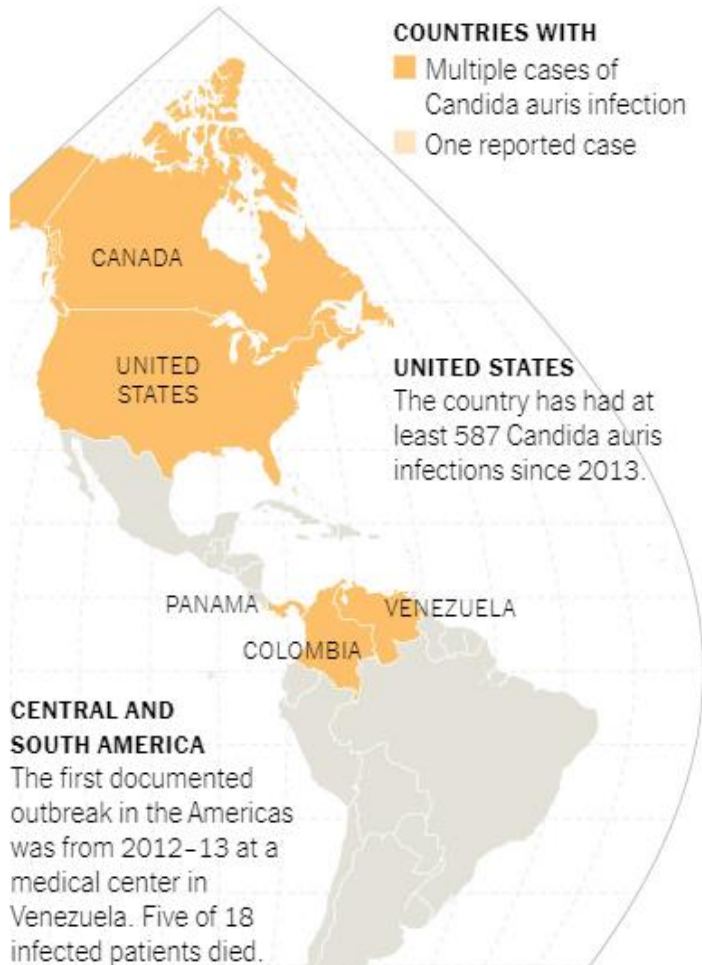


CANDIDA AURIS

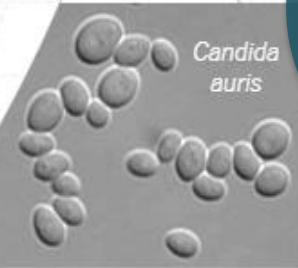
WHAT'S THE BIG DEAL?

Candida Auris

A deadly, drug-resistant fungus is infecting patients in hospitals and nursing homes around the world. The fungus seems to have emerged in several locations at once, not from a single source.



SOUTH AFRICA
A genetically distinct strain of Candida auris in South Africa infected at least 451 patients from 2012-16.

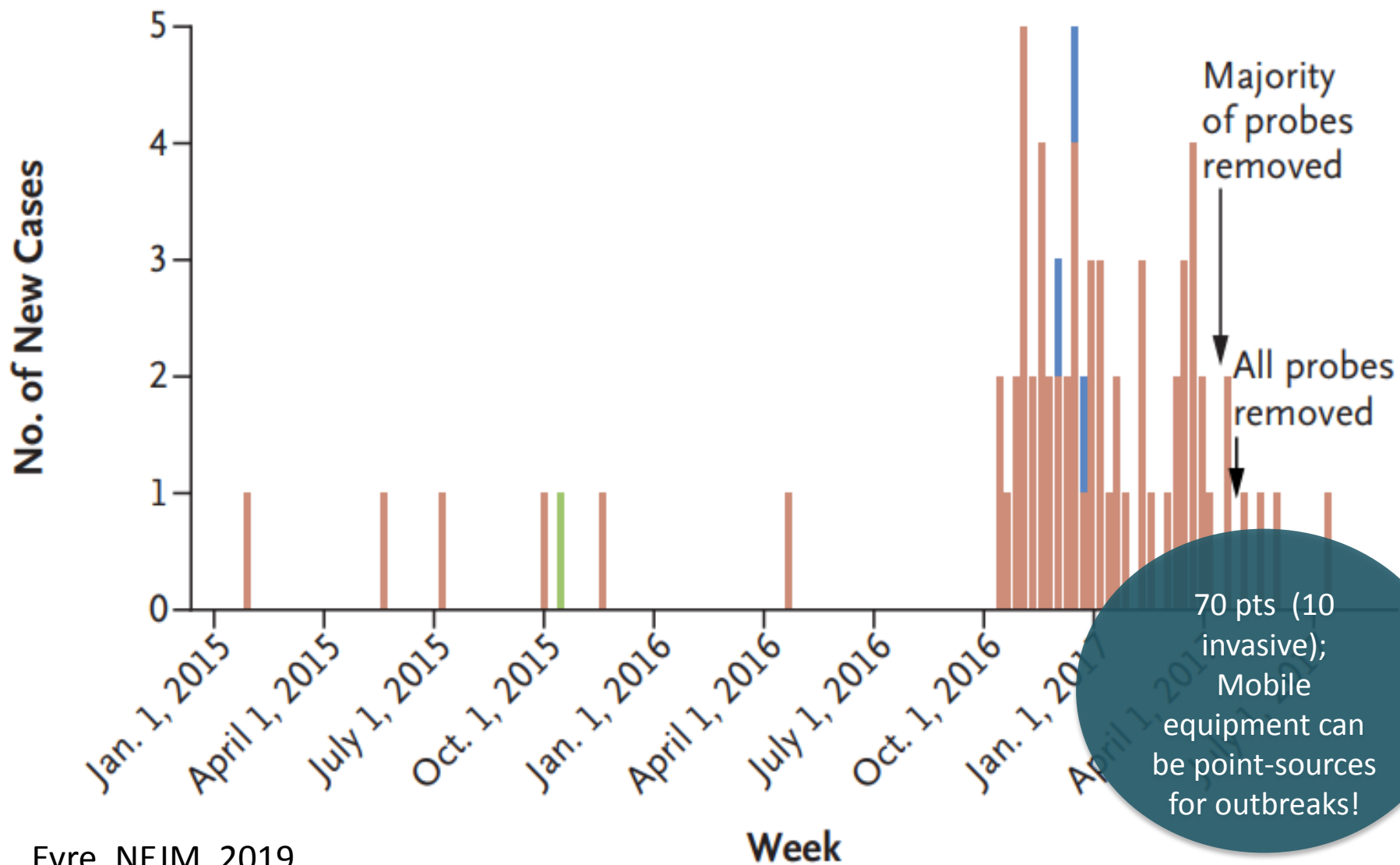


Not just in acute care!
Candida typically not worked up in urine – should we change?

CANDIDA AURIS
IN THE NEW YORK TIMES

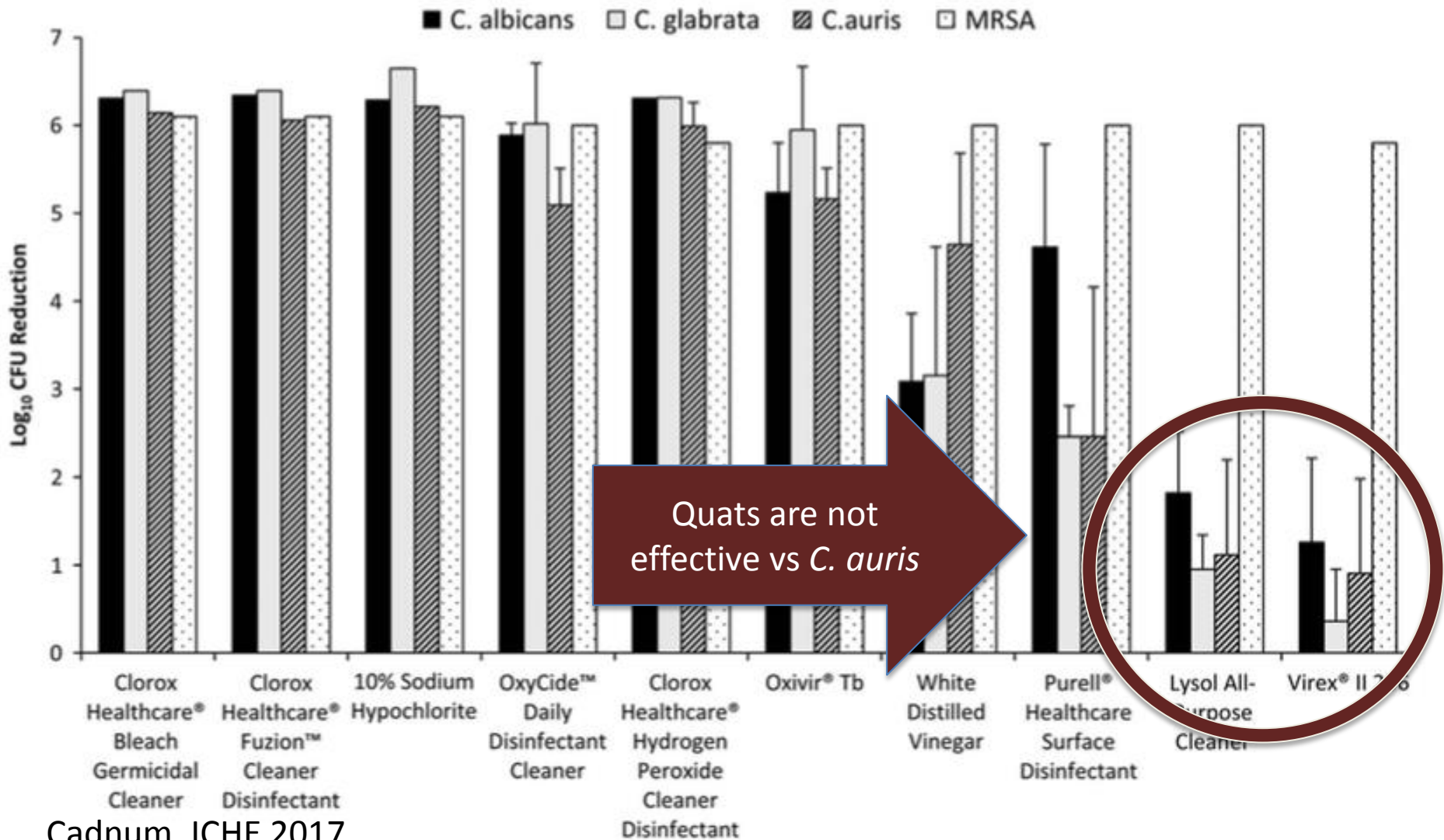
A Weekly Incidence of New *Candida auris* Detection

■ Neurosciences ICU exposure ■ Neurosciences ward exposure ■ No exposure

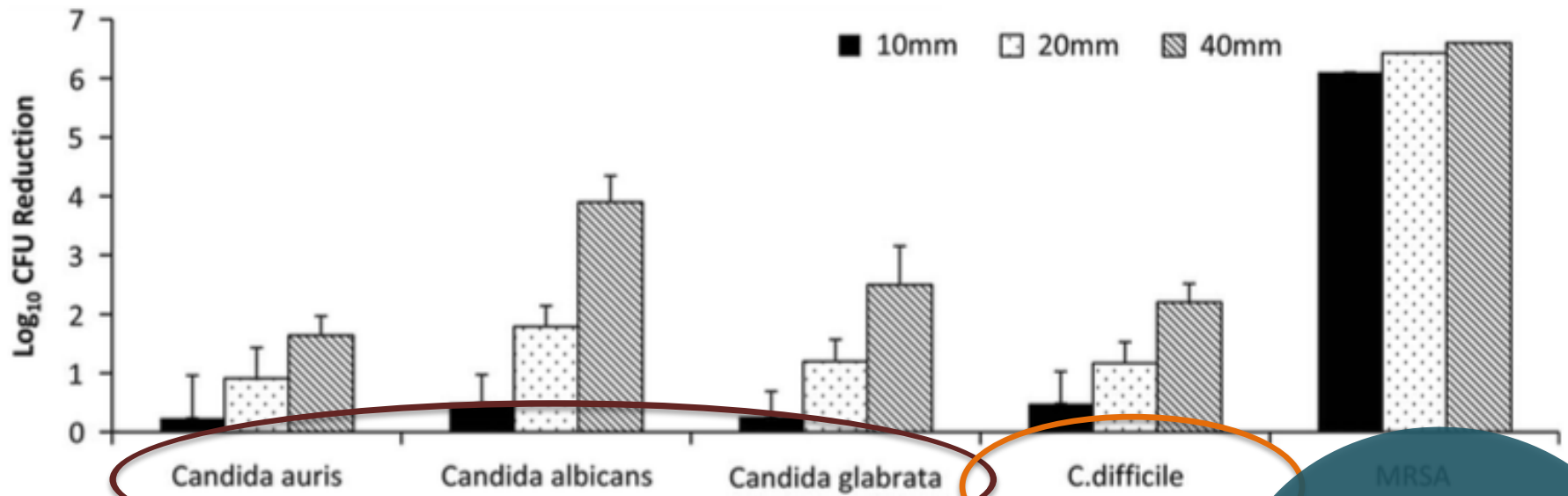


Eyre, NEJM, 2019

C. auris and disinfectants – Quats don't work

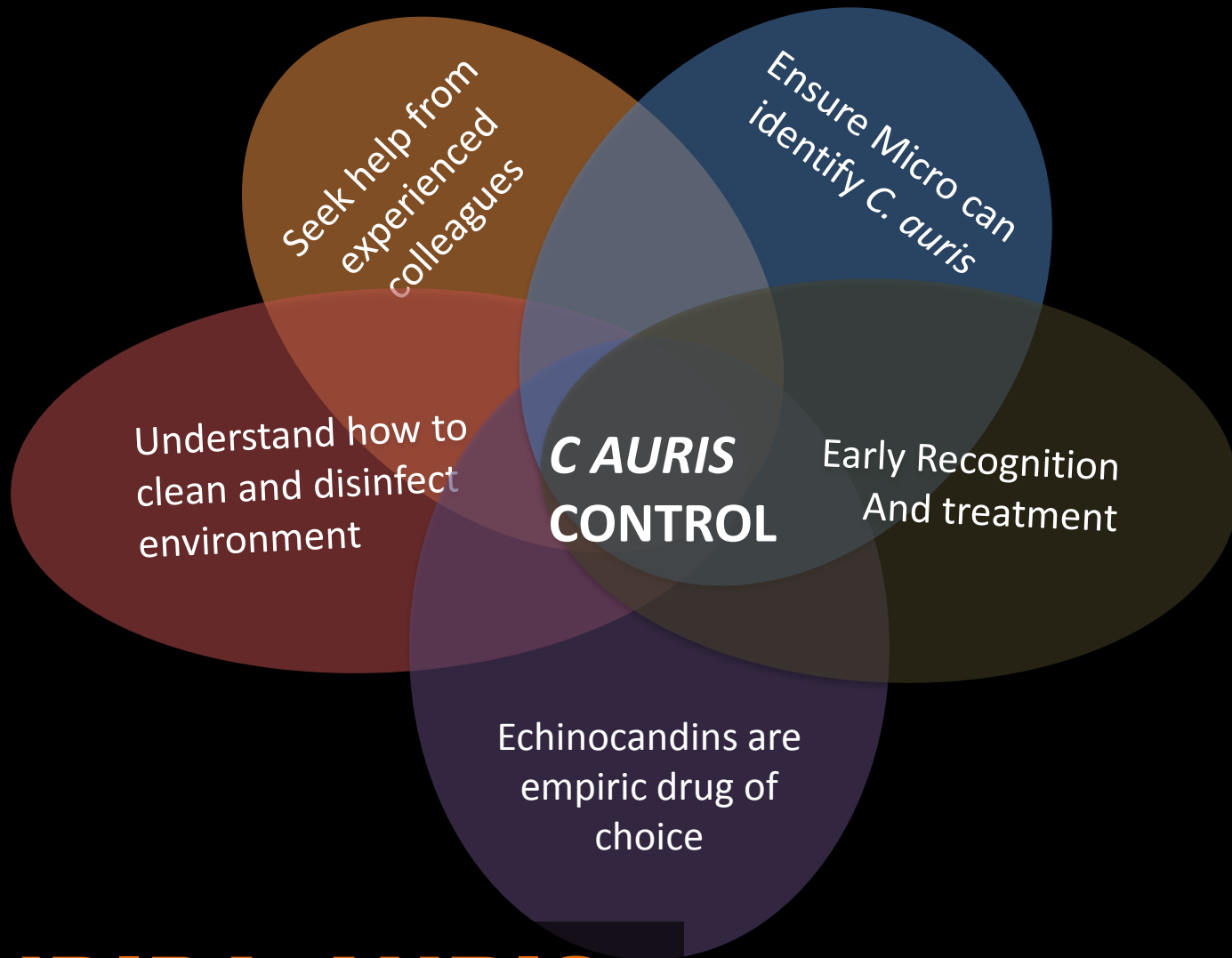


UVC and *C. auris* – distance matters




C. auris is as hardy as
C. difficile vs UVC

MRSA
In terms of
environmental
hardiness,
Consider *C. auris*
like *C. difficile*



CANDIDA AURIS

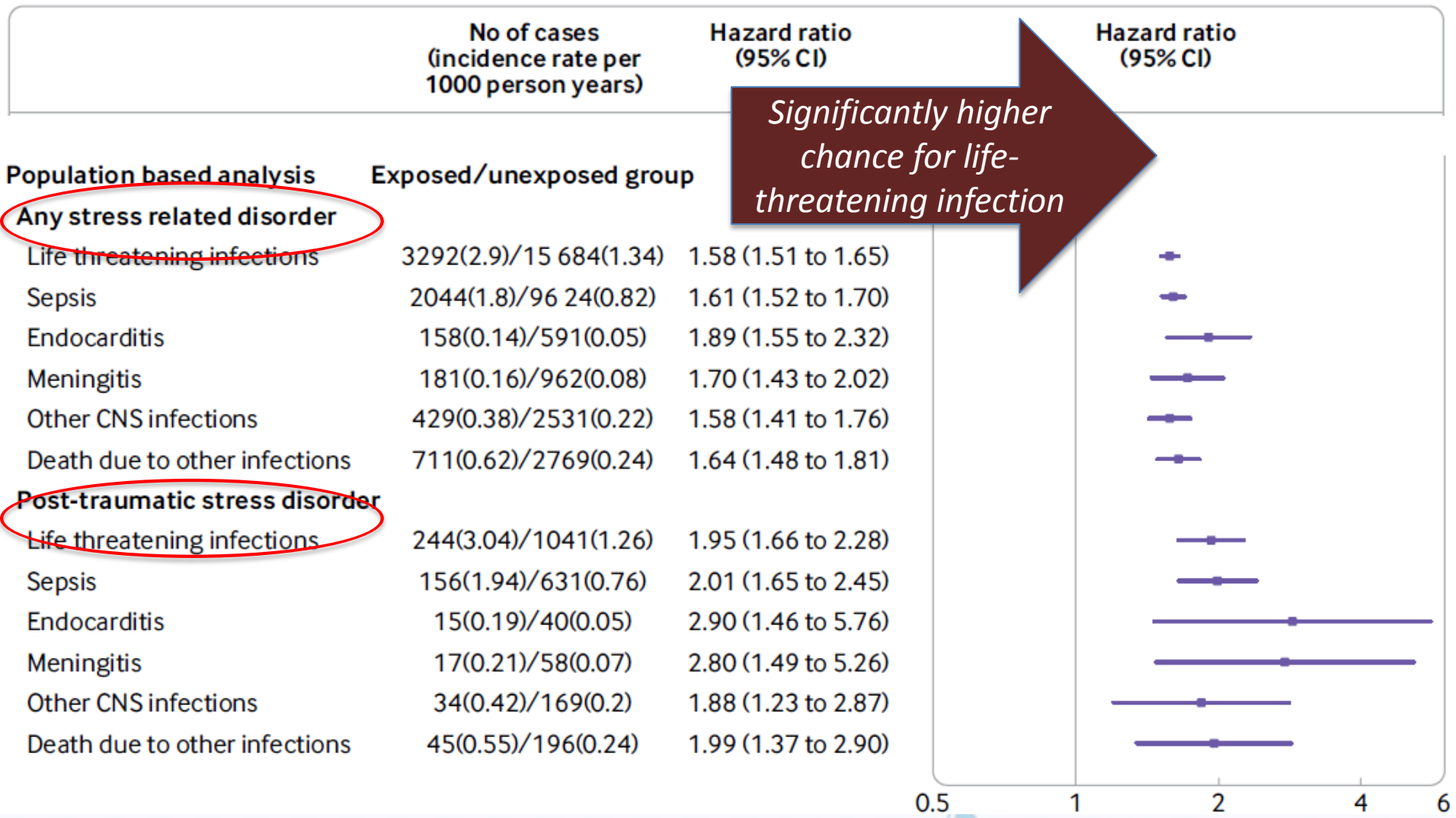
WHAT CAN WE DO?

A man in a dark tuxedo and white shirt with a black bow tie is sitting at a dark wooden desk. He is looking towards the camera with a serious expression. On the desk, there is a typewriter and a vintage microphone. The desk is placed on a beach of dark pebbles, with the ocean waves visible in the background. The scene is lit with a warm, golden light, suggesting sunset or sunrise.

And now for something completely different.

Monty Python

Song, BMJ 2019





Influenz'ing patient outcomes

Clinical Practice Guidelines by the Infectious Diseases Society of America: 2018 Update on Diagnosis, Treatment, Chemoprophylaxis, and Institutional Outbreak Management of Seasonal Influenza^a

Timothy M. Uyeki,¹ Henry H. Bernstein,² John S. Bradley,^{3,4} Janet A. Englund,⁵ Thomas M. File Jr.,⁶ Alicia M. Fry,¹ Stefan Gravenstein,⁷ Frederick G. Hayden,⁸ Scott A. Harper,⁹ Jon Mark Hirshon,¹⁰ Michael G. Ison,¹¹ B. Lynn Johnston,¹² Shandra L. Knight,¹³ Allison McGeer,¹⁴ Laura E. Riley,¹⁵ Cameron R. Wolfe,¹⁶ Paul E. Alexander,^{17,18} and Andrew T. Pavia¹⁹

What are some updates from 2009?

- Recommended NAAT (nucleic acid amplification tests) over RIDT (viral antigen testing) due to NATs having superior performance
- If suspecting flu, treat ASAP before lab confirmation (and independent of vaccination status, onset, duration of illness)
- Avoid steroids if possible unless there is a compelling reason; also avoid IVIG
- **What's missing: NEW FLU DRUG, BALOXIVIR**

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812

SEPTEMBER 6, 2018

VOL. 379 NO. 10

Baloxavir Marboxil for Uncomplicated Influenza in Adults and Adolescents

Frederick G. Hayden, M.D., Norio Sugaya, M.D., Nobuo Hirotsu, M.D., Ph.D., Nelson Lee, M.D., Menno D. de Jong, M.D., Ph.D., Aeron C. Hurt, Ph.D., Tadashi Ishida, M.D., Ph.D., Hisakuni Sekino, M.D., Ph.D., Kota Yamada, M.D., Simon Portsmouth, M.D., Keiko Kawaguchi, M.Sc., Takao Shishido, Ph.D., Masatsugu Arai, M.Sc., Kenji Tsuchiya, M.Sc., Takeki Uehara, Ph.D., and Akira Watanabe, M.D., Ph.D., for the Baloxavir Marboxil Investigators Group*

Healthy
patients,
uncomplicated
flu

Baloxivir
vs.
Placebo,
Oseltamivir

Faster
symptom relief
vs placebo,
similar to
oseltamivir

GAP:
*What about
complicated
patients? E.g.
most of ours...*

Hayden, NEJM, 2018

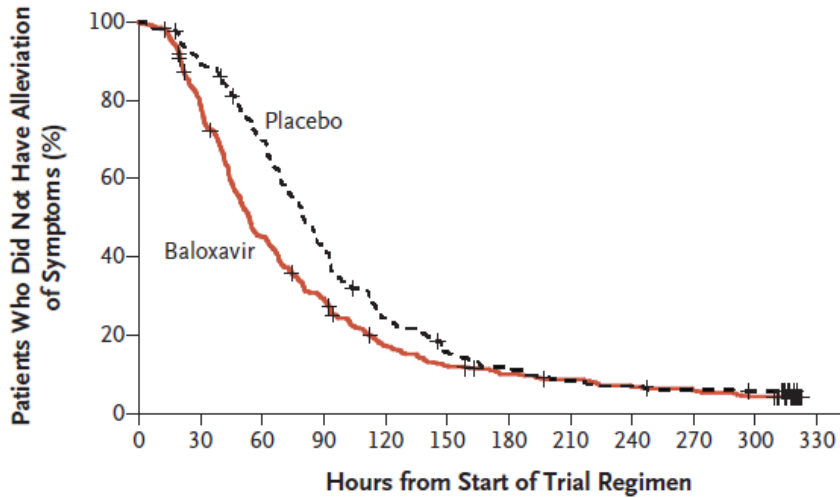
The NEW ENGLAND JOURNAL OF MEDICINE

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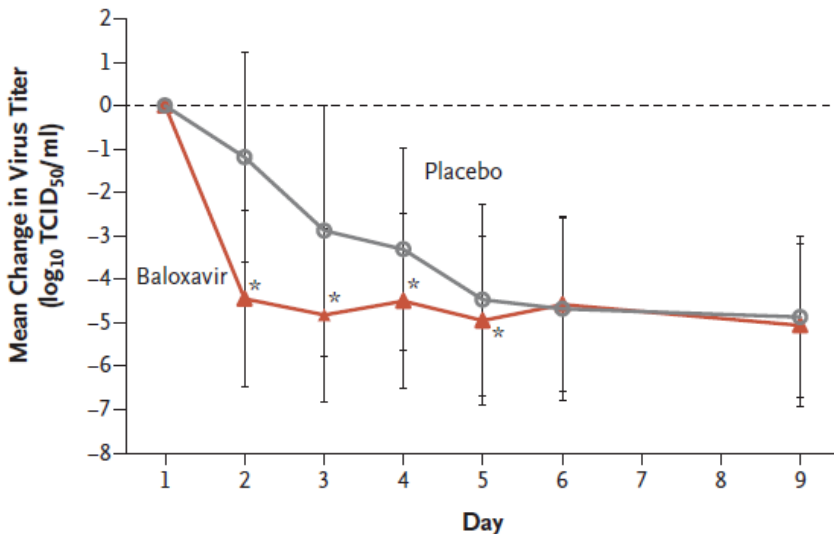
VOL. 379 NO. 10

Influenza in Adolescents

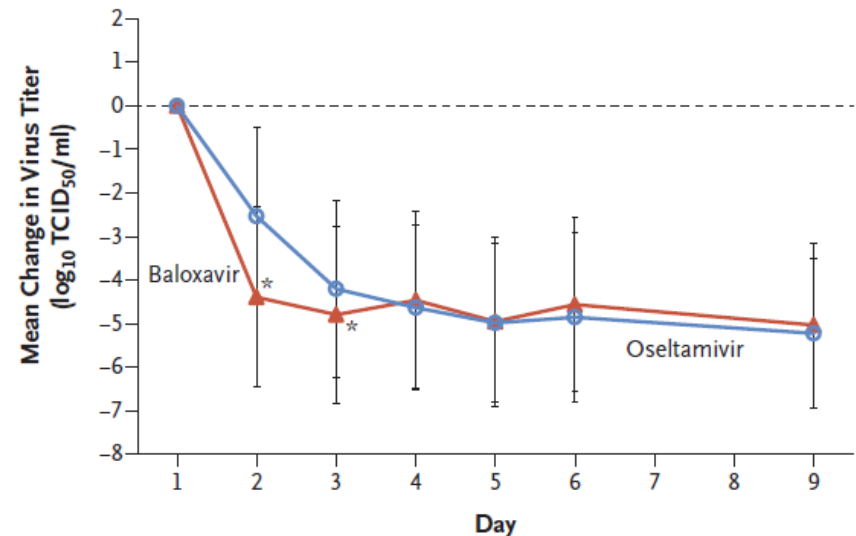
Nobuo Hirotsu, M.D., Ph.D., Nelson Lee, M.D., et al.



A Baloxavir vs. Placebo



B Baloxavir vs. Oseltamivir




Hayden, NEJM, 2018

Now FDA approved for high risk pts as of Oct 2019

Original Article

The impact of incorporating early rapid influenza diagnosis on hospital occupancy and hospital acquired influenza

Lior Neshar MD^{1,2} , Gal Tsaban MD^{1,2}, Jacob Dreihier MD PhD^{2,3}, Kenneth V.I. Rolston MD⁴, Gal Ifergane MD^{2,3}, Yonat Shemer PhD^{2,5}, Abraham Borer MD^{1,2,a} and Klaris Riesenber MD^{1,2,a}

¹Internal Medicine Division, Infectious Disease Institute, Soroka Medical Center, Beer Sheba, Israel, ²Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer Sheba, Israel, ³Hospital Administration, Soroka University Medical Center, Beer Sheba, Israel, ⁴Department of Infectious Diseases, Infection Control, and Employee Health, University of Texas MD Anderson Cancer Center, Houston Texas, United States and ⁵Laboratory for Clinical Virology, Soroka Medical Center, Beer Sheba, Israel



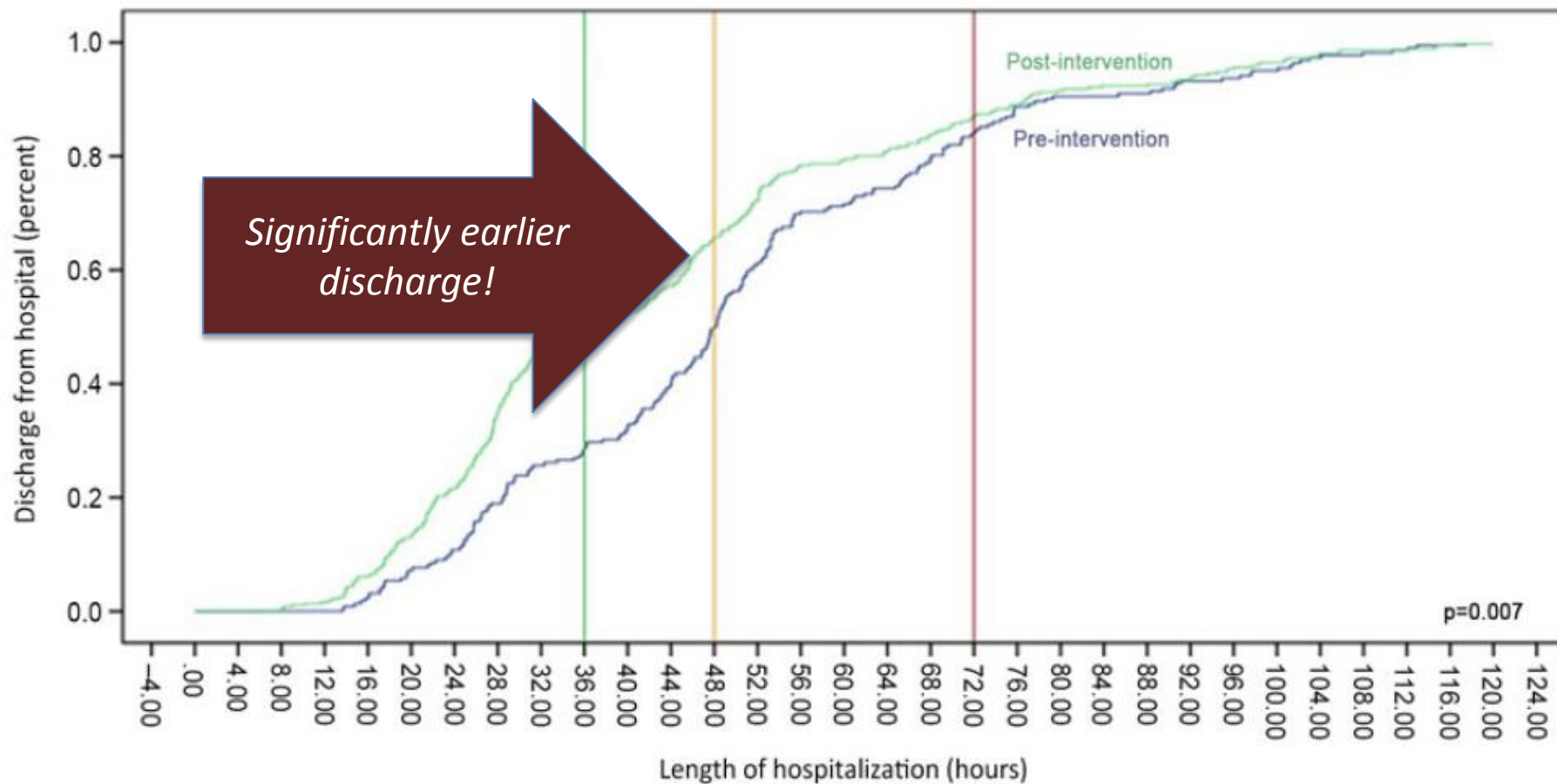
In Hospital

2018 Rapid
flu testing
Vs.
2017
standard of
care

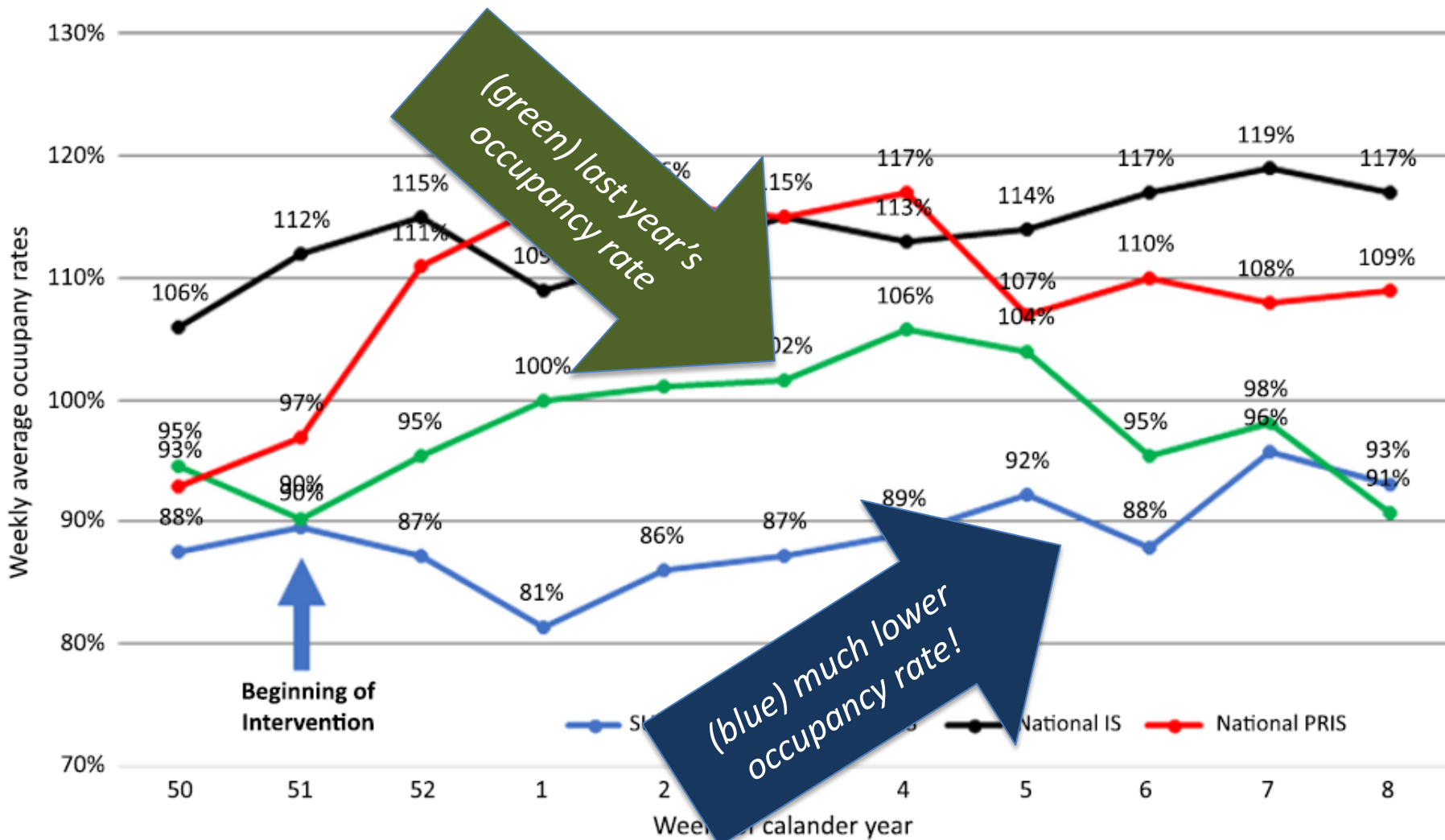
Shorter
hospital stays,
lower
occupancy
rates

GAP:
Cost
implications?
Complications?

Rapid Flu testing + communication resulted in faster discharge rates



Rapid Flu testing + communication resulted in lower occupancy of medicine beds



JAMA | Original Investigation

N95 Respirators vs Medical Masks for Preventing Influenza Among Health Care Personnel

A Randomized Clinical Trial

Lewis J. Radonovich Jr, MD; Michael S. Simberkoff, MD; Mary T. Bessesen, MD; Alexandria C. Brown, PhD; Derek A. T. Cummings, PhD; Charlotte A. Gaydos, MD; Jenna G. Los, MLA; Amanda E. Krosche, BS; Cynthia L. Gibert, MD; Geoffrey J. Gorse, MD; Ann-Christine Nyquist, MD; Nicholas G. Reich, PhD; Maria C. Rodriguez-Barradas, MD; Connie Savor Price, MD; Trish M. Perl, MD; for the ResPECT investigators

In outpatient setting

N95 compared to medical masks

No difference in lab confirmed flu in HCWs

GAP:
What about inpatient, and AGMPs?

A man in a dark tuxedo and bow tie sits behind a dark wooden desk on a beach. The desk is cluttered with a typewriter, a vintage microphone, and some papers. The background shows the ocean waves crashing onto the shore. The scene is lit with a warm, golden light, suggesting late afternoon or early morning.

And now for something completely different.

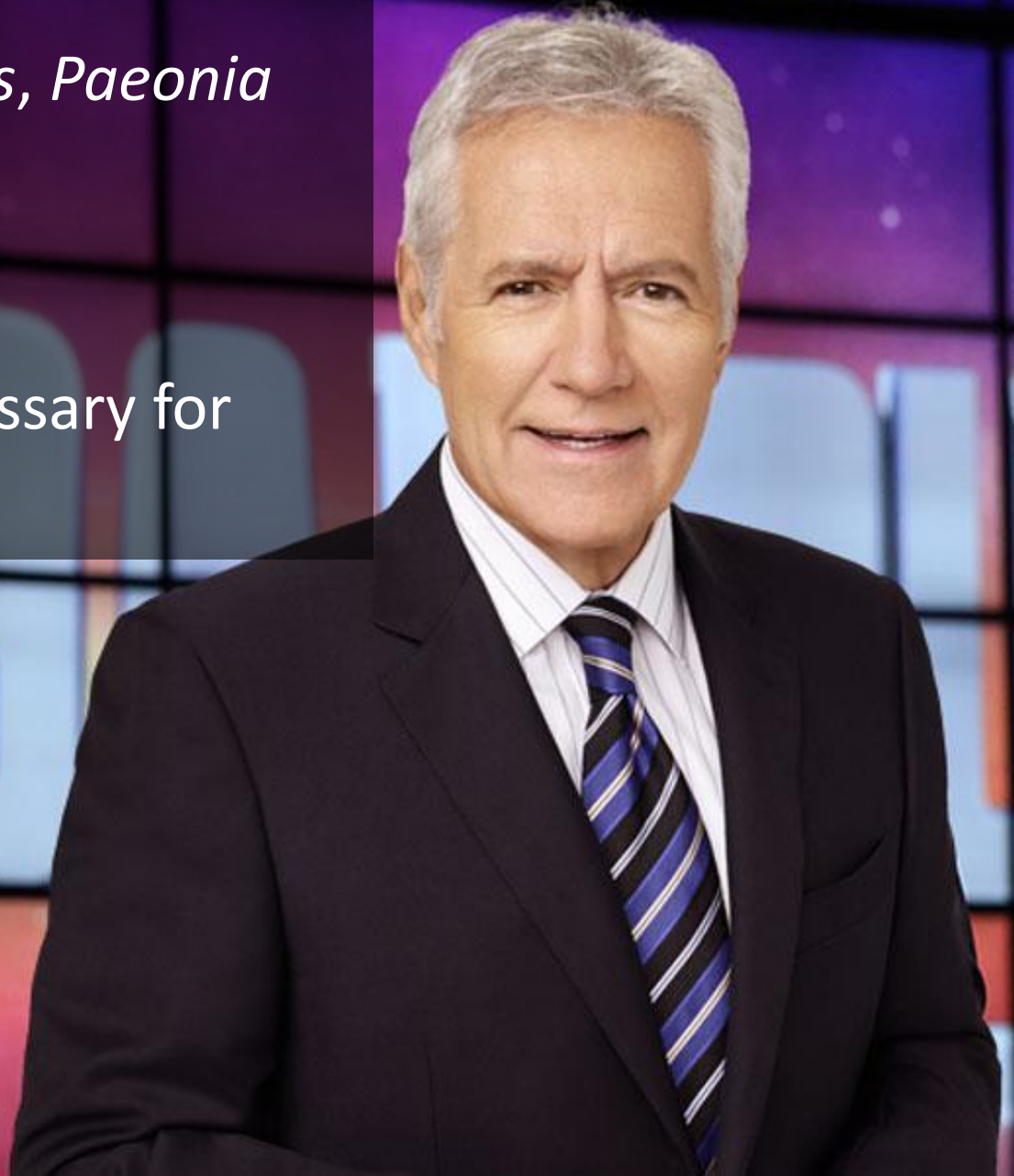
Monty Python

Song, Crit Care Med 2019

Answer:

“Carthamus tinctorius, Paeonia lactiflora, Ligusticum chuanxiong, Angelica sinensis and Salvia miltiorrhiza are necessary for this”

Song, Crit Care Med 2019





What is, “XueBiJing”

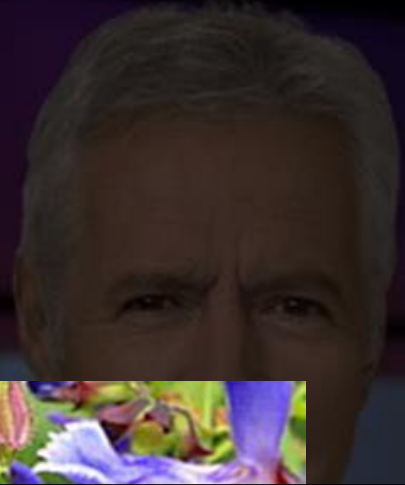
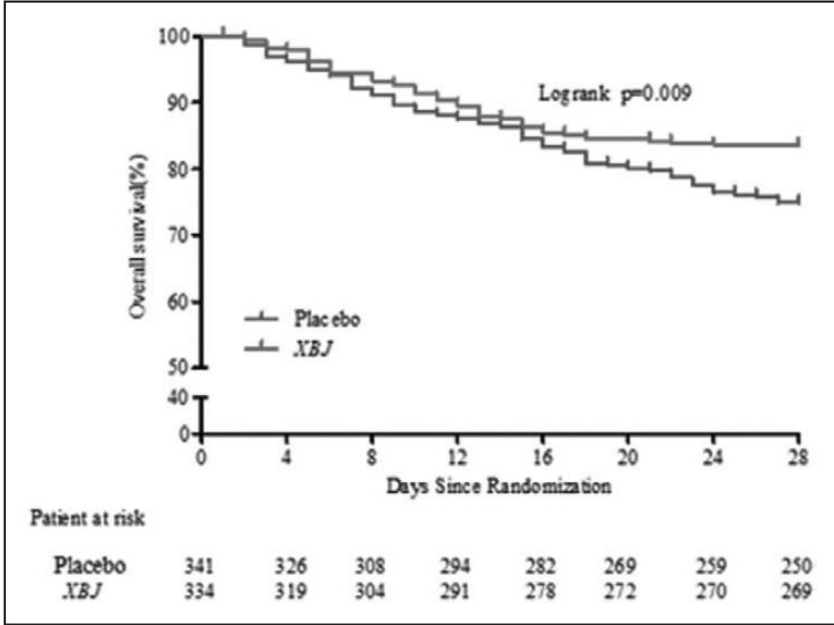


TABLE 3. The Primary and Three Secondary Outcomes^a

Variable	XueBiJing Recipients (n = 334)	Placebo Recipients (n = 341)	Between-Group Different (95% CI)	p
Primary outcome				
Pneumonia severity index improvement rate at day 8, n (%)	203 (60.8%)	58 (46.3%)	14.4% (6.9–21.8%)	< 0.001
Secondary outcomes				
28-d mortality, n (%)	53 (15.87)	84 (24.63)	8.8% (2.4–15.2%)	0.006
The time of mechanical ventilation, d, median (IQR)	11 (6, –)	16.5 (7, –)		0.012
Total duration of ICU stay, d, median (IQR)	12 (7, –)	16 (9, –)		0.004

Significantly improvement in pneumonia, mortality, ICU stay



A hiker in a light-colored jacket and dark pants stands on a rocky mountain peak, holding a trekking pole. The hiker is looking out over a vast, layered mountain range under a sky filled with large, white, fluffy clouds. The foreground shows the rugged, rocky terrain of the peak.

Making a big *C'difference*



Asymptomatic Carriers Contribute to Nosocomial *Clostridium difficile* Infection: A Cohort Study of 4508 Patients

Thomas Blixt,^{1,2} Kim Oren Gradel,^{3,4} Christian Homann,² Jakob Benedict Seidelin,^{2,5} Kristian Schønning,^{6,7} Anne Lester,^{6,8,9} Jette Houliind,^{8,9} Marie Stangerup,^{8,9} Magnus Gottlieb,¹⁰ and Jenny Dahl Knudsen^{6,8,9}

In hospital setting, screened all admitted patients for CDI

Rate of CDI in exposed vs unexposed patients

CDI in 2.6% unexposed patients and 4.6% in exposed

GAP:
Can this training be replicated elsewhere?



Available online at www.sciencedirect.com

Infection Prevention in Practice

journal homepage: www.elsevier.com/locate/ipip



Short Report

Detecting *Clostridioides (Clostridium) difficile* using canine teams: What does the nose know?

M.K. Charles^a, Y. Wang^b, T. Zurberg^c, J. Kinna^c, E. Bryce^{a,*}

^a Division of Medical Microbiology and Infection Prevention, Vancouver Coastal Health and University of British Columbia Faculty of Medicine, Vancouver, British Columbia, Canada

^b University of British Columbia Undergraduate Integrated Sciences Program, Vancouver, British Columbia, Canada

^c Quality and Patient Safety Department, Vancouver Coastal Health, Vancouver, British Columbia, Canada

In hospital
setting

Two canine
teams

Kappa
agreement of
0.86
(excellent)

GAP:
*Can this
training be
replicated
elsewhere?*

Charles, Inf Prev Pract, 2019

Bryce, JHI, 2017



omg puppies!

~~***Clostridium difficile***~~

Clostridiodes difficile

Original Article

Oral vancomycin prophylaxis during systemic antibiotic exposure to prevent *Clostridioides difficile* infection relapses

Daniel A. Caroff MD, MPH^{1,2}, John T. Menchaca BA³, Zilu Zhang MS¹, Chanu Rhee MD, MPH^{1,4}, Michael S. Calderwood MD, MPH⁵, David W. Kubiak PharmD⁶, Deborah S. Yokoe MD, MPH⁷ and Michael Klompas MD, MPH^{1,4}

In hospital
setting,
patients with
CDI history

When given
abx, start PO
VANCO
prophylaxis vs
NO vanco

No
consistent
benefit
observed

GAP:
Is there
benefit with
certain abx vs
others?

Variable	90 d From Antibiotic Exposure		180 d From Antibiotic Exposure	
	Relapses per Patient (%)	OR (95% CI)	Relapses per Patient (%)	OR (95% CI)
Unadjusted analysis				
No prophylactic antibiotic (referent)	53/567 (9.35)	...	54/567 (9.52)	...
Oral vancomycin	19/193 (9.84)	1.06 (0.60–1.81)	22/193 (11.40)	1.22 (0.71–2.04)
Adjusted analysis				
No prophylactic antibiotic (referent)	53/567 (9.35)	...	54/567 (9.52)	...
Oral vancomycin	19/193 (9.84)	0.63 (0.35–1.14)	22/193 (11.40)	0.72 (0.41–1.29)
Relapse defined by toxin test (ELISA) only				
No prophylactic antibiotic (referent)	42/567 (7.41)	...	43/567 (7.58)	...
Oral vancomycin	14/193 (7.25)	0.58 (0.30–1.15)	17/193 (8.81)	0.67 (0.35–1.28)
1 positive <i>C. difficile</i> test in the prior 12 months				
No prophylactic antibiotic (referent)	37/353 (10.48)	...	37/353 (10.48)	...
Oral vancomycin	10/118 (8.47)	0.19 (0.09–0.93)	11/118 (9.32)	0.44 (0.20–1.0)
≥2 positive <i>C. difficile</i> tests in the prior 12 months				
No prophylactic antibiotic (referent)	13/166 (7.83)	...	14/166 (8.43)	...
Oral vancomycin	7/64 (10.94)	1.19 (0.42–3.33)	9/64 (14.06)	1.29 (0.49–3.38)
Patients treated for 100% of antibiotic days				
No prophylactic antibiotic (referent)	53/567 (9.35)	...	54/567 (9.52)	...
Oral vancomycin	12/118 (10.17)	0.76 (0.38–1.52)	14/118 (11.86)	0.82 (0.42–1.60)
Patients treated for 100% of antibiotic days, excluding unexposed patients who received oral vancomycin ≥3 d following antibiotic exposure				
No prophylactic antibiotic (referent)	46/489 (9.41)	...	47/489 (9.61)	...
Oral vancomycin	12/118 (10.17)	0.86 (0.44–1.69)	14/118 (11.86)	0.81 (0.41–1.59)

No consistent benefit observed

A Randomized, Placebo-controlled Trial of Fidaxomicin for Prophylaxis of *Clostridium difficile*-associated Diarrhea in Adults Undergoing Hematopoietic Stem Cell Transplantation

Kathleen M. Mullane,¹ Drew J. Winston,² Ajay Nooka,³ Michele I. Morris,⁴ Patrick Stiff,⁵ Michael J. Dugan,⁶ Henry Holland,⁷ Kevin Gregg,⁸ Javier A. Adachi,⁹ Steven A. Pergam,¹⁰ Barbara D. Alexander,¹¹ Erik R. Dubberke,¹² Natalya Broyde,¹³ Sherwood L. Gorbach,¹⁴ and Pamela S. Sears¹³

In hospital setting, LBMT patients

FQ + Fidaxomicin vs placebo

Benefit observed in fidaxomicin arm for lab confirmed CDI

GAP:
What about other antibiotics other than FQ?

JAMA Surgery | **Original Investigation**

Association of Duration and Type of Surgical Prophylaxis With Antimicrobial-Associated Adverse Events


Westyn Branch-Elliman, MD, MMSc; William O'Brien, MS; Judith Strymish, MD; Kamal Itani, MD; Christina Wyatt, MD; Kalpana Gupta, MD, MPH

Cardiac,
ortho,
colorectal,
vascular
surgical
patients

ABX
prophylaxis
<24h, 24-48h,
48-72h, >72h

Increasing
duration
associated
with AKI, CDI,
time
dependent

Opportunity
*Let's keep on
collaborating
with ASP!*

A hiker in a light-colored jacket and dark pants stands on a rocky mountain peak, holding a trekking pole. The hiker is looking out over a vast, layered mountain range under a sky filled with large, white, fluffy clouds. The foreground shows the rugged, rocky terrain of the peak.

HAI, how you doing?

ORIGINAL ARTICLE

Changes in Prevalence of Health Care–Associated Infections in U.S. Hospitals

S.S. Magill, E. O’Leary, S.J. Janelle, D.L. Thompson, G. Dumyati, J. Nadle, L.E. Wilson, M.A. Kainer, R. Lynfield, S. Greissman, S.M. Ray, Z. Beldavs, C. Gross, W. Bamberg, M. Sievers, C. Concannon, N. Buhr, L. Warnke, M. Maloney, V. Ocampo, J. Brooks, T. Oyewumi, S. Sharmin, K. Richards, J. Rainbow, M. Samper, E.B. Hancock, D. Leaptrot, E. Scalise, F. Badrun, R. Phelps, and J.R. Edwards, for the Emerging Infections Program National Nosocomial Infection Prevalence Survey Team*

Point
Prevalence
Survey ~200
US hospitals

2011
vs
2015

overall HAI’s
decrease
driven by
SSI & UTI

Gap:
what about
pneumonia,
CDI, BSI’s?

SSI and UTIs were significantly lower in repeat point prevalence study 2011 vs 2015

Table 4. Percentages of All Surveyed Patients with Specific Types of Health Care–Associated Infection, 2011 vs. 2015 Survey.*

Type of Infection	2011 Survey			2015 Survey			P Value†
	No. of Patients with Infection	No. of Infections	Percentage of Patients with Infection (95% CI)	No. of Patients with Infection	No. of Infections	Percentage of Patients with Infection (95% CI)	
Pneumonia	110	110	0.98 (0.81–1.20)	110	110	0.89 (0.74–1.10)	0.52
Ventilator-associated pneumonia	43	43	0.38 (0.28–0.51)	39	39	0.32 (0.23–0.43)	0.41
Other pneumonia	67	67	0.59 (0.47–0.75)	71	71	0.58 (0.46–0.73)	0.87
Gastrointestinal infection	86	86	0.76 (0.62–0.94)	91	91	0.74 (0.60–0.91)	0.84
<i>Clostridium difficile</i> infection‡	61	61	0.54 (0.42–0.69)	66	66	0.54 (0.42–0.68)	0.97
Other gastrointestinal infection	25	25	0.22 (0.15–0.33)	25	25	0.20 (0.14–0.30)	0.76
Surgical-site infection	109	110	0.97 (0.80–1.20)	69	69	0.56 (0.44–0.71)	<0.001
Deep incisional or organ-space infection	77	77	0.68 (0.55–0.85)	54	54	0.44 (0.34–0.57)	0.01
Superficial incisional infection	33	33	0.29 (0.21–0.41)	15	15	0.12 (0.07–0.20)	0.004
Bloodstream infection	50	50	0.44 (0.34–0.58)	51	52	0.41 (0.31–0.55)	0.74
Central catheter–associated bloodstream infection	42	42	0.37 (0.27–0.50)	37	38	0.30 (0.22–0.42)	0.35
Other primary bloodstream infection	8	8	0.07 (0.03–0.14)	14	14	0.11 (0.07–0.19)	0.29
Urinary tract infection	65	65	0.58 (0.45–0.73)	39	39	0.32 (0.23–0.43)	0.003
Catheter-associated urinary tract infection	49	49	0.49 (0.29–0.52)	24	24	0.20 (0.13–0.29)	0.005
Other urinary tract infection	16	16	0.09 (0.12–0.29)	15	15	0.12 (0.07–0.20)	0.21
Other infection§	61	61	0.69 (0.55–0.86)	61	66	0.50 (0.39–0.64)	0.05
Any infection	504	504	4.0 (3.7–4.4)	394	427	3.2 (2.9–3.5)	<0.001

SSI, UTI drove the overall decrease in HAI's

ORIGINAL ARTICLE

Decolonization to Reduce Postdischarge Infection Risk among MRSA Carriers

S.S. Huang, R. Singh, J.A. McKinnell, S. Park, A. Gombosov, S.J. Eells, D.L. Gillen, D. Kim, S. Rashid, R. Macias-Gil, M.A. Bolaris, T. Tjoa, C. Cao, S.S. Hong, J. Lequieu, E. Cui, J. Chang, J. He, K. Evans, E. Peterson, G. Simpson, P. Robinson, C. Choi, C.C. Bailey, Jr., J.D. Leo, A. Amin, D. Goldmann, A. Jenigan, R. Platt, E. Sprott, D.A. Weinstein, M.K. Hayden
CLEAR Trial

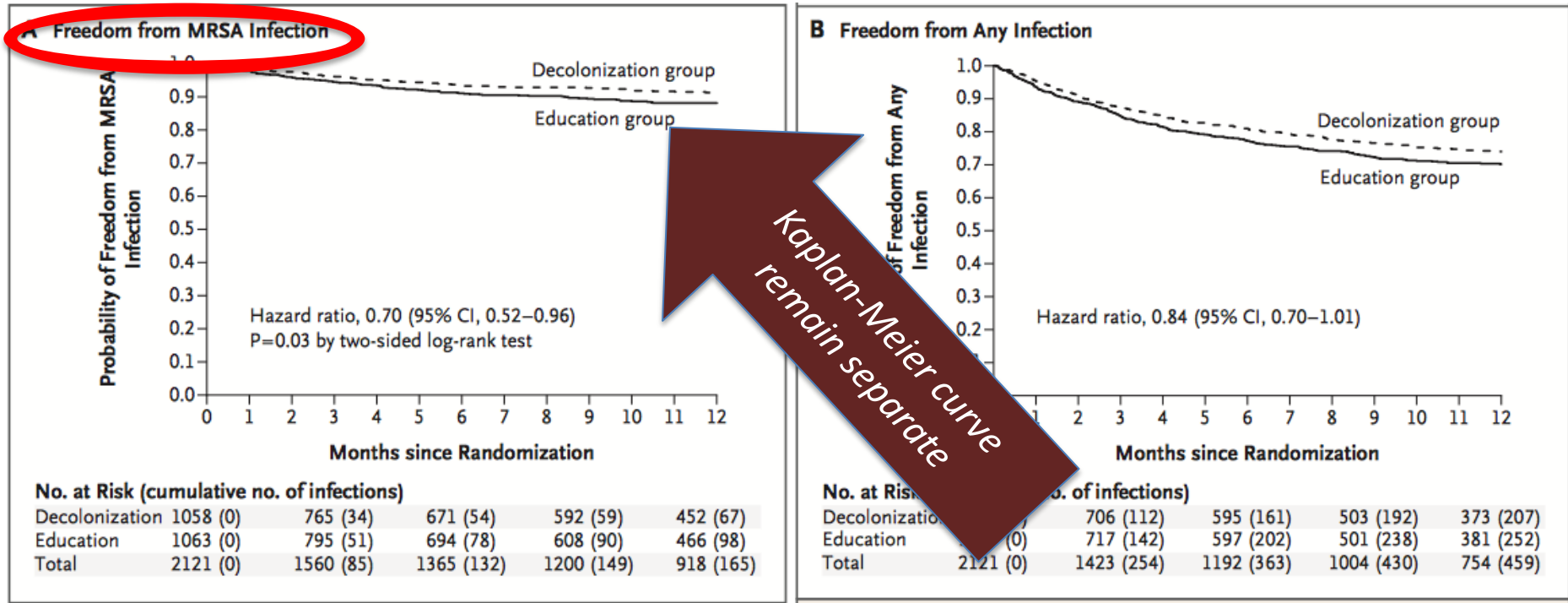
Multicenter,
randomized,
post-
discharge

education vs
education+
decolonization

Decol group
6.3% infection
vs 9.2% in
control

Gap:
What are the
cost /
resistance
implications ?

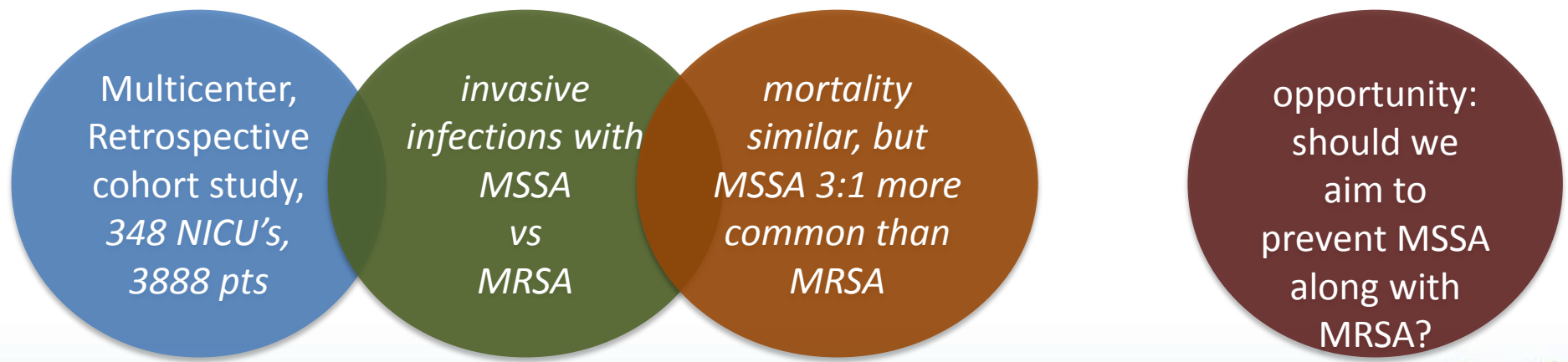
Post discharge Education + decolonization significantly reduced MRSA infections



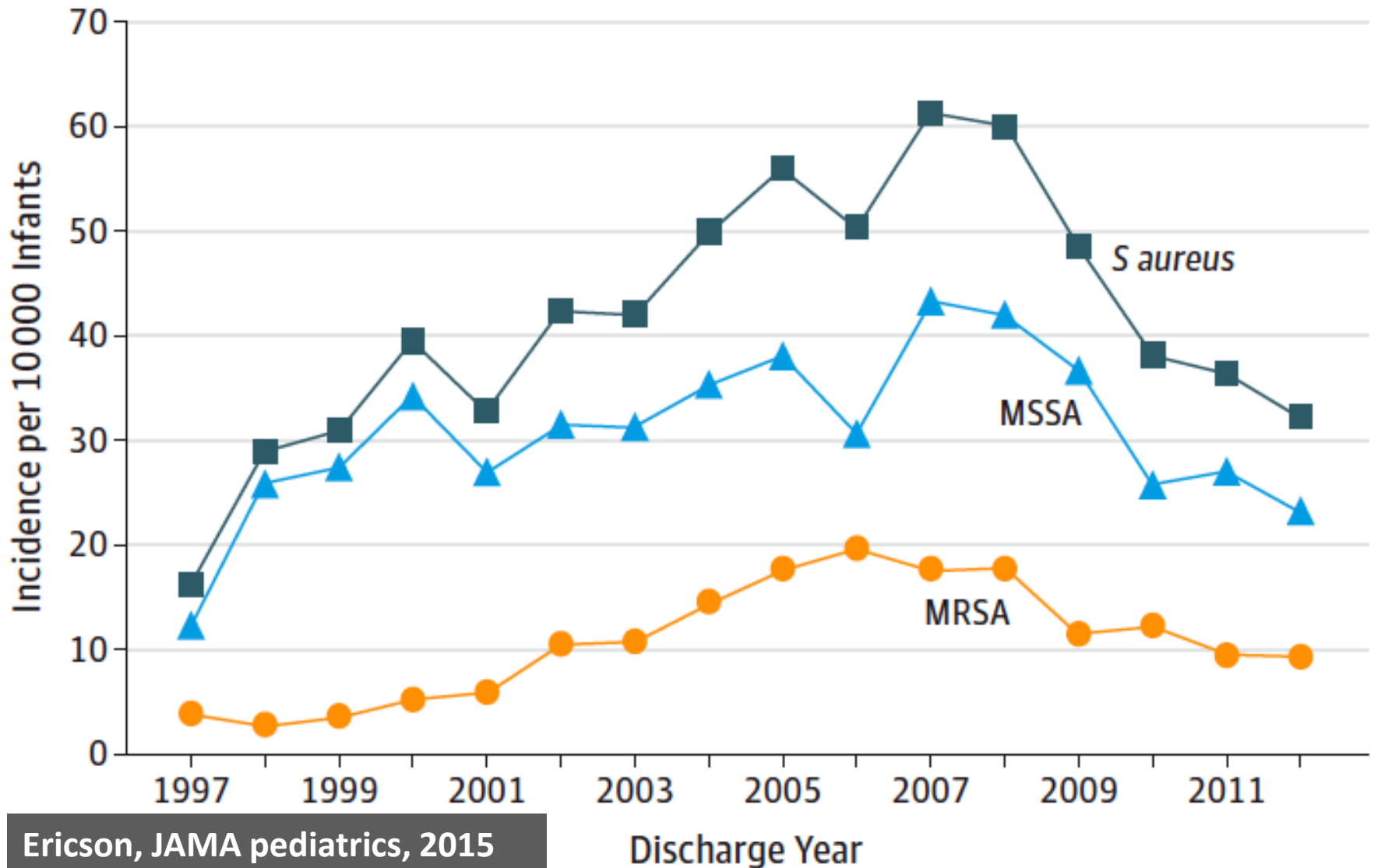
Original Investigation

Burden of Invasive *Staphylococcus aureus* Infections in Hospitalized Infants

Jessica E. Ericson, MD; Victor O. Popoola, MBBS, MPH, ScM; P. Brian Smith, MD, MPH, MHS; Daniel K. Benjamin, PhD; Vance G. Fowler, MD, MHS; Daniel K. Benjamin Jr, MD, PhD; Reese H. Clark, MD; Aaron M. Milstone, MD, MHS




Mortality similar in MRSA and MSSA invasive infection; MSSA more common = more deaths





The importance of adjusting for enterococcus species when assessing the burden of vancomycin resistance: a cohort study including over 1000 cases of enterococcal bloodstream infections

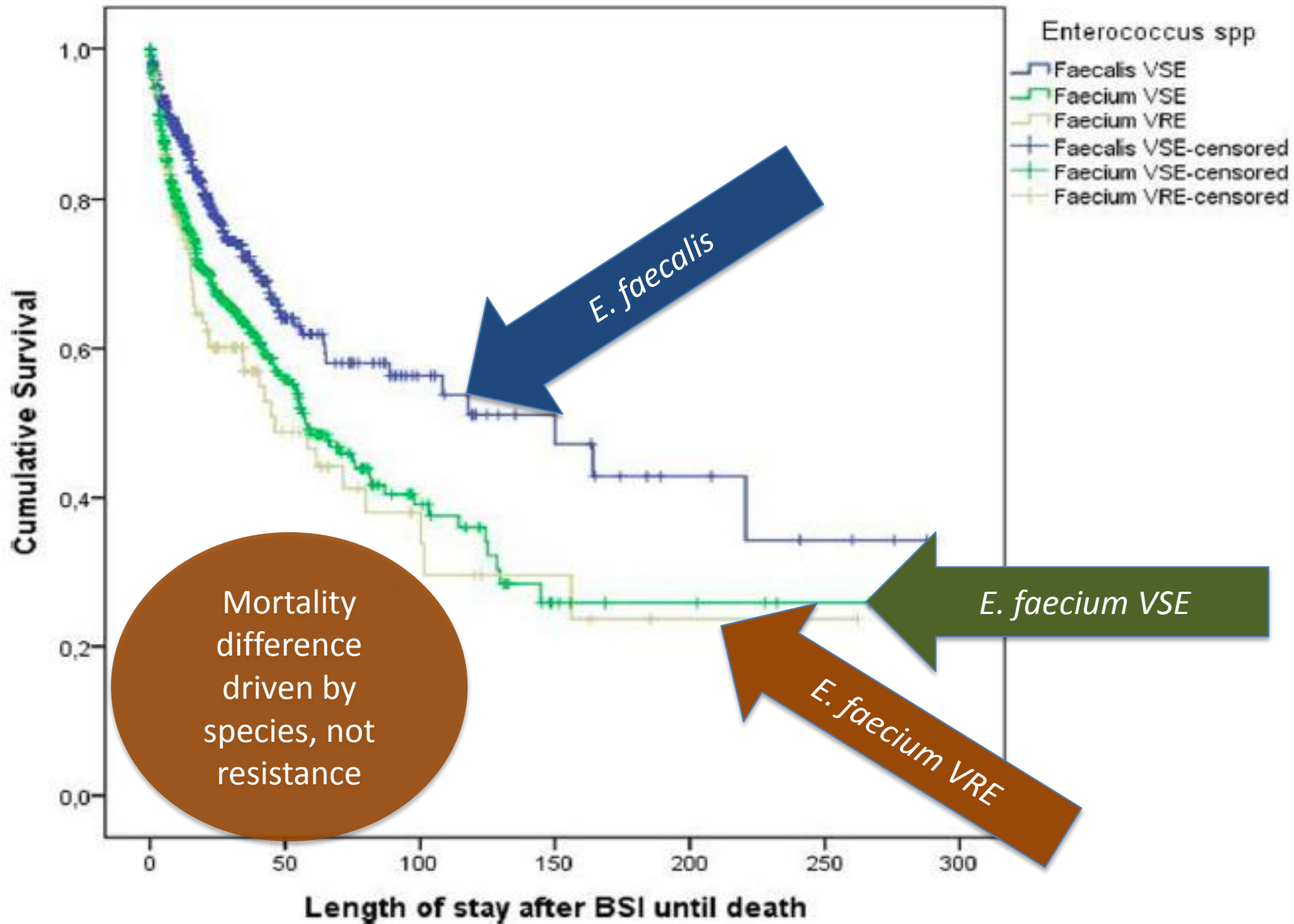
Tobias Siegfried Kramer^{1,2*} , Cornelius Remschmidt^{1,2}, Sven Werner³, Michael Behnke^{1,2}, Frank Schwab^{1,2}, Guido Werner^{4,5}, Petra Gastmeier^{1,2} and Rasmus Leistner^{1,2}

Multicenter,
Retrospective
cohort study,
1160 cases
BSI

E. faecalis vs *E. faecium*;
VR or VS

E. faecium
independent
risk factor for
mortality

Vanco
resistance did
not increase
mortality risk,
but increased
costs



ORIGINAL ARTICLE

Investigation of a Cluster of *Sphingomonas koreensis* Infections

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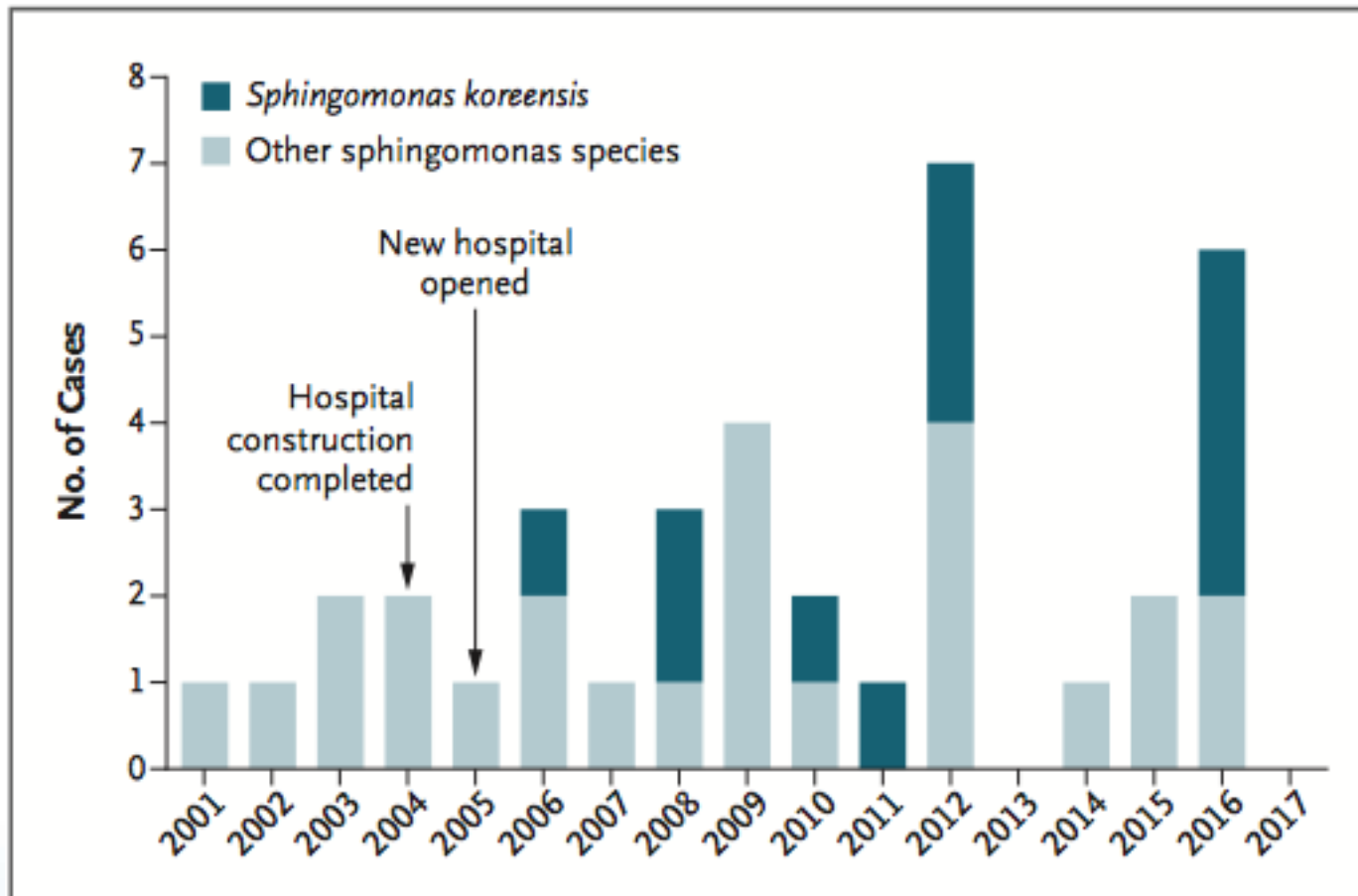
WGS study
S. koreensis
isolates 2006-
16 at NIH

12 patients
infected,
including 8
bacteremias

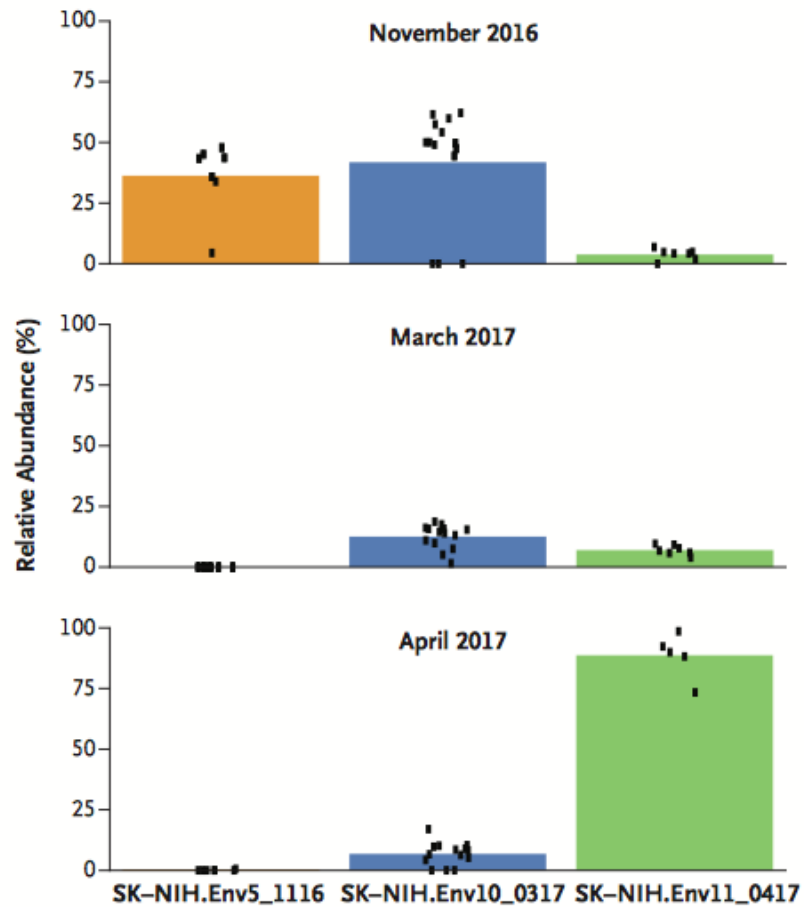
IPAC + EPI +
MICRO + WGS
+ CLINICIAN +
FMO
teamwork
needed

Opportunity:
horizontal
IPAC ;
plumbing
important

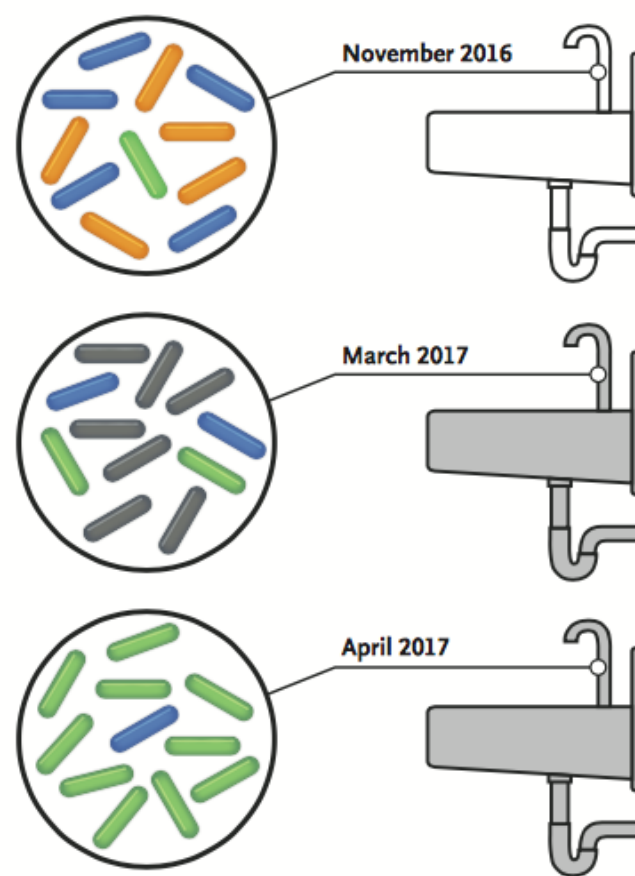
Prolonged *Sphingomonas* outbreak at the NIH



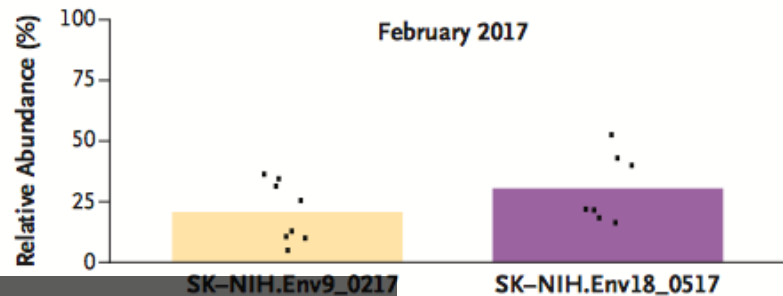
A *S. koreensis* Strains in the Same Sink, According to Date of Collection



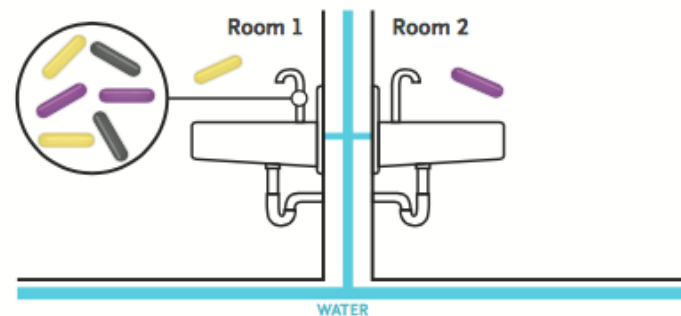
B Three *S. koreensis* Isolates Collected from the Same Sink



C *S. koreensis* Strains in Sinks in Two Adjoining Rooms



D *S. koreensis* Isolates Collected from Sinks in Two Adjoining Rooms



Original Investigation | Statistics and Research Methods

Sample Size Estimates for Cluster-Randomized Trials in Hospital Infection Control and Antimicrobial Stewardship

Natalia Blanco, PhD, MPH; Anthony D. Harris, MD, MPH; Laurence S. Magder, PhD, MPH; John A. Jernigan, MD, MS; Sujan C. Reddy, MD, MSc; Justin O'Hagan, PhD; Kelly M. Hatfield, MSPH; Lisa Pineles, MA; Eli Perencevich, MD, MS; Lyndsay M. O'Hara, PhD, MPH

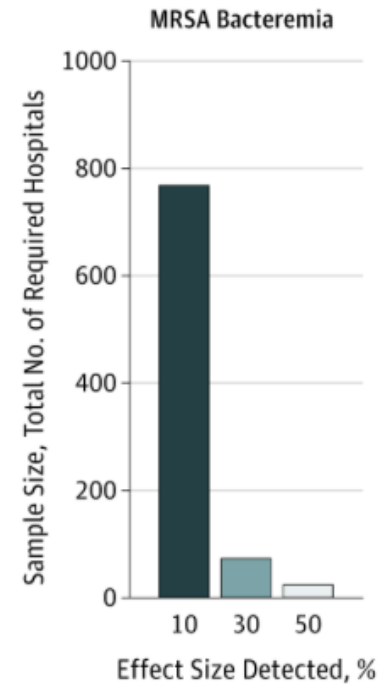
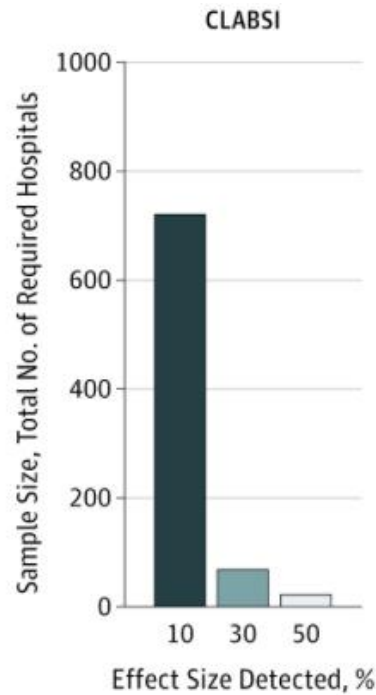
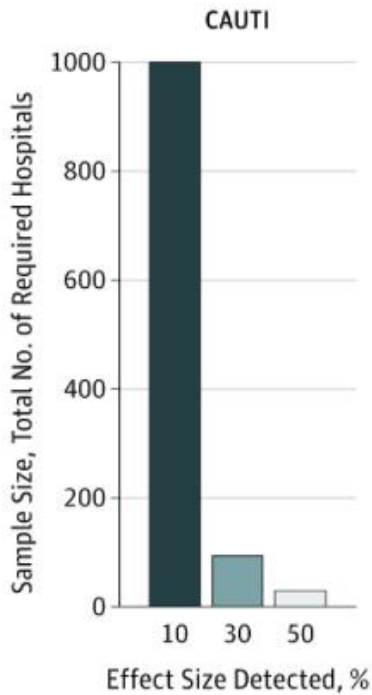
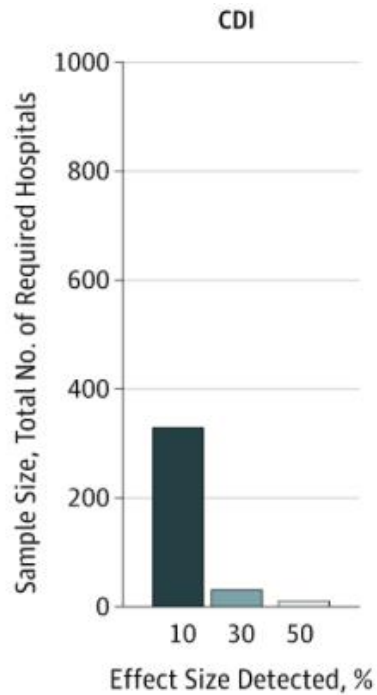
longitudinal cohort study

estimated # of clusters needed to observe 10, 30, 50% decreases

Very large data sets needed for definitive guidance

Opportunity: fewer, but larger, higher quality studies!

With smaller predicted effect sizes, the number of clusters needed dramatically increases



C. auris
Emerging
pathogen causing
outbreaks,
difficult to
eradicate

FLU
new guidelines
new drug
Baloxivir
Rapid NAATs
Masking

CDI
Asymptomatic
carriage and risks
Abx Prophylaxis
K9 detection

HAI
HAI reduction
drivers
post-discharge
MRSA decol
'other' GNRs

OTHERS
PTSD, Stress and
severe infections
XueBiJing

SUMMARY

ACKNOWLEDGEMENTS

- IPAC BC & Amira, Jacquie – thank you for the invitation
- The super duper awesomeness bestest goodest incrediblest Infection Control Practitioners!!
- Our amazing technologists and the division of Medical Microbiology and Infection Prevention
- Crothall and our amazing EVS team
- FMO!!!
- Allison Muniak and VCH Quality Patient Safety and Infection Control
- Liz, Marthe, Teresa, Jaime, Meghan and the K9 team
- Marthe, Rita, Juliana, Mary, Tamara, Gail, Eric for C. auris work
- Aleksandra Gara and the Information, Solutions and Analytics team
- Richard Dixon and CHAIR Canada
- Linda Hoang, Joanne Archer and PICNET
- UBC and VGH Hospital Foundation for supporting quality improvement and research

NOT TODAY EBOLA.
NOT TODAY!!!!

THANK YOU FOR YOUR ATTENTION





The determinants of Health are **often not medical**

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Claire Martin / Oculi / Redux Pictures