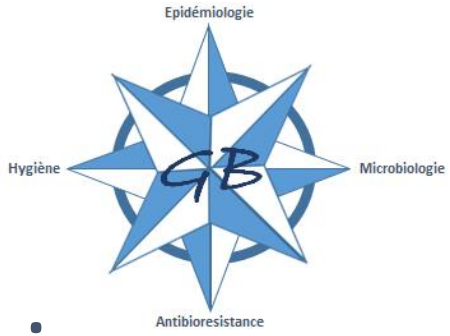

Healthcare associated infections

Read for you!

By Gabriel Birgand

Blog: http://www.gabrielbirgand.fr/

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INFECTION CONTROL & HOSPITAL EPIDEMIOLOGY
AJIC American Journal of Infection Control
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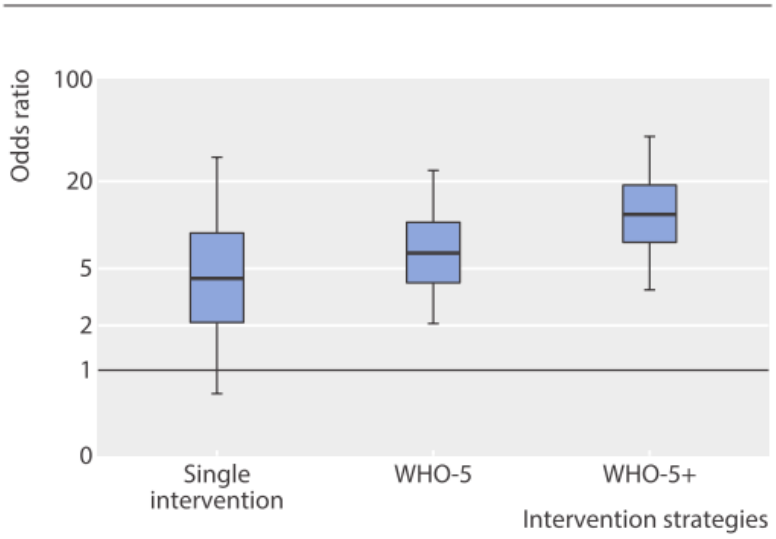
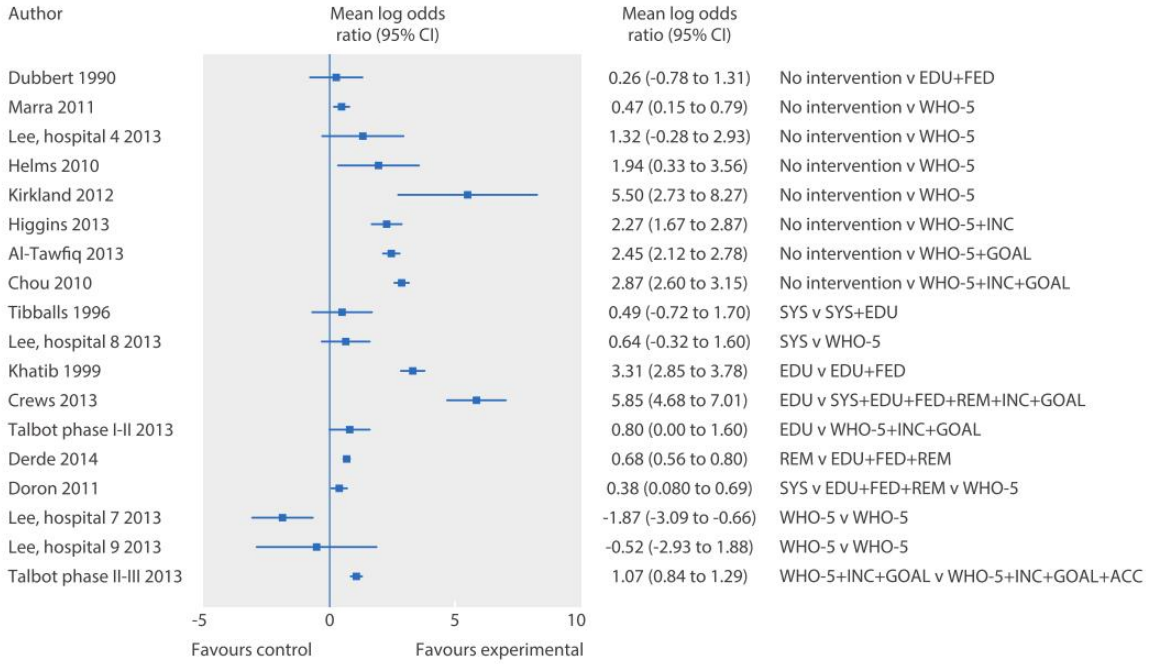
The Official Journal of the Healthcare Infection Society
Eurosurveillance
Clinical Infectious Diseases
THE LANCET Infectious Diseases
EMERGING INFECTIOUS DISEASES CDC
The Journal of Infectious Diseases
JAMA The Journal of the American Medical Association
PLOS
NEJM
THE LANCET
BMJ
Journal of Clinical Microbiology
CMI CLINICAL MICROBIOLOGY AND INFECTION
JAC Antimicrobial Chemotherapy
Critical Care Medicine
ICM

Comparative efficacy of interventions to promote hand hygiene in hospital: systematic review and network meta-analysis

Nantasit Luangasanatip,[1,2] Maliwan Hongsuwan,[1] Direk Limmathurotsakul,[1,3] Yoel Lubell,[1,4] Andie S Lee,[5,6] Stephan Harbarth,[5] Nicholas P J Day,[1,4] Nicholas Graves,[2,7] Ben S Cooper[1,4]





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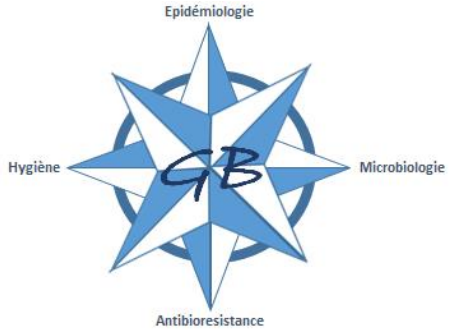
EDITORIALS



Improving hand hygiene in hospitals—more is better

The WHO-5 bundle is a good place to start, but might work better with optional extras

Matthew P Muller *medical director, infection prevention and control*

St Michael's Hospital, 30 Bond Street, Toronto, ON M5B 1W8, Canada

appropriately.[2] They have also confirmed that WHO-5 is effective, works better than single component interventions, and represents an excellent starting point for hospitals trying to achieve better hand hygiene and improve patient safety. For facilities that have not achieved adequate hand hygiene despite WHO-5, we now have evidence that adding goal setting, incentives, or accountability can result in further improvement.

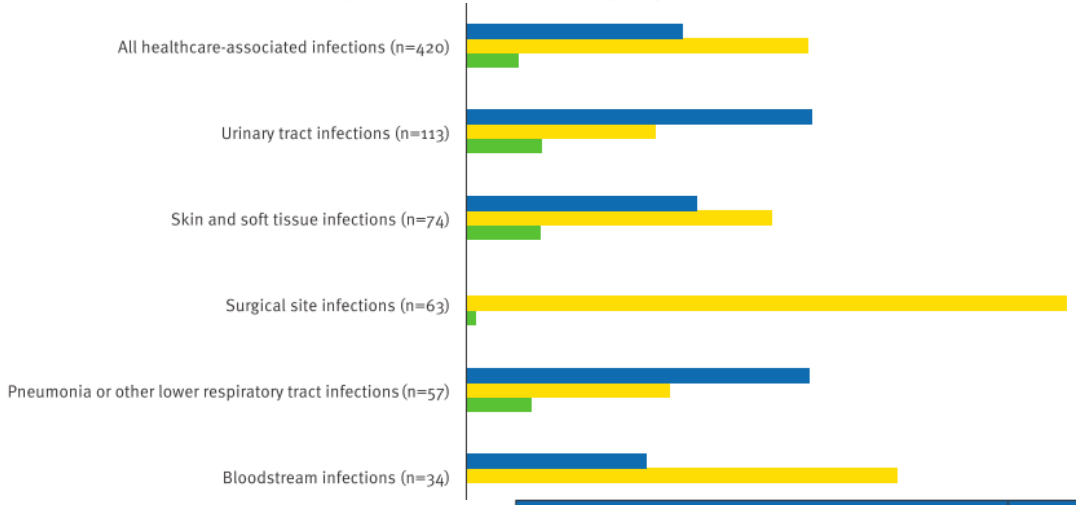
BMR BHR

Eurosurveillance

National point prevalence survey of healthcare-associated infections and antimicrobial use in French home care settings, May to June 2012

K Miliani (katiuska.miliani@sap.aphp.fr)[1], B Migueres[1,2], D Verjat-Trannoy[1], J M Thiolet[3], S Vaux[3], P Astagneau[1,4], the French Prevalence Survey Study Group[5]

1. Regional Coordinating Centre for Nosocomial Infection Control (CClin Paris – Nord), Paris, France
2. Home Health Care of the Assistance Publique - Hôpitaux de Paris (AP-HP), Paris, France
3. French Institute for Public Health Surveillance (Institut de Veille Sanitaire, InVS), Saint Maurice, France
4. Department of epidemiology and biostatistics, EHESP French School of Public Health, Rennes, France
5. The members of this group are listed at the end of the article



Top antimicrobial agents (accounting for 95.2% of use) n (%)		All indications	Treatment for community infections	Treatment for healthcare-associated infections	Medical prophylaxis	Other[a] indications
		n (%)	n (%)	n (%)	n (%)	
Antimicrobial agents, total		**1,163 (100)**	**462 (39.7)**	**446 (38.3)**	**129 (11.1)**	**53 (4.6)**
Fluoroquinolones (J01MA)		187 (16.1)	77 (16.7)	80 (17.9)	10 (7.8)	7 (13.2)
	Ciprofloxacin (J01MA02)	72 (6.2)	29 (6.3)	36 (8.1)	3 (2.3)	2 (3.8)
	Ofloxacin (J01MA01)	61 (5.2)	25 (5.4)	23 (5.2)	3 (2.3)	2 (3.8)
	Levofloxacin (J01MA12)	40 (3.4)	16 (3.5)	17 (3.8)	2 (1.6)	3 (5.7)
Third-generation cephalosporins (J01DD)		169 (14.5)	72 (15.6)	67 (15.0)	11 (8.5)	11 (20.8)
	Ceftriaxone (J01DD04)	109 (9.4)	47 (10.2)	40 (9.0)	7 (5.4)	9 (17.0)
	Cefixime (J01DD08)	26 (2.2)	10 (2.2)	12 (2.7)	1 (0.8)	2 (3.8)
	Ceftazidime (J01DD02)	18 (1.5)	8 (1.7)	9 (2.0)	1 (0.8)	NA
Combinations of penicillins, incl. beta-lactamase inhibitors (J01CR)		153 (13.2)	74 (16.0)	48 (10.8)	14 (10.9)	6 (11.3)
	Amoxicillin and enzyme inhibitor (J01CR02)	127 (10.9)	61 (13.2)	35 (7.8)	14 (10.9)	6 (11.3)
	Piperacillin and enzyme inhibitor (J01CR05)	25 (2.1)	13 (2.8)	12 (2.7)	NA	NA
Combinations of sulfonamides and trimethoprim, incl. derivatives (J01EE)		95 (8.2)	22 (4.8)	20 (4.5)	42 (32.6)	7 (13.2)
	Sulfamethoxazole and trimethoprim (J01EE01)	95 (8.2)	22 (4.8)	20 (4.5)	42 (32.6)	7 (13.2)

Variables	Two-level random intercept model [a]			
	Full model		Final model	
	OR (95% CI)	p	OR (95% CI)	p
Active/advanced cancer	1.15 (0.69–1.89)	0.18	NA	NA
Immunocompromised patients	0.91 (0.11–1.20)	0.32	NA	NA
Receiving medical or paediatric care	2.10 (0.58–7.52)	0.26	NA	NA
McCabe score 1 or 2	1.61 (0.91–2.87)	0.10	1.82 (1.07–3.08)	0.03
Urinary catheter	2.35 (1.58–3.49)	<0.0001	2.38 (1.61–3.52)	<0.0001
At least one vascular catheter	1.82 (1.24–2.66)	0.002	1.89 (1.33–2.70)	<0.0001

Eurosurveillance

SURVEILLANCE AND OUTBREAK REPORT

Ongoing increasing temporal and geographical trends of the incidence of extended-spectrum beta-lactamase-producing *Enterobacteriaceae* infections in France, 2009 to 2013

I Arnaud [1], S Maugat [2], V Jarlier [3], P Astagneau [1 4], for the National Early Warning, Investigation and Surveillance of Healthcare-Associated Infections Network (RAISIN)/multidrug resistance study group [5]

1. Regional Coordinating Centre for Healthcare-Associated Infections Control (CClin Paris – Nord), Paris, France

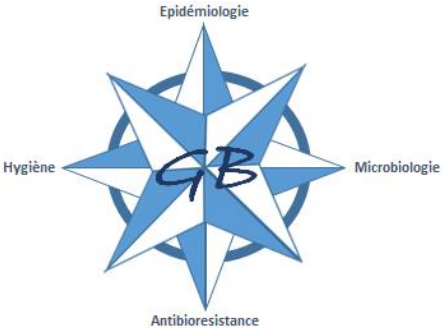
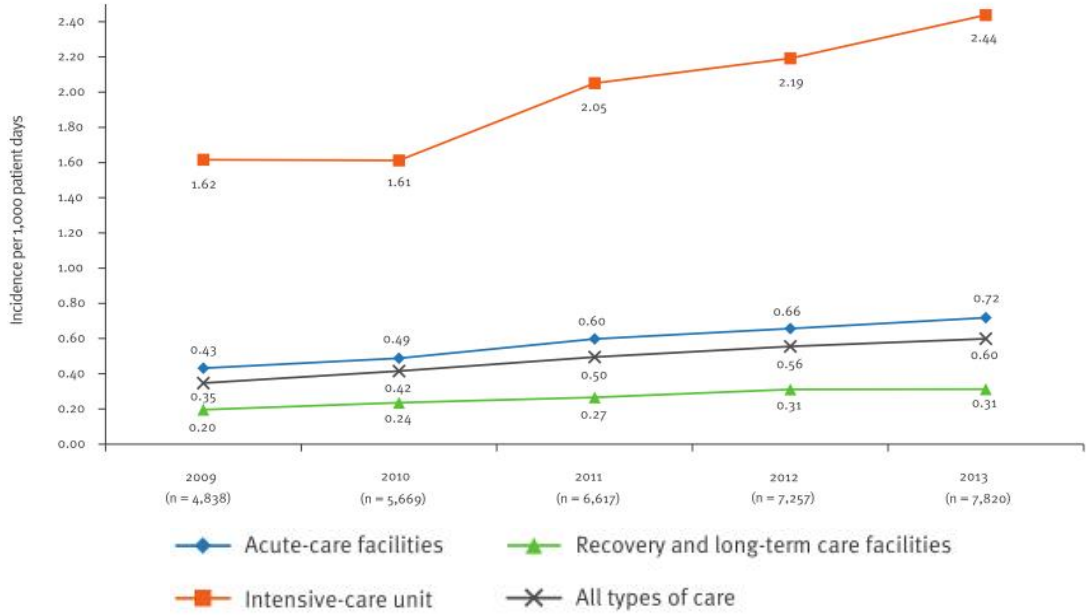
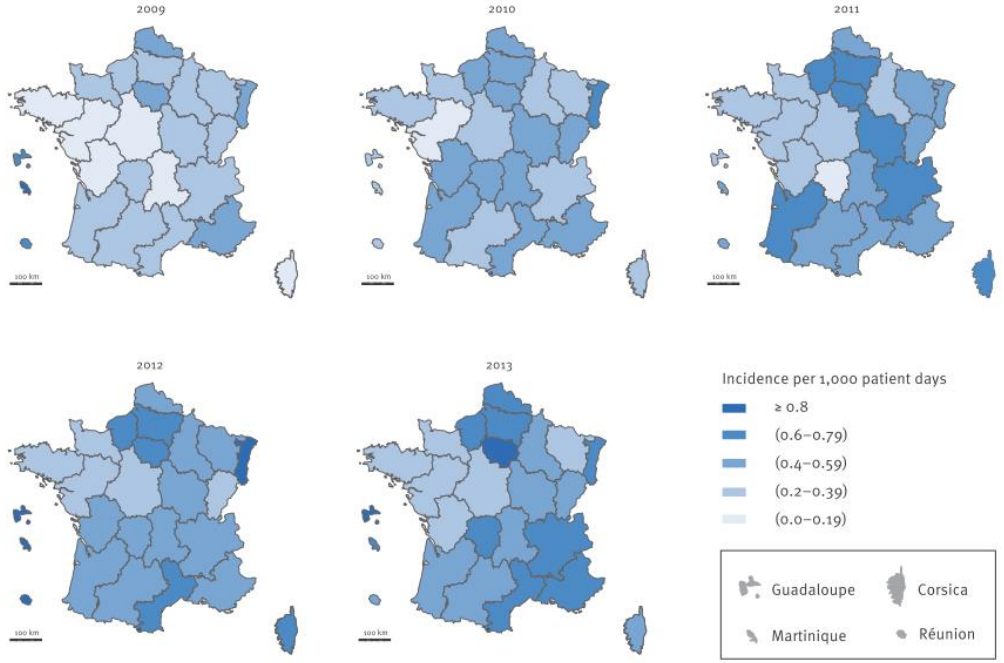


FIGURE 1

Incidence of extended-spectrum beta-lactamase-producing *Enterobacteriaceae* infections by type of care[a], healthcare facilities cohort, surveillance network for healthcare-associated infections database, France, 2009–13 (n = 32,201)





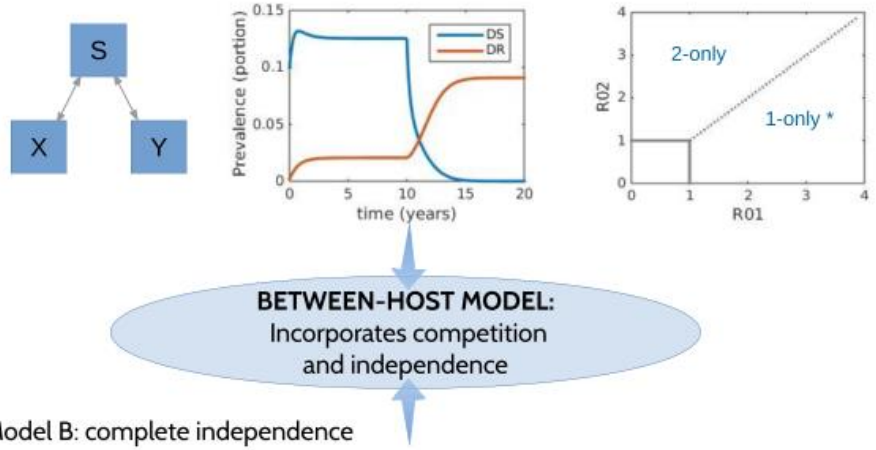
How competition governs whether moderate or aggressive treatment minimizes antibiotic resistance

C. Colijn[1] T. Cohen[2]

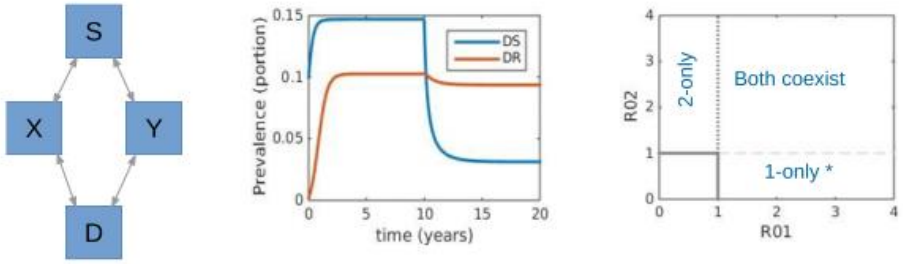
[1] *Department of Mathematics, Imperial College London, South Kensington Campus, London SW7 2AZ, UK. c.colijn@imperial.ac.uk*

[2] *School of Public Health, Yale University, 60 College Street 608 New Haven, CT 06510 USA*

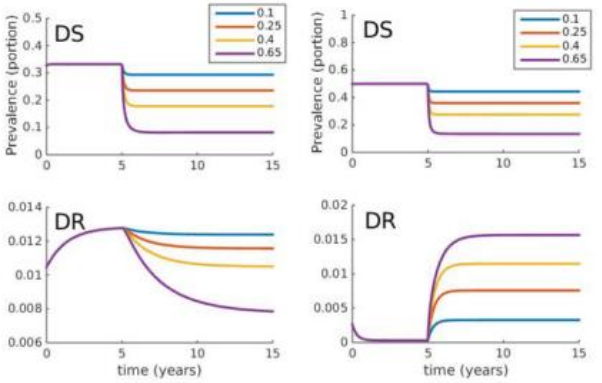
Model A: strict competition



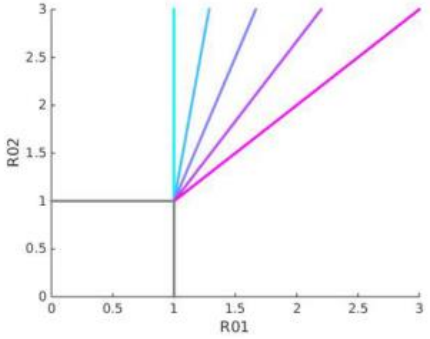
Model B: complete independence



* or both strains, only if there is mutation from DS to DR



(a) Treatment decreases DR (b) Treatment increases D



(c) Invasion analysis

EMERGING INFECTIOUS DISEASES® CDC

Improved Phenotype-Based Definition for Identifying Carbapenemase Producers among Carbapenem-Resistant *Enterobacteriaceae*

Nora Chea, Sandra N. Bulens, Thiphasone Kongphet-Tran, Ruth Lynfield, Kristin M. Shaw, Paula Snippes Vagnone, Marion A. Kainer, Daniel B. Muleta, Lucy Wilson, Elisabeth Vaeth, Ghinwa Dumyati, Cathleen Concannon, Erin C. Phipps, Karissa Culbreath, Sarah J. Janelle, Wendy M. Bamberg, Alice Y. Guh, Brandi Limbago, Alexander J. Kallen

In conclusion, the pre-2015 CDC CRE surveillance definition failed to identify some carbapenemase-producing strains. A definition that includes only resistance to any 1 of the 4 approved carbapenems is simpler and misses fewer carbapenemase-producing strains, but at the cost of increasing FPs. The addition of the MHT to this definition further limits FPs; however, this testing is not routinely used in the United States. In general, all organisms that are nonsusceptible to a carbapenem are potentially multidrug-resistant and, at minimum, warrant the use of interventions such as contact precautions to minimize transmission. Health care facilities could choose to reserve more aggressive interventions, such as screening of contacts and patient cohorting, for patients with isolates that meet this new definition, which appears to more completely detect carbapenemase-producing CRE. Health care facilities wishing to limit the work and expense associated with more aggressive interventions could perform resistance-mechanism testing on isolates meeting this new definition and apply interventions only when the isolates are confirmed to produce carbapenemase.

Original Investigation

Epidemiology of Carbapenem-Resistant Enterobacteriaceae in 7 US Communities, 2012-2013

Alice Y. Guh, MD, MPH; Sandra N. Bulens, MPH; Yi Mu, PhD; Jesse T. Jacob, MD; Jessica Reno, MPH; Janine Scott, MPH;

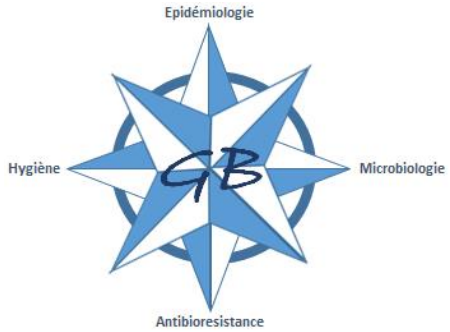


Table 2. Carbapenem-Resistant Enterobacteriaceae (CRE) Cases and Individuals With CRE, Annual Crude Incidence, and Standardized Incidence Ratio by Emerging Infections Program Site, 2012-2013

Emerging Infections Program Site	Incident CRE Cases[a]					Individuals With CRE			
	No. of Cases		Crude Annual Incidence Rate/100 000 Population		Standardized Incidence Ratio (95% CI)[c]	No. of Case-Patients[d]		Crude Annual Incidence Rate/100 000 Population	
	2012[b]	2013	2012[b]	2013		2012[b]	2013	2012[b]	2013
Colorado		27		1.05	0.53 (0.39-0.71)		26		1.01
Georgia	175	181	4.58	4.68	1.65 (1.20-2.25)	136	154	3.56	3.99
Maryland		92		4.80	1.44 (1.06-1.96)		74		3.86
Minnesota	31	40	1.82	2.32	0.94 (0.69-1.27)	29	35	1.70	2.03
New Mexico		6		0.89	0.41 (0.30-0.55)		6		0.89
New York		27		3.60	1.42 (1.05-1.92)		18		2.40
Oregon	6	14	0.35	0.82	0.28 (0.21-0.38)	6	14	0.35	0.82
Total	212	387	2.94	2.93		171	327	2.37	2.47

Measuring Carbapenem-Resistant Enterobacteriaceae in the United States

A Critical Step for Control

Mary K. Hayden, MD

EDITORIAL

The study by Guh et al represents an important step forward for CRE control in the United States. Expansion of surveillance to more geographic regions, including rural settings and metropolitan areas known to have high prevalence of CRE, would provide a more complete picture of the US burden. Molecular characterization of isolates would also inform prevention efforts. Whether the resources needed for this work will be made available is unclear. The 2014 presidential executive order on combating antibiotic resistance contained actions to strengthen national surveillance efforts for resistant bacteria, including the establishment of regional public health laboratories with advanced molecular diagnostic capabilities.[12] These actions were not approved for funding in FY 2015; however, an appropriation to support the initiative currently awaits congressional approval of the FY 2016 federal budget. In the meantime, physicians, infection control practitioners, and public health workers will continue to rely on the Multi-site Gram-negative Surveillance Initiative and other surveillance networks[10,13-15] to measure the extent of CRE and estimate the effects of prevention efforts.

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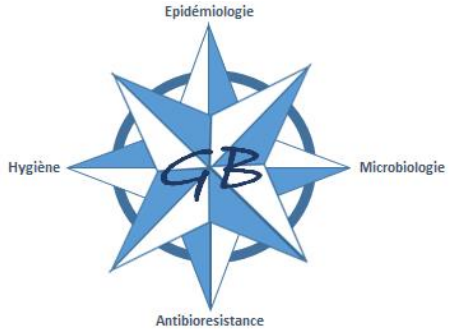
Large Nosocomial Outbreak of Colistin-Resistant, Carbapenemase-Producing *Klebsiella pneumoniae* Traced to Clonal Expansion of an *mgrB* Deletion Mutant



Tommaso Giani,[a] Fabio Arena,[a] Guendalina Vaggelli,[b] Viola Conte,[a] Adriana Chiarelli,[a] Lucia Henrici De Angelis,[a] Rossella Fornaini,[c] Maddalena Grazzini,[d] Fabrizio Niccolini,[d] Patrizia Pecile,[b] Gian Maria Rossolini[a,b,e,f]

Department of Medical Biotechnologies, University of Siena, Siena, Italy[a]; Clinical Microbiology and Virology Unit,[b] Hospital Pharmacy Unit,[c] and Hospital Medical Direction,[d] Florence Careggi University Hospital, Florence, Italy; Department of Experimental and Clinical Medicine, University of Florence, Florence, Italy[e]; Don Carlo Gnocchi Foundation, Florence, Italy[f]

TABLE 1 Observed BSI caused by *K. pneumoniae* during the study period[a]

Yr	No. of *K. pneumoniae* BSI	No. (%) of *K. pneumoniae* isolates that were:			
		Carbapenemase sensitive	Carbapenemase resistant[b]	COL^r CRKP[b,c]	Colistin consumption[d]
2009	29	28 (97)	1 (3)	0 (0; 0)	0.004
2010	49	38 (78)	11 (22)*	1 (3; 9)	0.013
2011	76	44 (58)	32 (42)*	4 (5; 12)	0.018
2012	128	46 (36)	82 (64)*	53 (41; 65)*	0.014
2013	93	32 (34)	61 (66)	35 (38; 57)	0.015
Total	375	188 (50)	187 (50)	93 (25; 50)	

[a] Numbers and proportions of BSI cases caused by carbapenem-susceptible, carbapenem-resistant, and carbapenem- and colistin-resistant (COL^r CRKP) strains. For patients with recurrent BSI episodes, only the first episode was considered.

[b] An asterisk indicates that the difference in the proportion of resistant isolates was statistically significantly different ($P < 0.05$) from that for the previous year. For statistical analysis, the chi-squared test with Yates' correction or Fisher's exact test (as appropriate) was used.

[c] Proportions are reported in relation to both *K. pneumoniae* BSI and CRKP BSI. (Values are shown in parentheses and separated by semicolons.) COL^r *K. pneumoniae* was only observed among CRKP cases.

[d] Data on colistin consumption in the hospital during the study period, expressed as the defined daily dose per 1,000 inhabitants per day, are also reported.

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Outbreak of Colistin-Resistant, Carbapenemase-Producing *Klebsiella pneumoniae*: Are We at the End of the Road?

David van Duin,[a] Yohei Doi[b]

Division of Infectious Diseases, University of North Carolina, Chapel Hill, North Carolina, USA[a]; Division of Infectious Diseases, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, USA[b]

Epidémiologie

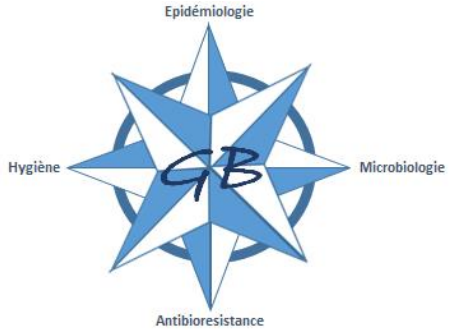
Hygiène

Microbiologie

Antibioresistance

- First,colistin resistance can emerge rather quickly once KPC-producing K. pneumoniae is introduced into the health care environment
- Second, colistin-resistant, KPC-producing K. pneumoniae may directly colonize or infect patients who are not colonized with the colistin susceptible counterparts, at least in the setting of continuous selective pressure from high-level colistin use.
- Performing susceptibility testing of the isolates for colistin for all patients who receive this agent
- Isolate patients

SSI



Original Investigation

Outcomes After Hip Fracture Surgery Compared With Elective Total Hip Replacement

Yannick Le Manach, MD, PhD; Gary Collins, PhD; Mohit Bhandari, MD, PhD; Amal Bessissow, MD; Jacques Boddaert, MD, PhD; Frédéric Khiami, MD, PhD; Harman Chaudhry, MD; Justin De Beer, MD; Bruno Riou, MD, PhD; Paul Landais, MD, PhD; Mitchell Winemaker, MD; Thierry Boudemaghe, MD, MSc; P. J. Devereaux, MD, PhD

Table 3. Postoperative Outcomes in Matched Study Population (n=234 314)

	Group, No. (%)			
	Elective THR (n = 117 157)	Hip Fracture Surgery (n = 117 157)	RR (95% CI)	*P* Value
In-hospital mortality	362 (0.31)	2130 (1.82)	5.88 (5.26-6.58)	<.001
Postoperative				
Myocardial infarction	259 (0.22)	419 (0.36)	1.62 (1.39-1.89)	<.001
Heart failure	1368 (1.17)	3114 (2.66)	2.28 (2.14-2.43)	<.001
Stroke	171 (0.15)	461 (0.39)	2.70 (2.26-3.21)	<.001
Renal failure	346 (0.30)	763 (0.65)	2.21 (1.94-2.50)	<.001
Sepsis	104 (0.09)	322 (0.27)	3.10 (2.48-3.86)	<.001
Any postoperative complication	2741 (2.34)	6890 (5.88)	2.50 (2.40-2.62)	<.001
ICU admission	435 (0.37)	1496 (1.28)	3.44 (3.09-3.83)	<.001
Readmission within 72 h of discharge	636 (0.54)	1135 (0.97)	1.78 (1.62-1.97)	<.001
In-hospital mortality during readmission	14 (2.20)	95 (8.37)	4.05 (2.30-7.17)	<.001

PLOS ONE

Sternal Wound Infection after Cardiac Surgery: Management and Outcome

Marie Dubert[1☯], Annabelle Pourbaix[1☯], Soleiman Alkhoder[2], Guillaume Mabileau[3], François-Xavier Lescure[1,3], Walid Ghodhbane[2], Sabine Belorgey[4], Christophe Rioux[1], Laurence Armand-Lefèvre[5], Michel Wolff[3,6], Richard Raffoul[2], Patrick Nataf[2], Yazdan Yazdanpanah[1,3], Jean-Christophe Lucet[3,4]*

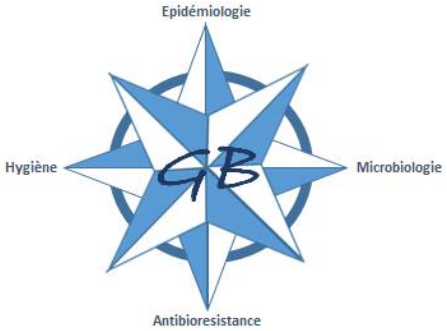
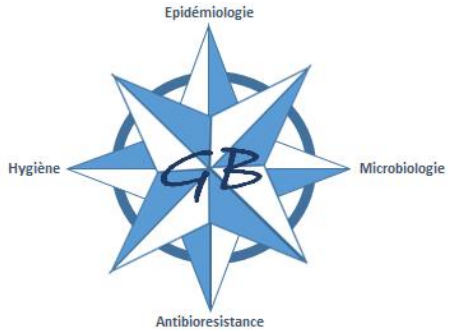


Table 3. Surgical and Medical Management in 137 Patients with Sternal Wound Infection Requiring Reoperation after Cardiac Surgery according to the Definition.

	CDC+ (n = 83)	CDC- (n = 54)	p-value
Number of Redon drains (days), median [IQR]	5 [3–6]	3 [2–4]	<0.004
Time to culture-negative RD (days), median [IQR]	6 [3–10]	7 [5–12]	0.29
Time to RD removal (days), median [IQR]	20 [18–24]	20 [17–22]	0.68
Duration of intravenous antibiotic treatment (days), median [IQR]	20 [13–27]	17 [7–21]	0.09
Duration of antibiotic association (days), median [IQR]	29 [18–42]	19 [5–26]	<0.001
Overall duration of antibiotic treatment (days), median [IQR]	39 [28–44]	31 [22–38]	0.04
Secondary RD colonization n (%)	28 (34%)	15 (28%)	0.46
Superinfection, n (%)	10 (13%)	5 (9%)	0.49
2nd reoperation for persistent or superinfection, n (%)	12 (14%)	10 (19%)	0.53
Length of hospital stay (days), median [IQR]	25 [20–37]	24 [21–34]	0.33

In conclusion, the present study confirms that SWI requiring reoperation after cardiac surgery is associated with favorable outcomes when using one-stage surgical debridement and CDRD. Failure was associated with higher EuroScore, female sex and stay in ICU. Additional informations remain to be obtained regarding the optimal duration of Redon drainage and of antibiotic treatment.



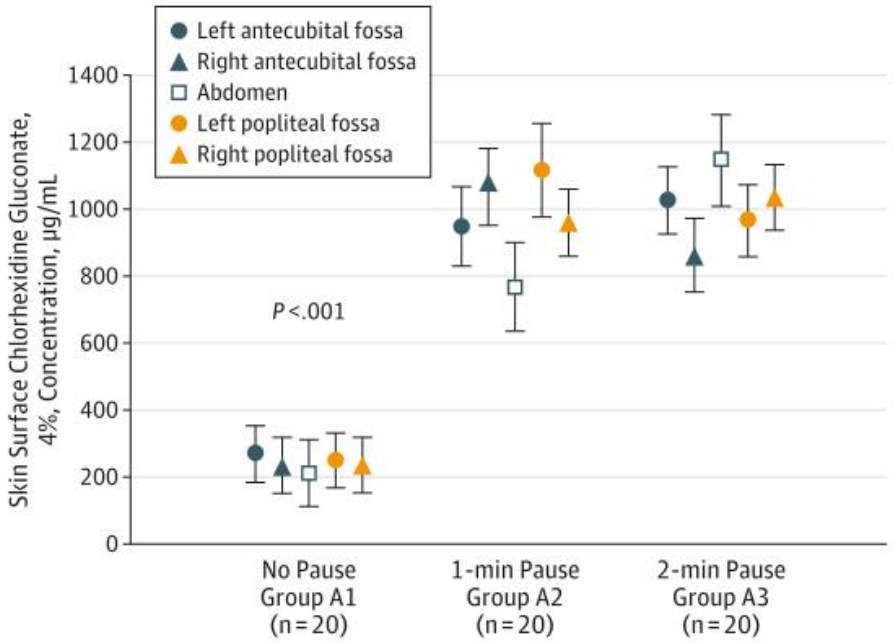
Original Investigation

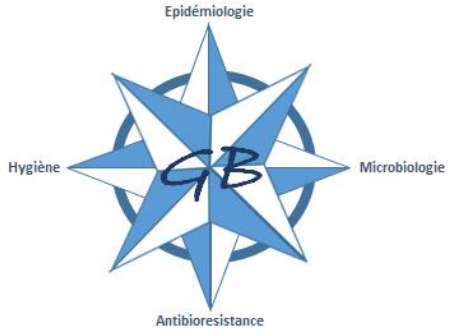
Evidence for a Standardized Preadmission Showering Regimen to Achieve Maximal Antiseptic Skin Surface Concentrations of Chlorhexidine Gluconate, 4%, in Surgical Patients

Charles E. Edmiston Jr, PhD; Cheong J. Lee, MD; Candace J. Krepel, MS; Maureen Spencer, MEd; David Leaper, MD; Kellie R. Brown, MD; Brian D. Lewis, MD; Peter J. Rossi, MD; Michael J. Malinowski, MD; Gary R. Seabrook, MD

Claude Bernard Hospital, Assistance-Publique Hôpitaux de Paris, Paris, France

Figure 1. Mean Skin Surface Concentration of Aqueous Chlorhexidine Gluconate, 4%, after 2 Preadmission Showers





Original Investigation | ASSOCIATION OF VA SURGEONS

Effect of a Preoperative Decontamination Protocol on Surgical Site Infections in Patients Undergoing Elective Orthopedic Surgery With Hardware Implantation

Serge P. Bebko, MD; David M. Green, MD; Samir S. Awad, MD, MPH

Figure. Patient Flowchart

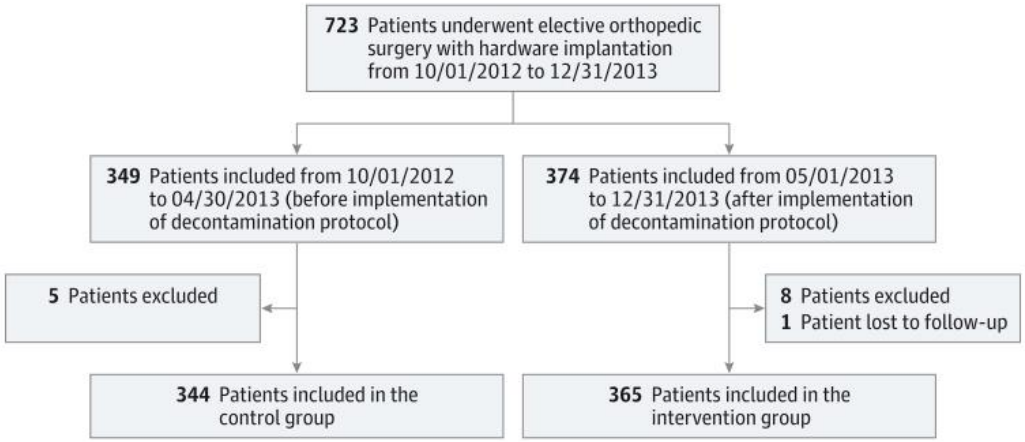
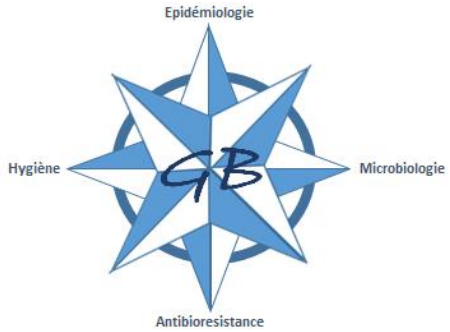


Table 4. Multivariate Analysis of Independent Risk Factors Associated With the Development of SSIs[a]

Risk Factor	Adjusted OR (95% CI)	*P* Value
Decontamination	0.24 (0.08-0.77)	.02
Duration of surgery ≥150 min	4.59 (1.67-12.65)	.003
COPD	6.76 (2.16-21.19)	.001

Abbreviations: COPD, chronic obstructive pulmonary disease; OR, odds ratio; SSIs, surgical site infections.

[a] Only risk factors found to be statistically significant on multivariate analysis are shown.



Invited Commentary

Chlorhexidine Gluconate, 4%, Showers and Surgical Site Infection Reduction

Zeinab M. Alawadi, MD, MS; Lillian S. Kao, MD, MS

Brian D. Lewis, MD; Peter J. Rossi, MD; Michael J. Malinowski, MD; Gary R. Seabrook, MD

Should we implement the proposed chlorhexidine gluconate, 4%, showering regimen without further study? Or do we need to perform a pragmatic trial? Is there any less evidence for chlorhexidine gluconate, 4%, washes than for other interventions that have been used in SSI bundles, such as a separate tray for closure of fascia and skin or restriction of traffic in the operating room? Do all potential interventions warrant large trials? Choice of interventions should be based not only on strength of evidence, but also on potential harms, costs, and ease of implementation. Although chlorhexidine gluconate, 4%, has relatively little harm and cost, implementation ease and patient adherence have not been well evaluated in the past. However, adherence to 2 preoperative showers may be more feasible than other more intensive regimens. In a recent trial[2] of a modestly effective SSI bundle that

Miccelaneous

Review of Fungal Outbreaks and Infection Prevention in Healthcare Settings During Construction and Renovation

Hajime Kanamori,[1,2] William A. Rutala,[1,2] Emily E. Sickbert-Bennett,[1,2] and David J. Weber[1,2]

[1]Hospital Epidemiology, University of North Carolina Health Care, and [2]Division of Infectious Diseases, University of North Carolina Chapel Hill

INVITED ARTICLE HEALTHCARE EPIDEMIOLOGY

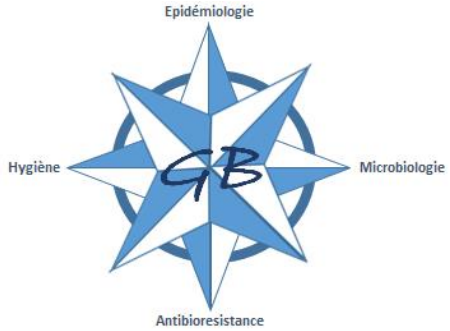
Table 3. Bundle of Key Methods for Preventing Filamentous Fungal Infections Associated With Renovation/Construction Activities

1.	Hospital epidemiology (infection control) should be notified by plant engineering prior to any renovation/construction activities in the healthcare facility.
2.	Conduct an ICRA for all renovation/construction activities: implement recommended prevention strategies as guided by the ICRA.
3.	Focus prevention efforts on control of airborne dissemination of fungal spores (eg, barriers, containment, air handling, portable HEPA filters).
4.	Consider impact of renovation/construction on the involved hospital unit plus adjacent units on the same floor, and hospital units on floors above and below the renovation/construction activities.
5.	Maintain surveillance for healthcare-associated filamentous fungal infections during renovation/construction. Investigate any cases to see if they are related to renovation/construction and determine if prevention efforts need to be revised.
6.	Visit renovation/construction sites regularly to assure compliance with recommended prevention activities.

Source: Adapted from the Centers for Disease Control and Prevention. Guidelines for Environmental Infection Control in Health-Care Facilities. Available at: http://www.cdc.gov/hicpac/pdf/guidelines/eic_in_HCF_03.pdf. Accessed 2 January 2015.

Abbreviations: HEPA, high-efficiency particulate air; ICRA, infection control risk assessment.

Variability in Antibiotic Use Across Nursing Homes and the Risk of Antibiotic-Related Adverse Outcomes for Individual Residents



Nick Daneman, MD, MSc; Susan E. Bronskill, PhD; Andrea Gruneir, PhD; Alice M. Newman, MSc; Hadas D. Fischer, MD, MSC; Paula A. Rochon, MD, MPH; Geoffrey M. Anderson, MD, PhD; Chaim M. Bell, MD, PhD

Table 3. Antibiotic-Related Adverse Outcomes Among Residents Living in Nursing Homes With Low, Medium, and High Antibiotic Use[a]

Characteristic	Antibiotic Use, No. (%)		
	Low (n = 33 822)	Medium (n = 31 425)	High (n = 24 943)
Clostridium difficile	274 (0.8)	268 (0.9)	221 (0.9)
Diarrhea or gastroenteritis	3347 (9.9)	3388 (10.8)	2889 (11.6)
Infection with antibiotic-resistant organism	412 (1.2)	431 (1.4)	319 (1.3)
Antibiotic allergy	13 (0.0)	25 (0.1)	22 (0.1)
General adverse event from medication	96 (0.3)	124 (0.4)	88 (0.4)
Any antibiotic complication with or without potential for indirect harms to nonrecipients (primary composite outcome[b])	3869 (11.4)	3890 (12.4)	3311 (13.3)
Only antibiotic complications with potential for indirect harms to nonrecipients (secondary composite outcome[c])	3797 (11.2)	3801 (12.1)	3237 (13.0)

Detection and Quantification of Airborne Norovirus During Outbreaks in Healthcare Facilities

Laetitia Bonifait,[1] Rémi Charlebois,[1] Allison Vimont,[2] Nathalie Turgeon,[1] Marc Veillette,[1] Yves Longtin,[3] Julie Jean,[2,4] and Caroline Duchaine[1,5]

[1]Centre de recherche de l'institut universitaire de cardiologie et de pneumologie de Québec, and [2]Institut sur la nutrition et les aliments fonctionnels, Laval University, Quebec, [3]Lady Davis Institute of Medical Research at the Jewish General Hospital and McGill University Faculty of Medicine, Montreal, [4]Département des sciences des aliments et de nutrition, Faculté des sciences de l'agriculture et de l'alimentation, and [5]Département de biochimie, de microbiologie et de bio-informatique, Faculté des sciences et de génie, Laval University, Quebec, Canada

Table 1. Detection and Concentration of Norovirus GII RNA Recovered From the Air in Patient Rooms, Hallways, and Nursing Stations During 8 Confirmed Norovirus Outbreaks—Quebec, 2012

Healthcare Center Location	No. of Positive Samples Detected in Air	Range of Norovirus GII, Genomes/m^3
Patients' rooms	14/26	1.46×10^1–2.35×10^3
Nurses' stations	3/6	1.35×10^1–1.22×10^2
Hallway/common areas	6/16	1.54×10^1–5.43×10^2

Air samples were taken with the Coriolis μ, set at 200 L/minute for 10 minutes.

Identification of the novel Kawasaki 2014 GII.17 human norovirus strain in Italy, 2015

MC Medici [1], F Tummolo [1], A Calderaro [1], M Chironna [2], GM Giammanco [3], S De Grazia [3], MC Arcangeletti [1], F De Conto [1], C Chezzi [1], V Martella [4]

1. Unit of Microbiology and Virology, Department of Clinical and Experimental Medicine, University of Parma, Parma, Italy
2. Department of Biomedical Science and Human Oncology, University of Bari Aldo Moro-Policlinico, Bari, Italy
3. Department of Health Promotion Sciences and Mother and Child Care 'G. D'Alessandro', University of Palermo, Palermo, Italy
4. Department of Veterinary Medicine, University of Bari Aldo Moro, Bari, Italy

Correspondence: Maria Cristina Medici (mariacristina.medici@unipr.it)

shown such epidemic pattern. The emergence of the novel GII.P17-GII.17 NoV strain in the Asian countries has been associated with increased NoV activity, i.e. with increased incidence of NoV-induced acute gastroenteritis, in the 2014/15 winter season, compared to the previous (2013/14) winter season [1-3]. This pattern has been observed, but not consistently, during the worldwide spread of NoV GII.4 variants [19]. Based on current literature on GII.17 NoVs, there is no indication on the clinical severity of the novel GII.17 virus [1-5]. Likewise, our study did not assess whether Kawasaki 2014 NoVs are associated with increased severity of the clinical symptoms.

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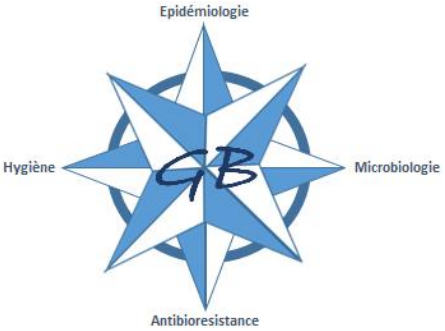
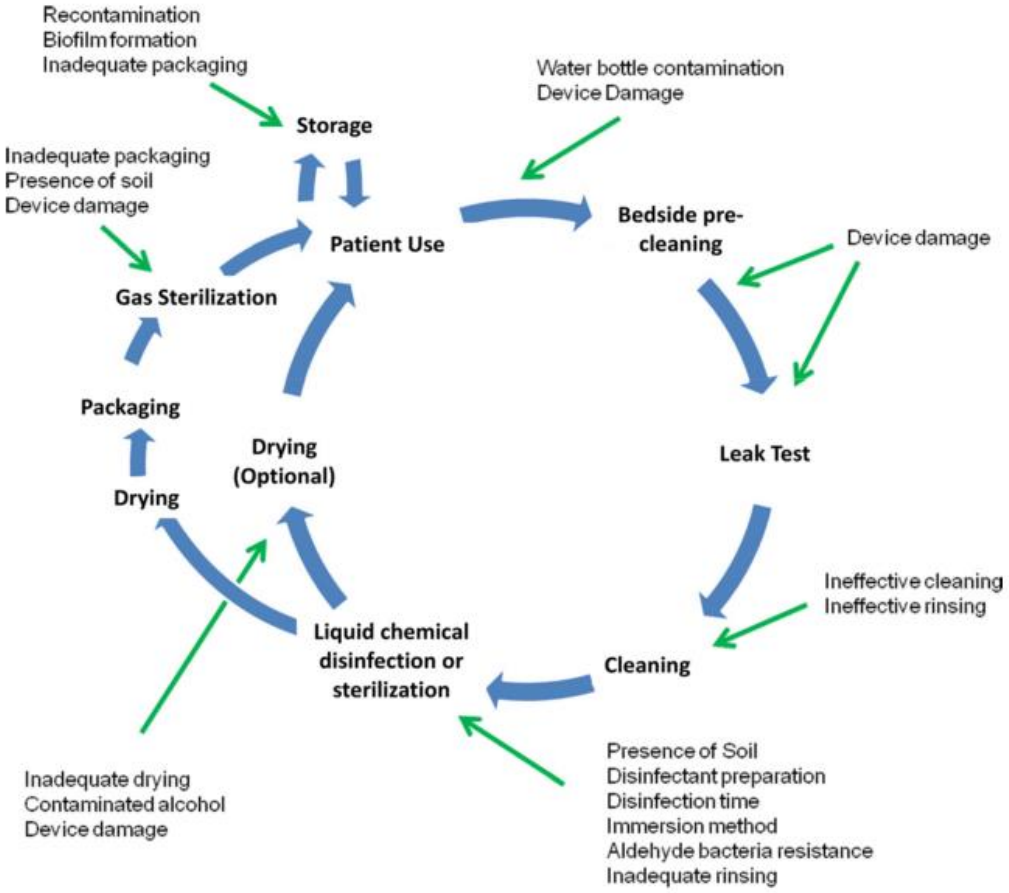
Superbugs on Duodenoscopes: the Challenge of Cleaning and Disinfection of Reusable Devices

Romney M. Humphries,[a] Gerald McDonnell[b]

Department of Pathology & Laboratory Medicine, University of California, Los Angeles, California, USA[a]; STERIS Corporation, Mentor, Ohio, USA[b]





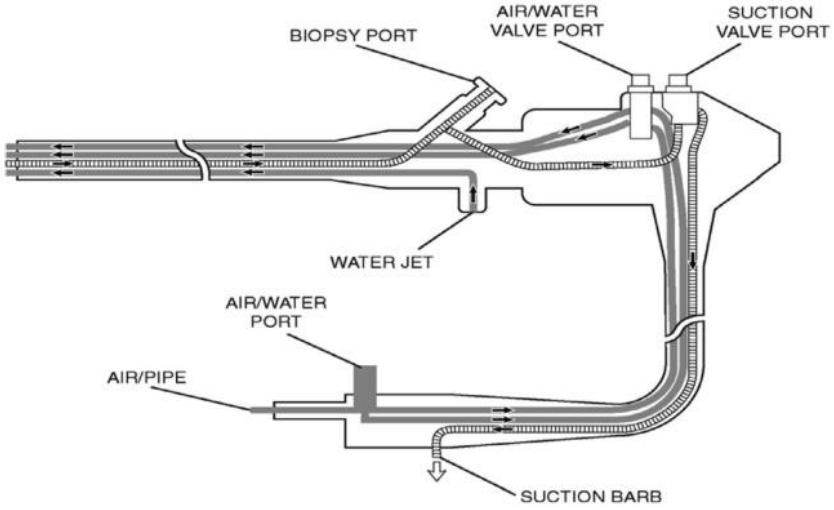


FIG 2 Representation of the internal structure of a flexible endoscope.

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

Special Article

Faecal microbiota transplantation in recurrent *Clostridium difficile* infection: Recommendations from the French Group of Faecal microbiota Transplantation

Harry Sokol[a,*], Tatiana Galperine[b], Nathalie Kapel[c], Pierre Bourlioux[d,e], Philippe Seksik[a], Frederic Barbut[f], Julien Scanzi[g], François Chast[d,h], Rui Batista[d,h], Francisca Joly[i], Anne-Christine Joly[j], Anne Collignon[k], Benoit Guery[b], Laurent Beaugerie[a], for the French Group of Faecal microbiota Transplantation (FGFT)[1]

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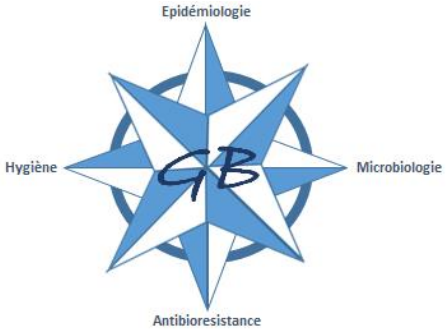
Gastroenterology 2015;149:223–237

AGA SECTION

Update on Fecal Microbiota Transplantation 2015: Indications, Methodologies, Mechanisms, and Outlook

Colleen R. Kelly,[1] Stacy Kahn,[2] Purna Kashyap,[3] Loren Laine,[4,5] David Rubin,[2] Ashish Atreja,[6] Thomas Moore,[7] and Gary Wu[8]

[1]Lifespan Women's Medicine Collaborative, The Miriam Hospital, Alpert Medical School of Brown University, Providence, Rhode Island; [2]Inflammatory Bowel Disease Center, Section of Pediatric Gastroenterology, Hepatology, & Nutrition, University of Chicago, Chicago, Illinois; [3]Department of Gastroenterology and Hepatology, Mayo Clinic, Rochester, Minnesota; [4]Section of Digestive Diseases, Yale School of Medicine, New Haven, Connecticut; [5]Veterans Affairs Connecticut Healthcare System, West Haven, Connecticut; [6]Sinai AppLab, Division of Gastroenterology, Department of Medicine, Icahn School of Medicine at Mount Sinai, New York, New York; [7]Infectious Disease Consultants of Kansas, Wichita, Kansas; and [8]Division of Gastroenterology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania



Intensive Care Med (2015) 41:1739–1751
DOI 10.1007/s00134-015-3978-8

REVIEW

Werner C. Albrich
Stephan Harbarth

Pros and cons of using biomarkers versus clinical decisions in start and stop decisions for antibiotics in the critical care setting

SYSTEMATIC REVIEW

Spatial methods for infectious disease outbreak investigations: systematic literature review

CM Smith [1], SC Le Comber [2], H Fry [3], M Bull [4], S Leach [4], AC Hayward [1]

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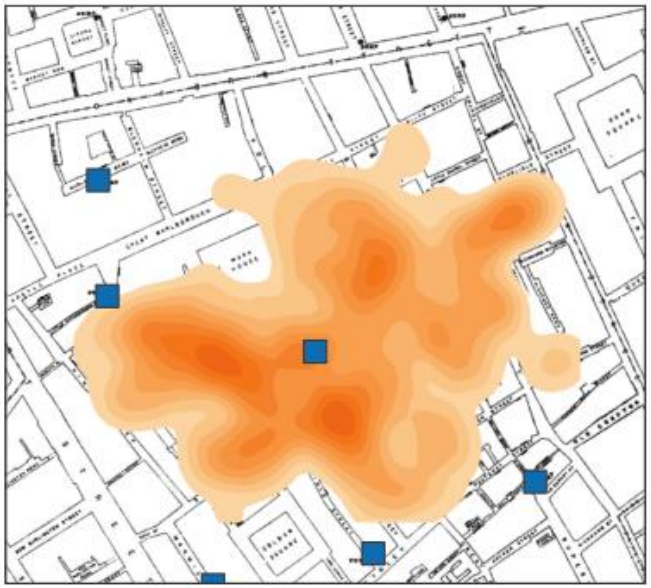
2. School of Biological and Chemical Sciences, Queen Mary University of London, London, United Kingdom
3. Centre for Advanced Spatial Analysis, University College London, London, United Kingdom
4. Emergency Response Department Science and Technology, Public Health England, Porton Down, United Kingdom

Correspondence: Catherine Smith (catherine.smith.13@ucl.ac.uk)



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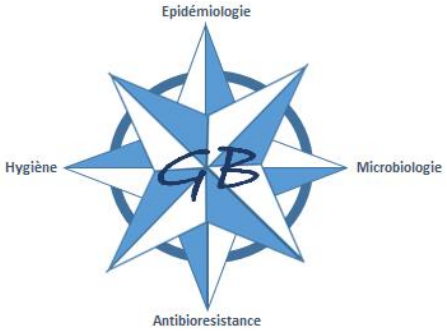


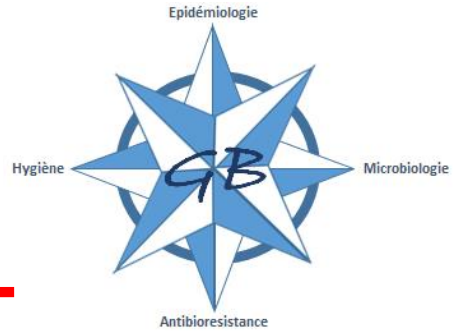
Early versus delayed post-operative bathing or showering to prevent wound complications (Review)

Toon CD, Sinha S, Davidson BR, Gurusamy KS

Clinically-indicated replacement versus routine replacement of peripheral venous catheters (Review)

Webster J, Osborne S, Rickard CM, New K

Bonus Twitter!!



1. Social scientists needed to solve the problem of antibiotic overuse

http://www.esrc.ac.uk/news-events-and-publications/news/news-items/social-scientists-needed-to-solve-the-problem-of-antibiotic-overuse/

2. Serious game BHRe

http://www.cclin-sudouest.com/dojo-game/index.html

3. VLOG

https://www.youtube.com/watch?v=VVUiom8Bo3g

La prochaine dans 1 mois