

Prevention of Gram negative bacterial infections

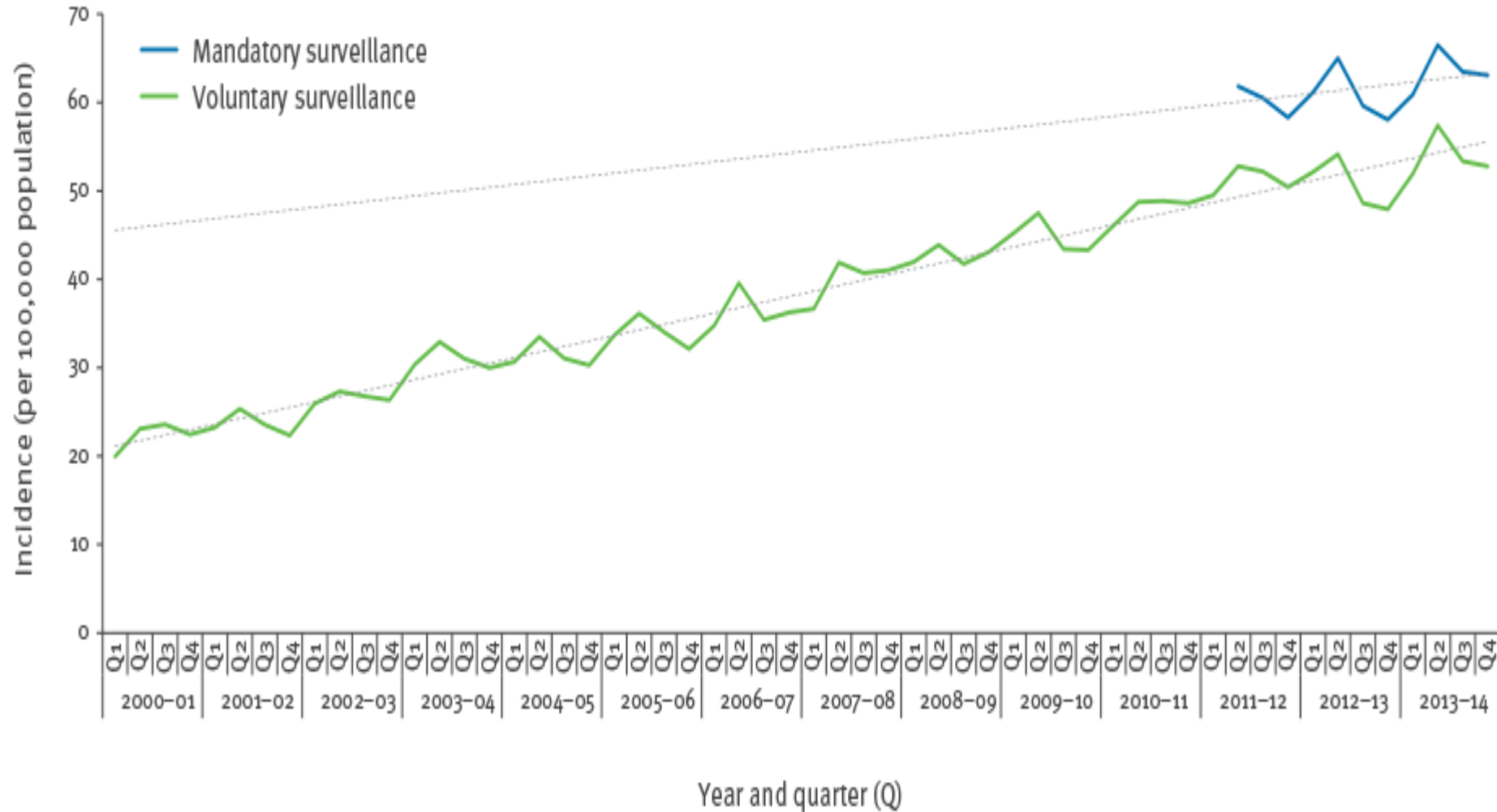
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Gram negative infections

- Urinary , intra abdominal , wound, respiratory
- *Escherichia coli* bacteremia 7.3% increase July 2012 to Dec 2015
- Plan reduction 50% by 2020 *E coli* and Klebsiella/Enterobacter/*Pseudomonas* bacteremia
- Community, long term care, hospital

E coli bacteremia 2000-2014

Euro Surveill. 2016;21(35):pii=30329. DOI: <http://dx.doi.org/10.2807/1560-7917.ES.2016.21.35.3032>



Strategies

- Few antibiotics available or in prospect
- Antimicrobial stewardship
- Anti pseudomonal vaccine not recommended – three trials in cystic fibrosis no efficacy vs chronic infection;
- Klebsiella vaccine many serotypes: multicomponent vaccine reduced respiratory infection in children
- Infection control

Active screening for high risk specialties

[J Hosp Infect.](#) 2016 Jan;92 Suppl 1:S1-44.

- Enterobacteriaceae: carbapenemase screen - rectal swab or stool
- Resistant *P aeruginosa*: little evidence - rectal or stool
- Resistant *A baumannii*: outbreaks only - skin, urine, rectal, respiratory

Screen patients from endemic area in last year

- MDR Enterobacteriaceae: screen if healthcare in known endemic area not sporadic
- Previous multiresistant Gram negative isolate
- CRO: pre emptive isolation pending result
- Resistant *P aeruginosa*: no pre emptive isolation but isolate known case

Stay single room for duration

Use PPE

Prioritise single room

- No tests of clearance
- Apron/gloves all patient contact
- CRE > C difficile >MRSA
- 1st CRE – en suite
- 2nd CR Acinetobacter – en suite
- 3rd carbapenemase Pseudomonas
- 4th all other MDR GNR

Hand hygiene and Cohorting

- MDR Enterobacteriaceae: Wet areas
respiratory equipment
- Resistant *A baumannii*: dust, bed rails, vents
- Resistant *P aeruginosa*: colonized water
systems
- Monitor hand hygiene before and after
contact

Decontamination

- Equipment cleaned in designated sink
- Filter water or change tap if *Pseudomonas*
- Transmission occurs via respiratory equipment in outbreaks
- Twice daily cleaning
- Terminal disinfection with hypochlorite in outbreak H_2O_2 to reduce reservoirs

UV room disinfection



Gram negative reduction

- Antibiotic treatment of urinary infection to follow treatment guidelines.
- Good Infection Prevention and Control practice by all staff.
- All hospital patients state of hydration checked and recorded each shift.
- All clinical staff required to insert, use, or look after urinary catheters adequately trained.
- Bladder scanners should be available in all inpatient areas to aid catheterisation decisions

Gram negative reduction

- Record date of insertion, expected removal, and justification of any urinary catheter.
- Patients leaving hospital with a urinary catheter have catheter passport.
- Compliance with existing guidance on insertion and care of intravascular devices routinely reviewed
- All clinical staff required to insert, use, or look after vascular catheters adequately trained.

Gram negative reduction

- Medium and long term vascular access devices only be accessed if documented competency in use
- Patients with medium/long term vascular access and carers educated in the care of their lines by a trained healthcare worker.
- Ventilator-associated pneumonia minimised by monitored systems in a validated care bundle.
- Ulcers and wounds should be minimised using preventative policies based on current national guidance with surveillance and audit.

Monthly Surveillance

- Urinary Catheter Steering group
- Hospitals / Commissioning Groups
- Gram negative bacteremia after 48h
- Proportion with urinary catheter or CVC
- Compliance with infection prevention

Conclusion

- National surveillance ICCQIP, PHE
- Whole local health economy
- National coordinated action