Introduction: Growing Concern Over Klebsiella Pneumoniae Carbapenemase (KPC) ............................................ 2
Local Context .................................................................................................................................................. 2
New Guidance ............................................................................................................................................... 2
What's In the Public Health England Toolkit? .......................................................................................... 2
NHS England's Patient Safety Alert ........................................................................................................... 3
The Broad Policy Context ............................................................................................................................ 3
The Big Picture ........................................................................................................................................... 3
KPC: Epidemiology ....................................................................................................................................... 4
KPC: Genetic Testing & Research .................................................................................................................. 4
KPC: Microbiology (Miscellaneous) ............................................................................................................. 4
KPC: Screening / Detection ............................................................................................................................ 4
KPC & Specific Conditions ................................................................................................................................ 5
KPC: Surveillance ........................................................................................................................................... 5
KPC: Transmission Prevention ....................................................................................................................... 5
KPC: Treatment Options .................................................................................................................................. 6

Introduction: Growing Concern Over
Klebsiella Pneumoniae Carbapenemase (KPC)

Welcome to the March 2014 issue of this Newsletter. This will be produced every 3-6 months. It lists the most recent evidence and guidelines in your field.

Full text links are provided where available. Many documents are available freely, but please login to Athens for best results when accessing articles. If you do not have an NHS Open Athens account, register at http://openathens.nice.org.uk
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Introduction: Growing Concern Over Klebsiella Pneumoniae Carbapenemase (KPC)

There have been 600 reported cases of antibiotic-resistant bacteria called Carbapenemase-producing Enterobacteriaceae (CPE) in England during the past year. These bacteria have developed resistance against carbapenems, the antibiotics which are usually used to treat serious infections. Drug-resistant CPE bacteria produce an enzyme (carbapenemase) which breaks down antibiotics and makes them ineffective.

There is rising concern about the drug-resistant “superbug” called Klebsiella pneumoniae Carbapenemase (KPC), which is reported to have caused sixteen deaths in Manchester during the past four years.

KPC causes urinary tract infections and pneumonia in patients with suppressed immune systems, such as frail elderly or severely ill patients. It is increasingly resistant to treatment with carbapenems (the only group of antibiotics which were effective against multidrug-resistant bacteria).

The KPC resistance mechanism first emerged in the United States and later spread to Israel and Greece. It is reported to have reached epidemic proportions in Italy.

Central Manchester Hospitals in the UK have reviewed their guidelines on antibiotics and the treatment of patients requiring bowel surgery or cancer treatment which compromises their immunity.

Local Context

In the UK, the problem may be spreading from the North West of England into the Midlands region. A Freedom of Information request reveals there have been two cases of KPC at New Cross Hospital in Wolverhampton in the past two years. Ten patients have been infected at the University Hospital of North Staffordshire.


See also:


New Guidance

Only five patients were reported to Public Health England as having CPE in 2006; by 2013 this number exceeded 600. This number includes people who may only be carriers of CPE, and those with more serious infections.

Advice and assistance has been supplied by Public Health England:


This relates to:


What’s In the Public Health England Toolkit?

Public Health England has produced information leaflets for healthcare professionals to hand to people identified as being carriers or infected with CPE, and for people in contact with infected patients.

Public Health England has released their “toolkit” to address the problem of increasing outbreaks of hospital infections caused by antibiotic-resistant bacteria across England. This set of recommendations has been designed to provide plans and procedures to help health staff limit the spread of CPE in hospitals and into the community.

The toolkit focuses on the early detection of CPE. It offers advice on how to manage or treat CPE, and to control the spread of CPE in hospitals and residential care homes.

Public Health England’s full toolkit offering guidance for hospitals on the detection, management and control antibiotic-resistant bacterial infections caused by CPE may be accessed by selecting the following link:

NHS England’s Patient Safety Alert

*NHS England* has issued a (Level 2) patient safety alert about addressing the rising outbreaks of carbapenemase-producing *Enterobacteriaceae*:


The Broad Policy Context

Volume Two of the *Chief Medical Officer, Professor Dame Sally Davies’s* first annual epidemiology and surveillance report made several recommendations, including:

1. Antimicrobial resistance should be put on the national risk register and taken very seriously by politicians internationally, such as at the G8 and World Health Organization.

2. Better surveillance data is required across the NHS and world-wide.

3. The healthcare and pharmaceutical industries should work to preserve the efficacy of existing treatments.

4. MRSA rates have fallen by 80% since 2003 through better hygiene. Similar approaches should be used when treating the next generation of healthcare associated infections, such as newer strains of harder-to-treat klebsiella.


The *Advisory Committee on Antimicrobial and Healthcare Associated Infections (ARHAI)*’s fourth annual report includes ARHAI’s work plan for 2013 to 2014:


A cross-government UK strategy was announced last year, by the *Department of Health*, to slow the development and spread of antimicrobial resistance. It has three strategic aims:

1. Improving knowledge and understanding of antimicrobial resistance.

2. Conservation and stewardship of the effectiveness of existing treatments.

3. Stimulating the development of new antibiotics, diagnostics and novel therapies.


The Big Picture


KPC: Epidemiology


KPC: Genetic Testing & Research


KPC: Microbiology (Miscellaneous)


KPC: Screening / Detection


KPC & Specific Conditions


KPC: Surveillance


KPC: Transmission Prevention


KPC: Treatment Options


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Topic of the Month
The topic of the month on display in the libraries across the sites for March is World Kidney Day Visit your local library to see the display.

Struggling with Referencing?
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Information Skills Training
This month HEFT Library Services are offering training sessions on Searching Healthcare Databases and Introduction to Critical Appraisal across all the sites. To book a place, please contact Laura Walsh-Faculty Training Librarian on 0121 424 0583 or laura.walsh@heartofengland.nhs.uk

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