Primary Care Quick Reference Guide	
What are carbapenemase-producing enterobacteriaceae (CPE)?	• Enterobacteriaceae are Gram-negative bacteria (including *Escherichia coli*, *Klebsiella* spp. and *Enterobacter* spp.) which naturally colonise the gut of humans and animals • They commonly cause opportunistic urinary tract, intra-abdominal and bloodstream infections • Carbapenemases are enzymes eg KPC, OXA-48, NDM and VIM, that destroy carbapenem antibiotics, thereby conferring resistance • Carbapenem antibiotics, include meropenem, ertapenem, imipenem and doripenem, which are normally reserved for serious infections caused by drug-resistant Gram-negative bacteria • Colonisation with CPE is more common than infection; the duration of colonisation is unclear
High risk groups ie at increased risk of being colonised/infected	Those with a history of: • hospitalisation abroad, particularly those having received intensive care or undergone invasive treatment such as haemodialysis • hospitalisation in UK hospital with a high prevalence of carbapenemase-producing Enterobacteriaceae • being previously confirmed as a case or contact of a case • health tourism, seeking cosmetic or elective surgery abroad
What is required from primary care?	• On receipt of a positive result, inform and advise the patient (and/or family as appropriate) and care setting • Prompt your local Health Protection Team/Community Infection Prevention and Control Team (HPT/IPC) to undertake risk assessment in relation to the patient and prevention of transmission (Section 4.3) • Seek advice from a local medical microbiologist for the management of infection (see below if colonised only); refer to secondary care for the management of severe infections • Communicate status to any receiving health/social care providers (Appendix 2)
Screening and early detection (only if requested)	Not routinely used in community. If required, rectal swab by competent practitioner (stool sample second choice); swabs from wounds and device-related sites may provide additional information if requested.
Decolonisation	Neither skin nor gut decolonisation are recommended. There is no effective equivalent for CPE, of the topical suppression used to reduce shedding of MRSA, in the healthcare environment. Attempts at eradication of MDR Gram-negative organisms from the gastrointestinal tract have not been successful.
Treatment of infection	If an infection is due to CPE, discuss treatment with a microbiologist. If a patient with previous CPE colonisation or infection presents with a suspected infection that is likely to be caused by a Gram-negative organism and requires empirical antibiotics, a microbiologist should be contacted for advice on antibiotic choice.
Infection prevention and control	In your surgery, standard infection control precautions (SICPs) will minimise the spread of this organism. SICPs should be rigorously implemented but no additional infection control precautions are required. Seek advice from your local community HPT/IPC team if needed; where infection exists refer to risk assessment guidance for recommended measures to prevent the spread of infection (Section 4.3).
Communication	Include patient CPE status in all communications and within the patient record. It is crucial to communicate patient CPE status during referrals and inter-care patient transfer (Appendix 2).
References	PHE: Toolkit for managing carbapenemase-producing Enterobacteriaceae in non-acute and community settings HPS: Toolkit for the early detection, management and control of carbapenemase-producing Enterobacteriaceae in Scottish acute settings http://www.hps.scot.nhs.uk/guidelines/detail.aspx?id=478 NICE standard principles of prevention and control of infections in primary and community care available at http://bit.ly/NICE_StandardPrinciples_PrimaryCommunityCare