

BSAC spring meeting 2016

***Carbapenemase producing
enterobacteriaceae screening: assessing local
knowledge to a global threat***

Georgina Beckley

Julia Vasant

Elizabeth Darley

*Dept Medical Microbiology and Infection Prevention & Control,
North Bristol NHS Trust*

North Bristol NHS Trust

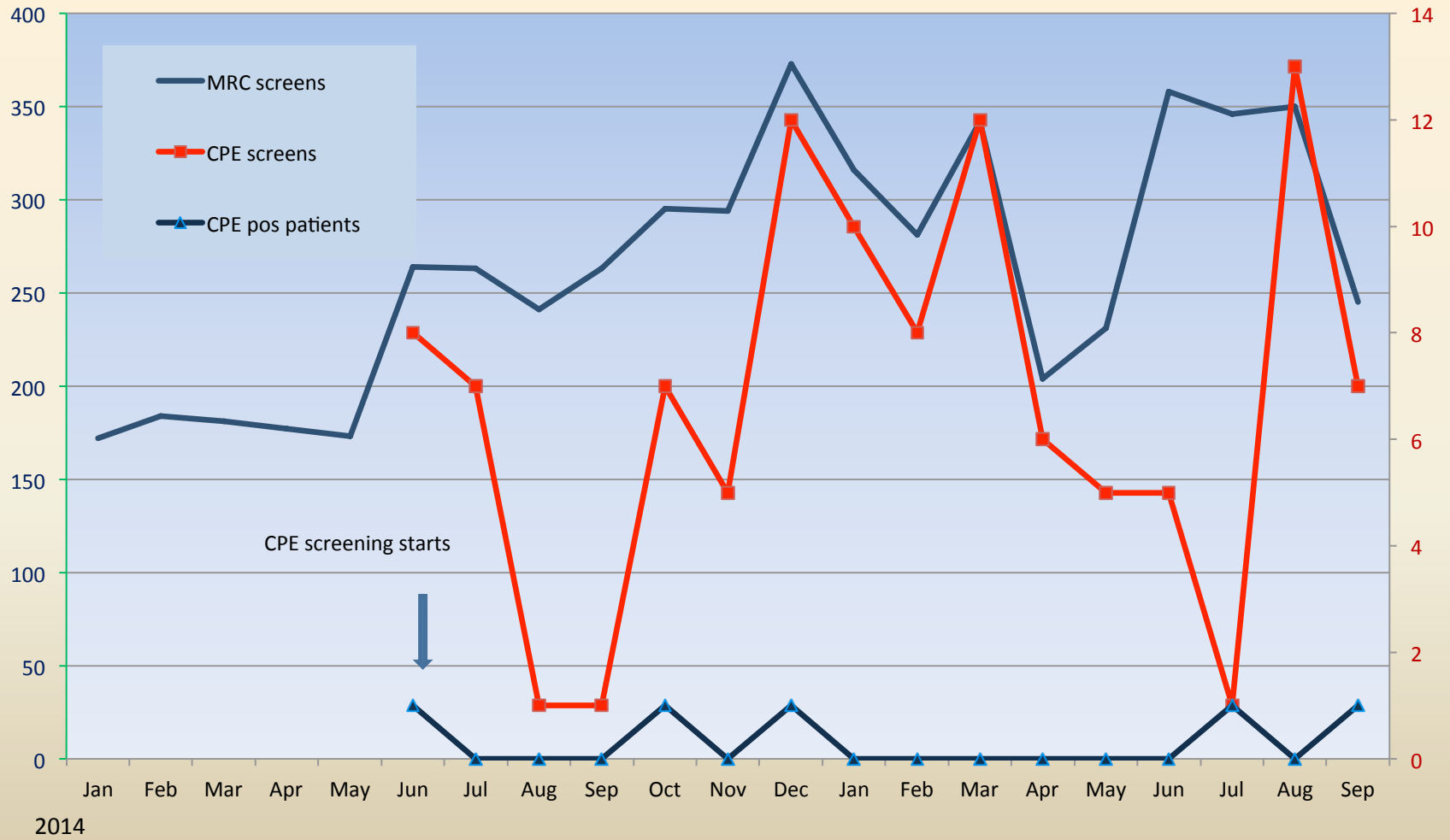
- Acute care trust
- Regional Centre for
 - Trauma
 - Neurosurgery
 - Plastics
 - Renal transplant
 - Burns
 - Level 3 NICU



Background.

- **Pre 2013.** all patients from other Trusts and abroad screened for MRC on admission
- **2013.** DH launched guidelines regarding the risk assessment, screening and infection control management of patients colonised/infected CPE
- **June 2014.** NBT added a CPE policy into the existing MDRO policy
piloted in burns, renal and intensive care
Launch – through email to key staff and face to face education
- **July 2015.** Low numbers of rectal CPE screens submitted
? genuinely low numbers at risk or ? Non- compliance with local policy
- Levels of staff knowledge and awareness of CPE unknown

MRC and CPE screens 2014-2015 NBT.



Study Objectives

- To assess current levels of staff awareness regarding CPE
- To audit compliance with NBT CPE screening and CPE infection control policy

Staff survey & case note audit

Burns, Renal, ICU.

- **Staff survey**

 - 10 ward staff members picked at random from burns, renal and ITU

- Questionnaire completed re awareness of CPE and of Trust policy re screening

- **Audit.**

- Retrospective case-note analysis

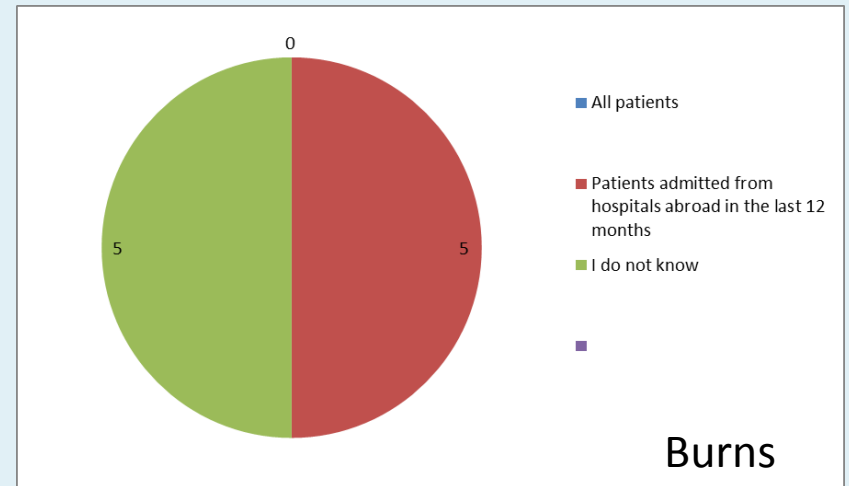
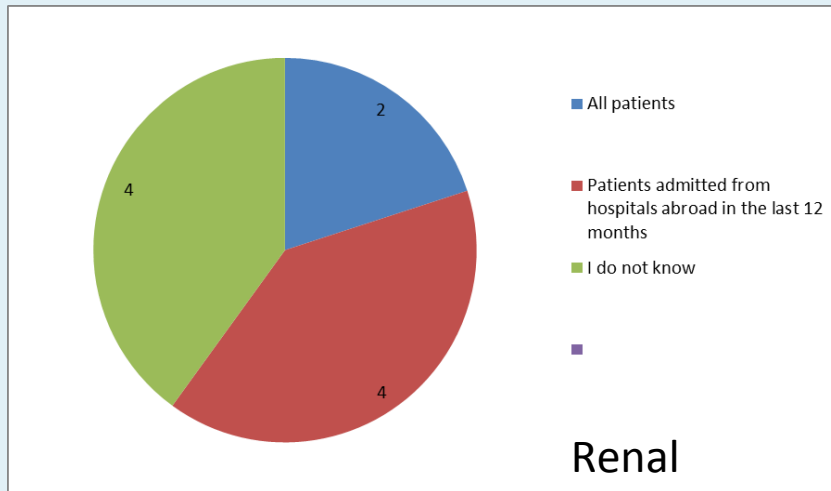
- Data collected from all patients notes in single day for each area

- Completed BEFORE the staff survey, to avoid bias

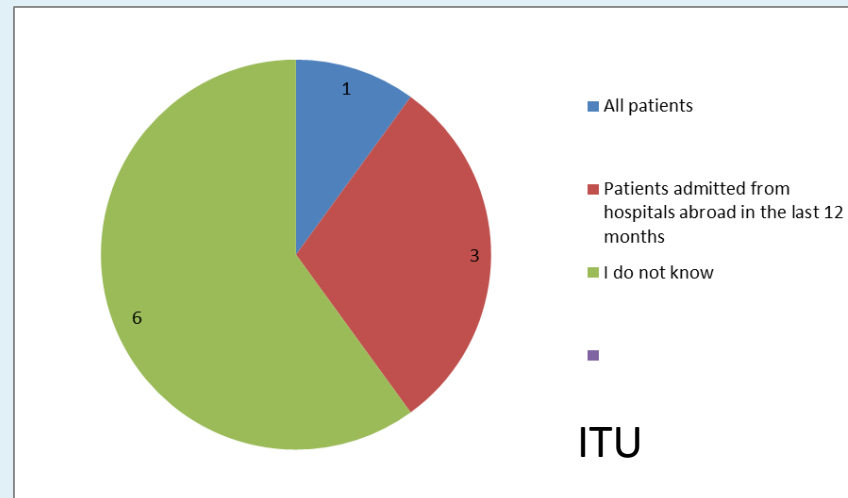
Survey Questions

- 1) What is your awareness of the term carbapenemase-producing *Enterobacteriaceae* (CPE)?
- 2) Which patients should undergo a CPE risk assessment?
- 3) Do you know the risk factors for being colonised with CPE?
- 4) Who is at risk of CPE colonisation and needs to be screened?
- 5) What are the appropriate infection control precautions to take if a patient is at risk of CPE colonisation?
- 6) How aware are you of the NBT CPE infection control toolkit?

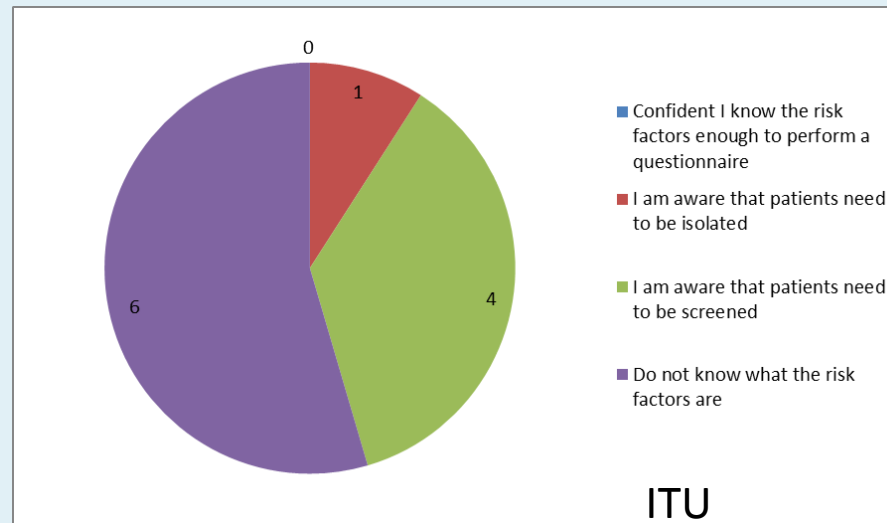
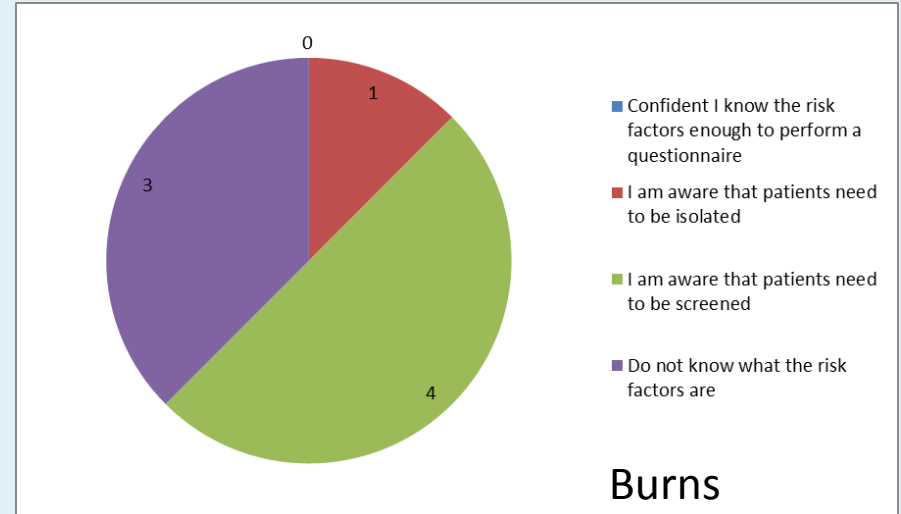
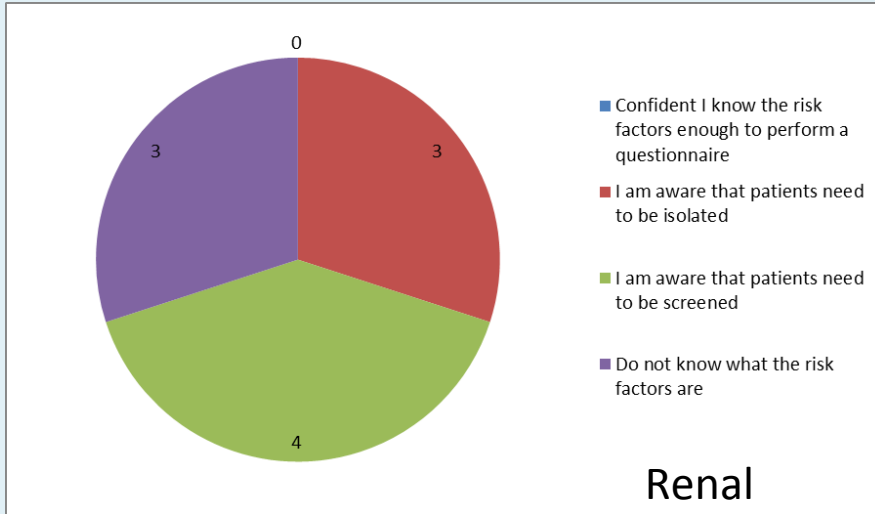
- Which patients undergo CPE risk assessment?



Green: "I do not know"

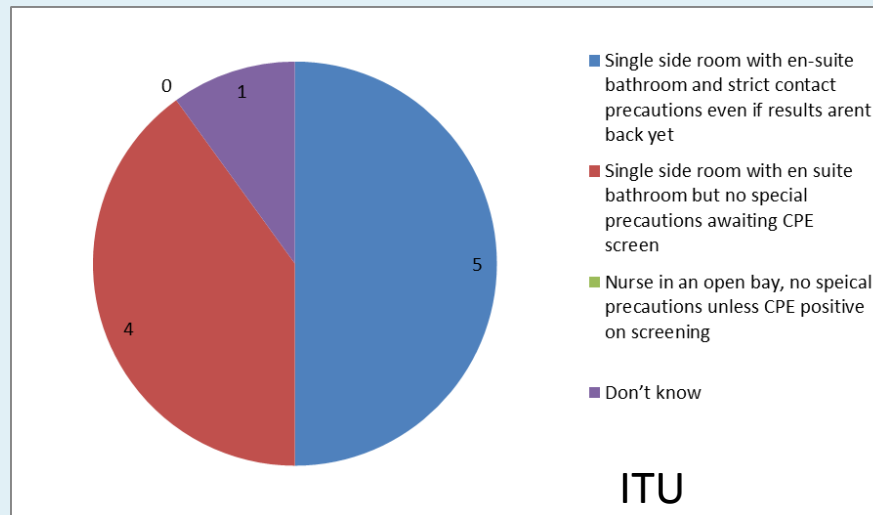
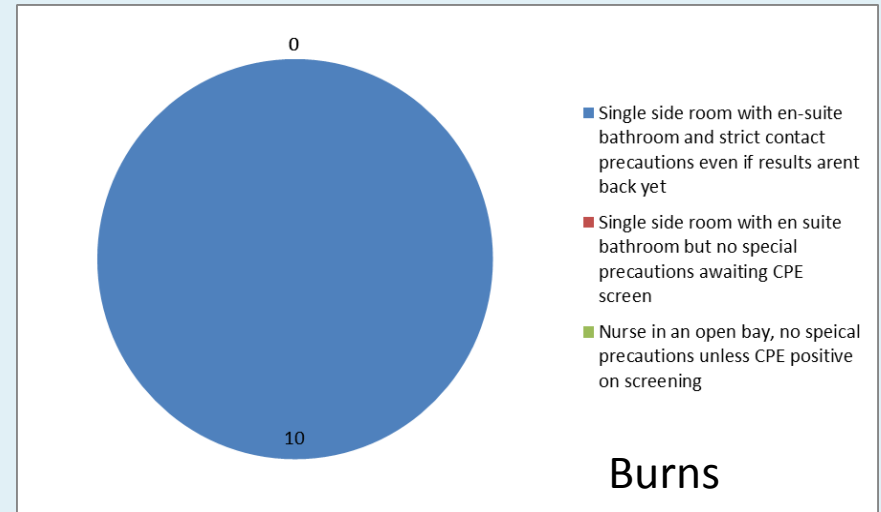
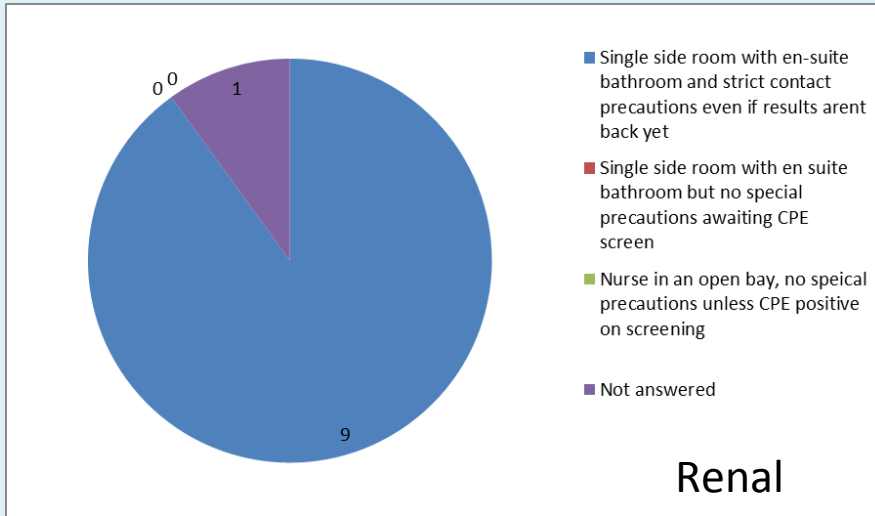


- How confident are you that you know the risk factors for being colonised with CPE?



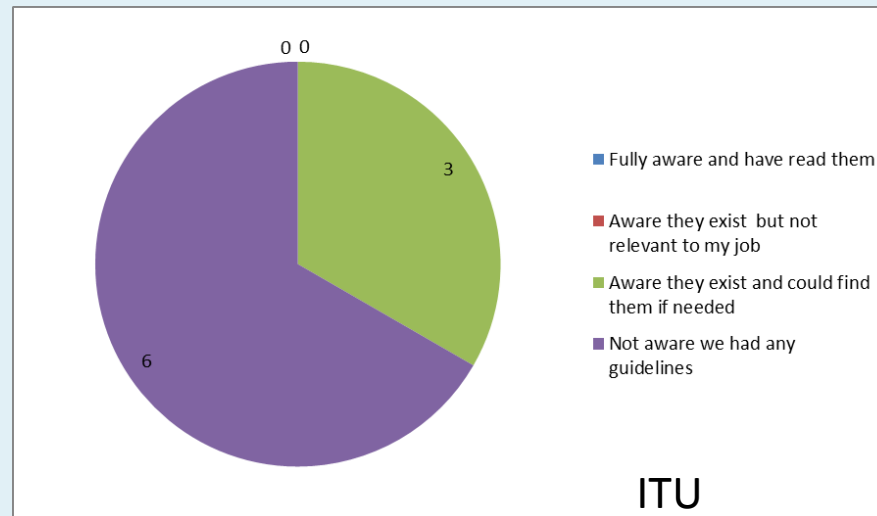
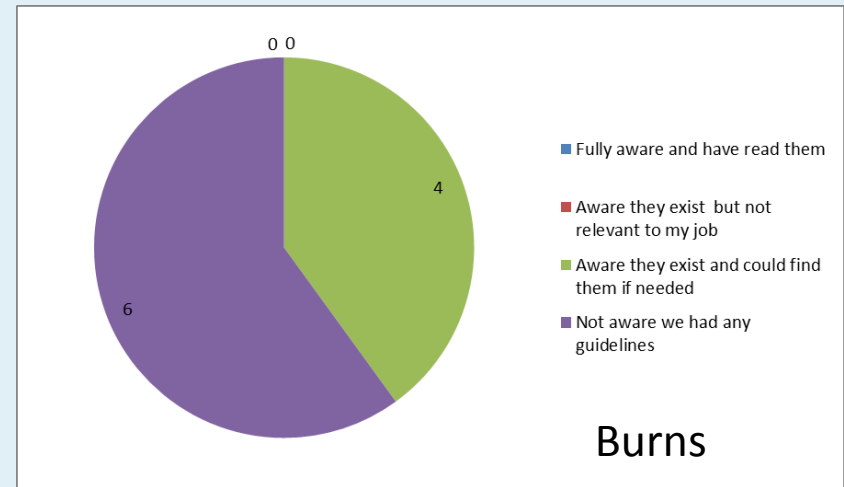
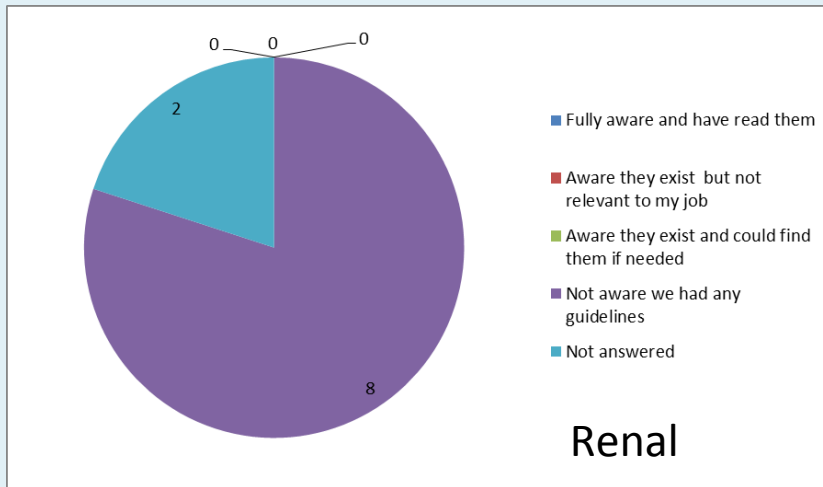
Purple: "I do not know what the risk factors are"

- What are the appropriate infection control precautions to take if a patient is at risk of CPE colonisation?



Blue: = correct isolation requirement answer given

- How aware are you of the NBT CPE Infection control guidelines?



Purple: "not aware we had any guidelines"

Summary – Staff survey

- Awareness of the term CPE self reported as low among all wards taking part in the audit with only
 - 10% reported understanding the term fully
 - 10% reported understanding who to risk assess
 - 0% reported confidently knowing the risk factors for CPE
 - 66% were not aware we had any guidelines
- But....
 - 80 % gave the correct isolation precautions answer (but bias as longest , most conservative response!)

Renal and ITU and Burns CPE Audit: screening questions

CPE screening questions	Yes	No	Unknown
Reference to travel	1(ITU)	51	
Reference to CPE risk assessment	0	52	
Asked relevant questions but no assessment	0	52	
Has pt been to a high risk hospital in the last CPE	0	28	24

0% underwent CPE risk assessment

0 CPE screens sent

Limitations to study

Staff survey

- Some questions not answered at all
- Relied on self-reported awareness .
- Staff survey undertaken on 1 day-one shift
- 10 staff/ward =small numbers
- Inconsistent responses:

Audit

- Small snapshot audit
- Patients interviews may have found some 'at risk' patients
- Case notes found no patients at risk of CPE but 0% had documented risk assessment,
- Nursing staff may have noted a risk assessment on IT-based documentation?

Solution – Education & CPE re-launch.

- Re-launch CPE policy trust wide
 - Message of the day, screensavers, posters
 - **Update Link nurses to roll out in daily staff safety briefing**
 - **Feedback to COIC meeting on departments progress and highlighting knowledge gaps**
 - 5-10 min talks once weekly for 4 weeks in key areas
 - **Discuss cases and detection in Grand rounds**
 - “Teaching the teachers” ready-prepared 5- 10 min talk
 - Redesign IC guidance on intranet for extra clarity with separate links for ESBL/MRSA/CPE (no acronyms) with emphasis on risk assessment.

Further thoughts -

- For clarity and ease should we simply screen ALL patients from (hospitals) abroad?
- Do we have capacity in dialysis for strict IC precautions for renal patients awaiting CPE screen results? (Is it required given low prevalence?)
- While prevalence is low, do we need to screen with rectal swabs if MRC screens will detect most cases?

Acknowledgements

- Infection Control Team at NBT particularly Sam Matthews and Jane Searle
- Sue Mcculloch Senior BMS and Deputy Laboratory Manager at NBT