Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

How to link PPS data to prevention The HALT 2010 study in Ireland – what we did next

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Conflicts of Interest

- ***I have not received funds for speaking, consultancy or advisory board membership, owns no stocks, shares nor patents.***
- ***I attended the CDI Europe meeting in Brussels in April 2012; travel and accommodation for this meeting were supported by Astellas Pharma Europe Ltd.***

Pre-HALT 2010

- Few (if any) links with long term care
- Most in national surveillance centre = hospital based
- No national HAI information outside acute hospitals
- Limited antimicrobial use data
  - ESAC 2009: 10% antibiotic use prevalence (EU 5.9%) but only 18/11 LTCF took part in April/Nov

2010 – HALT Study

- **First ever study in Ireland!**
- **Ireland:**
  - **69 LTCF (61 public / 8 private)**
  - **4,170 residents**
  - **39% general nursing homes, 10 % intellectually disabled, 51% provided a mix of care**
  - **11.3% (472) residents had either signs/symptoms of infection (6.2%, 260 residents) or were on antibiotics (10.2%, 426 residents).**
  - **3.6% had an infection**

Lots of positive feedback

- **Local and regional initiatives**
- **Report (national) circulated widely**

DECISION TO REPEAT IN 2011

Multidisciplinary steering group

- HSE – HPSC
- Clinical Microbiology
- Nursing
- Medicine for the Elderly
- GP
- Clinical Audit, HSE
- Older persons services, HSE.

Identical protocol to HALT 2010 used

- **…..including the IT tool**
- **Additional questions added on request from medicine for the elderly (paper based)**
- **Regional training days – included presentations from 2010 HALT participants**
- **108 LTCF (84 public / 24 private) took part**

Dissemination of results

- **Participants circulated with 3 pager enabling them to compare their results with national dataset**
- **Plain english summary**
- **National report – emphasis on recommendations and improving things!**
- **Articles in GP journal, HSE quarterly journal, monthly HPSC publication**
- **Expanded HPSC website section**

Healthcare-associated infection in long term care facilities

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Second National Prevalence Survey on Healthcare Associated Infections and Antibiotic use in Irish Long-Term Care Facilities

In May 2011, 5,922 residents in 108 Irish long term care facilities, 84 public and 24 private, including elderly care and intellectually disabled long term care facilities took part in the second national prevalence survey. A prevalence survey is done on one particular day, thereby giving a snapshot of the number of residents with an infection and/or on antibiotics.

- A summary of the main results is available here
- The full national report is available here

Background Information

- Protocol and data collection forms
- Presentations from HALT 2011 training
- Staff and resident information leaflets
- HALT Newsletters

Click here for information on HALT project 2010

Click here for Guidelines on the diagnosis and management of urinary tract infection in residents and prescribing guidelines in primary care

Last updated: 05 September 2011

Summary Report on the Second National Prevalence Survey on Healthcare Associated Infections and Antibiotic use in Irish Long-Term Care Facilities

File Size: (107kB)
Publication Date: 1 September 2011

Second National Prevalence Survey on Healthcare Associated Infections and Antibiotic use in Irish Long-Term Care Facilities: National Report

File Size: (524kB)
Publication Date: 1 September 2011

News

- Course on Health Protection in UCC
  07 November 2011
- Draft guidelines on the management of viral haemorrhagic fever in Ireland now available for consultation
  04 November 2011
- Early clinical & public health management of bacterial meningitis guidelines now available for consultation
  20 October 2011

Publications

- Weekly Influenza Report, Week 44, 2011
  10 November 2011
- AIG - C. difficile Report for Week 43, 2011
  09 November 2011
- Infectious Disease Report for Week 43, 2011
  09 November 2011
- Weekly Outbreak Report for Week 43, 2011
  09 November 2011

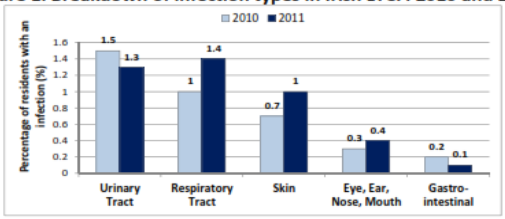
Second National Prevalence Survey on Healthcare Associated Infections and Antibiotic use in Irish Long-Term Care Facilities

In May 2011, 5,922 residents in 108 Irish long term care facilities (LTCFs), 84 public and 24 private, including elderly care and intellectually disabled LTCF, took part in the survey. A prevalence survey is done on one particular day, thereby giving a snapshot (similar to taking a photo) of residents with an infection / on antibiotics in a LTCF.

What did the 2011 survey find?

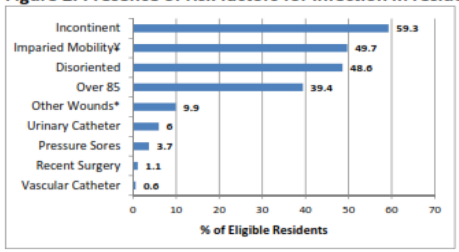
Respiratory and urinary infections were most common: 4.1% (242) residents had an infection on the day of the survey. The most common infections are summarised in Figure 1.

Figure 1: Breakdown of infection types in Irish LTCF: 2010 and 2011



High quality nursing and medical care is provided: Not all residents have an equal risk of acquiring an infection. For example, older residents or residents with broken skin (e.g., wounds) and/or medical devices (e.g., IV lines or urinary catheter) are more at risk of infection than those without. Risk factors for infection are summarised in Figure 2 and reflect a high dependency level in Irish LTCFs. The low rate of pressure sores and urinary catheter use despite a high proportion of incontinent and/or immobile residents reflects high quality nursing and medical care provided within in the facilities.

Figure 2: Presence of risk factors for infection in residents



Recommendations in National Report

1. Feedback results & use to plan preventative programmes.
2. Staff & resident vaccination policies & improvements
3. Target HAI risk factors (IV lines & urinary catheters / wounds / antibiotics) – policies, care bundles, checklists
4. Guidelines on management of UTI including advice on interpreting urine results, prophylaxis & treatment (incorporated also into GP guidelines)
5. 4 top tips for infection control

National UTI Guidelines 2011

Diagnosis & Management of Urinary Tract Infection (UTI) in Long Term Care Residents > 65 years

KEY MESSAGES

- **Diagnosis of UTI in residents > 65 years requires a combination of reliable clinical signs and symptoms AND a positive urine culture result.**
- **Only perform urine dipstick testing or send urine for culture in patients who are symptomatic. Do not perform urine dipstick testing or send urine for culture solely on the basis of urine odour or appearance**
- **Residents in long term care facilities have high rates of abnormal dipstick and urine test results WITHOUT infection necessarily being present. Antibiotic therapy in these cases does not reduce mortality or prevent symptomatic episodes, rather it increases side effects and leads to antibiotic resistance.**
- **DO NOT ROUTINELY USE ANTIBIOTIC PROPHYLAXIS TO PREVENT URINARY TRACT INFECTION**

1: SIGNS AND SYMPTOMS OF UTI

- Diagnosis of UTI should be based on a full clinical assessment.
- Symptoms & signs suggestive of urinary tract infection include:

Dysuria	Frequency	Urgency	New onset incontinence
Fever >38°C	Suprapubic tenderness	Haematuria	

- In patients with a urinary catheter loin pain and fever >38°C are significant indicators of a UTI.

*****DO NOT SEND URINE FOR CULTURE IF THERE ARE NO SIGNS AND SYMPTOMS OF UTI*****

- Dipstick urine testing is NOT a reliable way to diagnose UTI. Do not perform dipstick urinalysis if patients are asymptomatic or if a urinary catheter is present as false positives will occur.
- Empiric treatment may be considered in a SYMPTOMATIC patient with a positive dipstick. A urine sample should be sent to the microbiology laboratory for culture and antimicrobial susceptibility testing in these cases.
- A positive urine dipstick result in an asymptomatic patient is not significant and should not be treated.

2: HOW TO INTERPRET URINE CULTURE RESULTS IN RESIDENTS *WITHOUT* A URINE CATHETER

Microscopy

White Cells	• No white cells present indicate no inflammation therefore culture result is unlikely to indicate UTI. • White cells ≥100/µl are considered to represent inflammation.
Epithelial cells/mixed growth	• Presence indicates perineal contamination and therefore culture result is unlikely to indicate UTI
Red cells	• May be present in UTI, patients with persistent hamaturia post UTI should be referred

Culture

Single organism ≥ 10,000 (10^4) colony forming units (CFU)/mL OR ≥ 100,000 (10^5) mixed growth with one predominant organism *OR* *Escherichia coli* or *Staphylococcus saprophyticus* ≥ 1,000 (10^3)CFU/mL } Usually indicates UTI but only in patients with symptoms

Positive culture/microscopy result and no symptoms = bacteriuria, not infection and does not require antibiotic treatment.

- Laboratory microscopy should not be used to diagnose UTI in catheterised patients as urine white cells are often elevated due to the presence of the catheter
- If the urine culture result is positive (see section 2) treat only if the resident has symptoms or signs suggestive of UTI and no other source is identified.
- In the presence of a urinary catheter antibiotics will not eradicate bacteriuria

4: EMPIRICAL TREATMENT OF UTI IN RESIDENTS

- Only consider empiric antibiotic therapy in SYMPTOMATIC patients pending urine culture result.
- Choice of empirical therapy should be guided by local resistance rates where available.
- **Modify treatment according to culture result when available.**
- For treatment of uncomplicated UTI in patients < 65, please refer to page 9 of the National Guidelines for Antimicrobial Prescribing in Primary Care in Ireland (2011)[1]

4a: EMPIRICAL TREATMENT OF UTI IN RESIDENTS *WITHOUT* A URINARY CATHETER

Uncomplicated UTI i.e. no fever or flank pain, first presentations / low risk of resistant organisms

Trimethoprim 200mg BD
OR Nitrofurantoin* 50-100mg QDS
(*Avoid in renal impairment)
For 7 days

Use of Cephalexin 500mg BD or Co-amoxiclav 500/125mg TDS may also be considered - based on local resistance rates

Acute pyelonephritis

Co-amoxiclav 500/125mg TDS for 14 days
OR Ciprofloxacin 500mg BD for 7 days

If no response within 24 hours consider hospital referral

4b: EMPIRICAL TREATMENT OF UTI IN RESIDENTS *WITH* A URINARY CATHETER

First presentations / low risk of resistant organisms

Trimethoprim 200mg BD
OR
Nitrofurantoin 50-100mg QDS*
(*Avoid in renal impairment)

Previous resistance to, or risk of, trimethoprim or nitrofurantoin resistance

Cephalexin 500mg BD
OR
Co-amoxiclav 500/125mg TDS
(Consider based on local resistance rates)

Duration of therapy
Prompt resolution of symptoms: 7 days
Delayed response (regardless of whether patient remains catheterised or not): 10-14 days

If an indwelling catheter has been in place for >2 weeks at the onset of UTI and is still indicated, the catheter should be replaced.

5: ANTIBIOTIC PROPHYLAXIS

DO NOT ROUTINELY USE ANTIBIOTIC PROPHYLAXIS TO PREVENT URINARY TRACT INFECTION

Antibiotic prophylaxis is not recommended for the prevention of symptomatic UTI in catheterised patients.

Antibiotic prophylaxis is not recommended for urinary catheter changes unless there is a definite history of symptomatic UTIs due to catheter change.

Antimicrobial prophylaxis may be considered in patients for whom the number of urinary infections are of such frequency or severity that they chronically impinge on function and well-being.

REFERENCES

1: Available at http://www.hpsc.ie

SO WHAT HAPPENED LOCALLY?

1. Increased awareness

- **Individual feedback reports widely used for staff presentations**
  - **‘We made sure all nurses and GP’s were made aware of the results’**
  - **‘More in tune with national guidelines and also more empowered to deal with infection control issues’.**
  - **‘GP’s & nursing staff more aware of antimicrobial overuse’**
  - **‘Residents on antimicrobials highlighted at nursing report time on Ward white board’**
  - **‘HALT definitely raised awareness and began the conversation with patients and nursing staff particularly around the dangers and unsuitability of long term prophylactic antibiotic prescribing for UTI and also the hazards of indwelling catheter’**

2. Focus on HAI prevention as a patient safety issue

‘ Robust information- Clear commitment to address issues from all- (top down) - Culture of surveillance embedded - Patient Safety Initiatives targeting- Healthcare associated infections, plus antimicrobial stewardship’

- **‘Daily dependency levels now recorded with a risk matrix for infection’**
- **Three areas have repeated HALT again in 2012!**

3. Improvements in Hygiene

- **National hand hygiene lead auditor training programme extended to medicine for the elderly long term care**
- **Increased local training & auditing**
- **‘ Biannual Hygiene audits - quality improvements completed accordingly**
- **‘Staff quiz during Hand hygiene week and prizes were given by area manager’**

4. Better antimicrobial stewardship

- **‘Treating UTI less with antibiotics and require more robust evidence prior’**
- **‘Antibiotics no longer first line for aspiration’**
- **‘Empowering nurses to do more in relation to lab reports & bring significant results to the attention of prescribers which may warrant alterations in the antibiotic prescribed’**
- **‘Extended the antibiotic stop/start/indication template into community hospitals’.**

- **New initiatives in conjunction with GPs/medical officers**
  - **Implemented/adapted national antibiotic guidelines**
  - **Local antibiograms & *C. difficile* surveillance**
  - **Stopped routine urinalysis of all admissions.**
  - **Antimicrobials only given if clinically symptomatic**
  - **More proactive about stopping antimicrobials**

- **Antibiotic Care Bundle**
  - **based on the 'Day 3 Review Rule'**

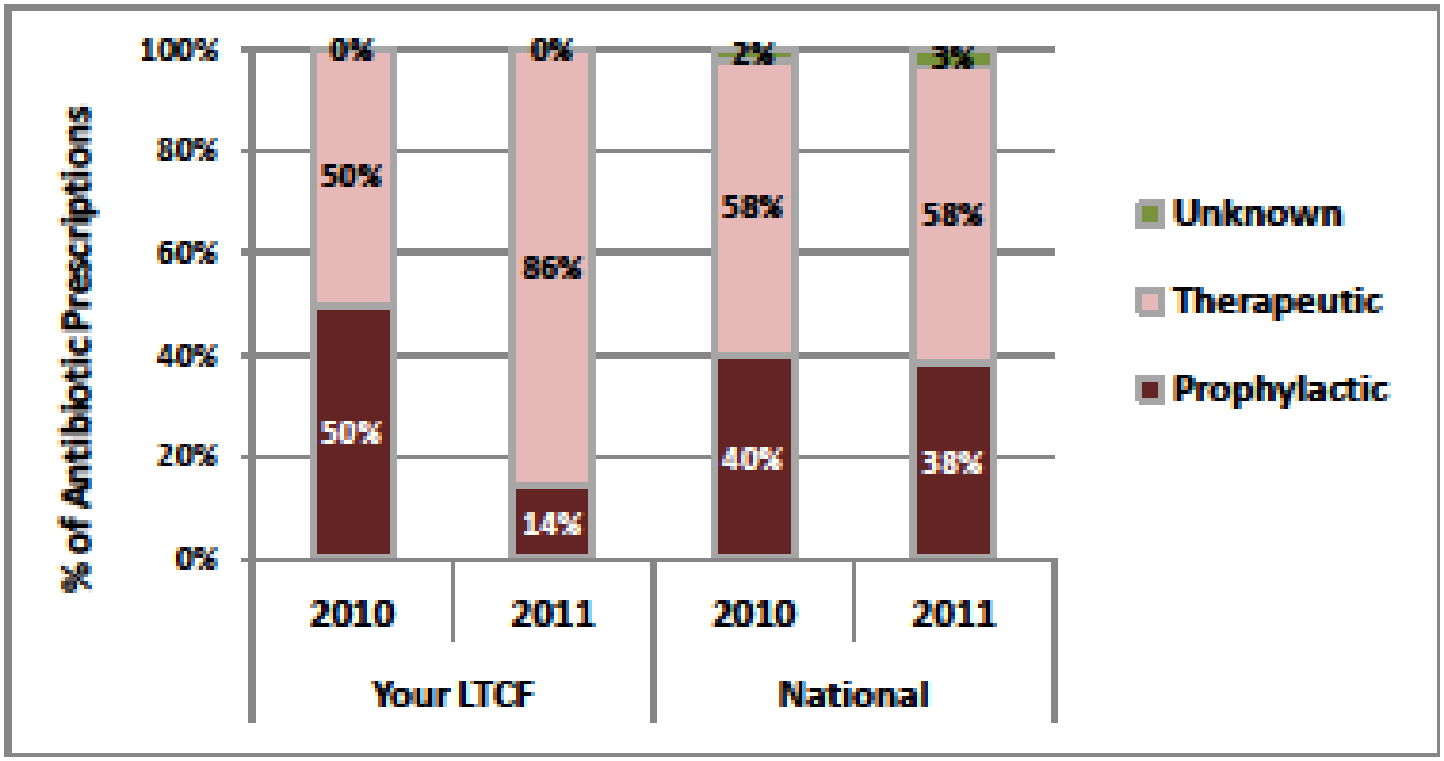
Day 3 Antibiotic Care Bundle

Clients Initials + DoB +/- PCN here please:

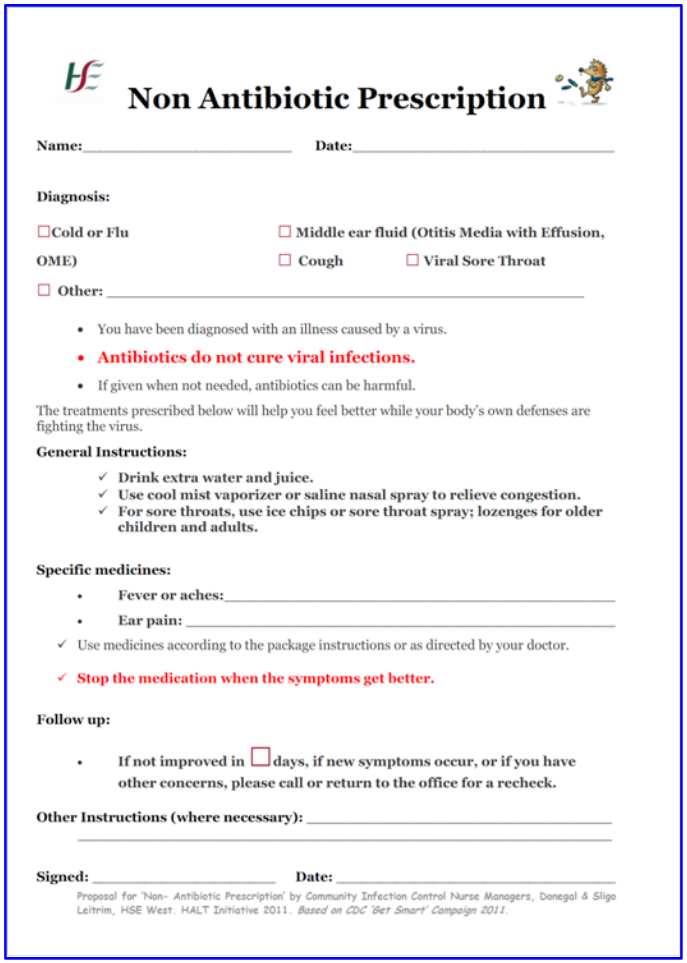
1. What was the Antibiotic prescribed for? And was it- **A.** To treat an infection (therapeutic) or **B.** To prevent an infection (prophylaxis)	Please state clinical reason (infection type) here, plus include A or B;
2. Was there an Antibiotic Plan, inclusive of:	Place information on this side:
✓ Antibiotic name →	
✓ Dose →	
✓ Route →	
✓ Interval administration →	
✓ Planned duration (incl. start date) →	
3. Was a diagnostic culture sample taken?	No ☐ Yes ☐
3.b. **If yes**: were the results reviewed and were any adaptations made to the antibiotic treatment e.g.	Please send a copy of the laboratory result with this form, where a sample was taken.
✓ Antibiotic streamlined from broad spectrum to narrow spectrum	Please state adaptations that were made here;
✓ Antibiotic prescription lengthened in duration	
✓ Antibiotic prescription shortened in duration	
✓ Antibiotic discontinued, where possible	
4. If the resident was initially started on IV/ IM antibiotics, was the possibility of switching to oral documented?	
Please return all forms, with copy of laboratory results where appropriate, to your local Community Infection Control Nurse Manager, thank you.	

'Day 3 Antimicrobial Care Bundle', formulated by Community Infection Control Nurse Managers, Donegal & Sligo/ Leitrim, HSE West. HALT Initiative 2011.

Local Improvements.....



Education of Staff, Residents and the general public



Non Antibiotic Prescription

Name:_____ **Date:**_____

Diagnosis:

☐ **Cold or Flu** ☐ **Middle ear fluid (Otitis Media with Effusion, OME)** ☐ **Cough** ☐ **Viral Sore Throat**

☐ **Other:** _____

- You have been diagnosed with an illness caused by a virus.
- **Antibiotics do not cure viral infections.**
- If given when not needed, antibiotics can be harmful.

The treatments prescribed below will help you feel better while your body's own defenses are fighting the virus.

General Instructions:

- ✓ **Drink extra water and juice.**
- ✓ **Use cool mist vaporizer or saline nasal spray to relieve congestion.**
- ✓ **For sore throats, use ice chips or sore throat spray; lozenges for older children and adults.**

Specific medicines:

- **Fever or aches:**_____
- **Ear pain:** _____

✓ Use medicines according to the package instructions or as directed by your doctor.

✓ **Stop the medication when the symptoms get better.**

Follow up:

- **If not improved in ☐ days, if new symptoms occur, or if you have other concerns, please call or return to the office for a recheck.**

Other Instructions (where necessary): _____

Signed: _____ **Date:** _____

Proposal for 'Non- Antibiotic Prescription' by Community Infection Control Nurse Managers, Donegal & Sligo Leitrim, HSE West. HALT Initiative 2011. Based on CDC 'Get Smart' Campaign 2011.

5. Better urinary catheter management

- **Prevalence survey of urinary devices and CAUTI & Urinary catheter management audit: developed catheter assessment and management record.**

Essential Elements of Care to Prevent Catheter Associated Urinary Tract Infection

Aim:

- Appropriate use of urinary catheter in accordance with clinical need
- To remove catheters as soon as possible
- To reduce the incidence of urinary catheter associated infection
- To provide individualised care for patients/residents with urinary catheters in accordance with best practice

Essential Care Elements:

- Check the clinical indication for the urinary catheter is documented and continuously assess the need for urinary catheter
- Check the catheter has been/is continuously connected to the drainage system
- Regularly empty the urinary drainage bag as a separate procedure
- Ensure the patient/resident is aware of their role in minimising the risk of developing a UTI/ and or ensure routine daily meatal hygiene is performed
- Perform hand hygiene and apply personal protective equipment (PPE) prior to each catheter care procedure, on procedure completion remove (PPE) and perform hand hygiene

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Urinary Catheter Assessment and Management Record

Affix Addressograph Here

Patients/Residents Name:

MRN:

DOB:__/__/____ Contact No.:_____

Hospital and Ward:

Reason for Catheterisation:

Liaison/Consultation with Medical Team/CNS Urology/AMP:
Name of Person Contacted:_____

Catheter Details:

Urethral: ? Supra-pubic: ?
Date of Initial Insertion: ____/____/____
Type:_____
Size:_____Ch

Balloon:_____ml Prefilled ? Yes ? No

Length: Standard ? Female ?
Leg Bag: Capacity_____ml

Leg Bag: Short ? Medium. ? .Long ?
Night Bag: Capacity_____ml
Catheter Stabilisation Device:_____

Catheter Valve: ? Yes ? No

Relevant Past Medical History:

Urology Assessment/Investigation:

Continence Assessment:

3 Day Frequency Volume Chart Completed:

Bladder Scan:
Date:__/__/____ Post Void Residual_____ml
Date:__/__/____ Post Void Residual_____ml
Date:__/__/____ Post Void Residual_____ml

Incontinence Product in use:

Trial of Voiding:
Date:__/__/____
Outcome:_____

Trial of Voiding:
Date:__/__/____
Outcome:_____

Have the risks and contra-indications of catherisation been explained to the patient/resident: ? Yes ? No

Has the patient/resident been educated on the management of their urinary catheter:
? Yes ? No

Have the alternatives to catherisation been discussed with the patient/resident/relative:
? Yes ? No

Has the patient/resident been provided with an information leaflet: ? Yes ? No

Date of Initial Assessment:

Assessment Carried Out By:
Signiture:_____
Print Name: _____

Catheter Change History

	Change 1	Change 2	Change 3	Change 4	Change 5	Change 6
Date Time						
Weeks In Situ						
Reason for Change Can trial without catheter be considered	Yes ? No ?	Yes ? No ?	Yes ? No ?	Yes ? No ?	Yes ? No ?	Yes ? No ?
Aseptic Non Touch Technique Meatal Cleansing Solution Used						
Lubricant Used						
Name and Type of Catheter	*Please Affix*	*Please Affix*	*Please Affix*	*Please Affix*	*Please Affix*	*Please Affix*
Size	*Adhesive*	*Adhesive*	*Adhesive*	*Adhesive*	*Adhesive*	*Adhesive*
Lot/Batch Number	*Catheter Label*	*Catheter Label*	*Catheter Label*	*Catheter Label*	*Catheter Label*	*Catheter Label*
Expiry Date	*Here*	*Here*	*Here*	*Here*	*Here*	*Here*
Volume Inserted Into Balloon Comments – encrustation, trauma etc						
Signature						
Date of Next Planned Catheter Change						

6. Focus on vaccination

- **‘ big improvements in staff flu vaccination’**

- **‘Working with IT to devise a ‘vaccine database’ for all residential clients across all community services’**

7. Up skilling staff

- **Annual foundation course in infection control in Dublin and Cork aimed at long term care**
- **Education of staff on site including specifically targeting GPs**
- **‘Staff supported to do MSc in infection control’**

Still need to improve

- **Antibiotic prevalence still has not changed**
- **Prophylactic antimicrobials (UTI) still an issue**
- **Need to protect education/surveillance/audit in resource challenging times**

- **HALT-2 2013!**

How to link PPS data to prevention?

- Local ‘champions’ & multidisciplinary national steering committee key
- Plain language simple feedback reports to LTCF so they can use for education/presentations
- Focus on action/recommendations from data
- Support local staff & share good practice
- Highlight achievements (e.g. DoH Patient Safety Conference)

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HALT steering group 2011

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