

Transmit

Health protection service bulletin

December 2017: Issue 4

Foreword

In this edition of Transmit, we have focussed on antimicrobial resistance and antibiotic awareness. We also highlight the Point Prevalence Survey which took place across care homes in N. Ireland during autumn 2017.

The first article describes work done by the PHA and the Centre for Excellence for Public Health along with STEM Ambassador Hub to provide information to school children about antimicrobial resistance. This included an event in W5 during World Antibiotic Awareness week in November to encourage people to become Antibiotic Guardians. The children received an Antibiotic Passport as they worked through the event to record their learning about bacteria, viruses and fungi. They also learned about good and bad microbes. The success of the event was due to the contribution of the volunteers from PHA, HSCB and the Centre of Excellence and the keen participation of the children who took part.

The final article describes the challenges associated with managing a cluster of Meningococcal disease in a High School during Storm Ophelia.

I would like to wish all our readers a Merry Christmas and good health in 2018.

Lorraine Doherty

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Engaging children & their families with Antibiotic Awareness through STEM and e-Bug

As part of the Public Health Agency's (PHA) strategy of working with the public to increase awareness of the risks of antimicrobial resistance, PHA and Centre from Excellence for Public Health Northern Ireland have partnered with the STEM Ambassador Hub, which promotes Science, Technology, Engineering and Maths education and is based at W5, to deliver information sessions to primary school children on antimicrobial resistance.

The STEM Ambassador Hub gives people working in science, technology, engineering and mathematics the opportunity to engage with young people and to inspire them to learn more about these subjects.

Two STEM ambassadors from PHA and two from Centre from Excellence for Public Health took part in a school visit to Templepatrick Primary School on the 28th November. Using the e-Bugs material, they delivered a one-hour session with two Primary 6 classes, teaching the children about different microbes and how microbes can be harmful. The children designed microbes using play-dough and talked about the illnesses that can be caused by these harmful microbes.

A second session will be held with the Primary 6 children in the middle of December to further develop their knowledge by teaching them about using antibiotics correctly and how antimicrobial resistance can develop.

With the success of the e-Bug material evident, PHA is working with CCEA to map the e-Bug resources to the Northern Ireland curriculum and will be working with Public Health England (which developed e-Bug) to train the teachers in how to deliver the material with the aim that this resource will be available for teacher's to use to help teach children about microbes and antibiotic use. For further information on e-Bug, visit <http://www.e-bug.eu/>.



Dr B Clarke
Health Protection LAT Doctor

‘Become an Antibiotic Guardian’ Event at W5

On Saturday 18th November, as part of World Antibiotic Awareness Week and European Antibiotic Awareness Day, PHA in conjunction with the Centre of Excellence for Public Health Northern Ireland and STEM held a public engagement event at W5 Belfast entitled ‘Become an Antibiotic Guardian’. Antimicrobial resistance is an emerging worldwide threat and was the recent focus of the Chief Medical Officer’s 2016/17 annual report with Northern Ireland having the highest antibiotic prescribing in the U.K.

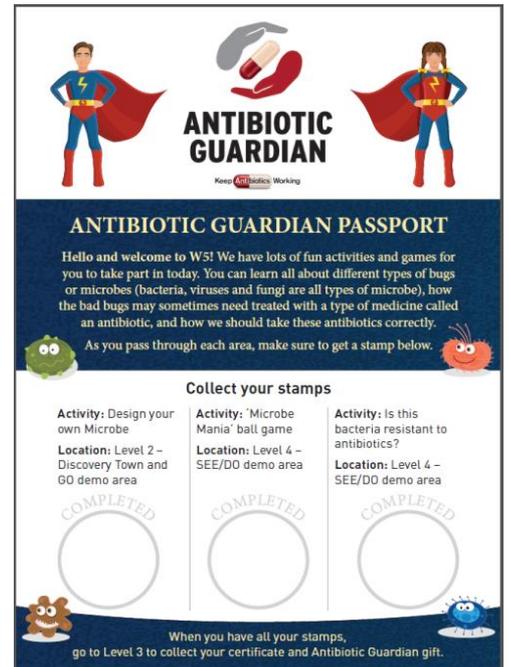
To try and combat this growing problem and with children being a large population of antibiotic consumers, we recognise the need to engage with this community to educate them on the importance of appropriate antimicrobial use and to help re-inforce their important role in preventing an increase in antimicrobial resistance.

The Antibiotic Guardian event invited children and their families on a journey through W5 – the children received an Antibiotic Guardian Passport which they had to complete by attending the different activities and demonstrations on each level of W5.

They discovered what microbes are and the difference between bacteria, fungi and viruses and were tasked with designing their own microbes which could be ‘good’ or bad’.

A balloon demonstration explained how resistant bacteria aren’t able to be penetrated by antibiotics and a UV germ light visually demonstrated to the children how these bacteria can be spread by not washing our hands correctly. Tablets at each activity had various games from the E-bug resources and the Longitude Prize *Superbugs* game which demonstrated how antimicrobial resistance can develop.

At the end of their Antibiotic Guardian journey, the children received a certificate for taking part in the event with some friendly antibiotic bugs and colouring pencil freebies too!





Eighteen volunteers from PHA, Health and Social Care Board and Centre of Excellence for Public Health Northern Ireland took part in delivering the activities and helped to make the event a success.

Feedback from the event was extremely positive - 89% of those who completed our evaluation forms would attend this event again and felt that the information provided had given them a better understanding of when antibiotics are necessary.

For further information on e-Bug, visit <http://www.e-bug.eu/> and a short video of

the W5 event can be viewed on the PHA Twitter, Facebook and YouTube accounts.

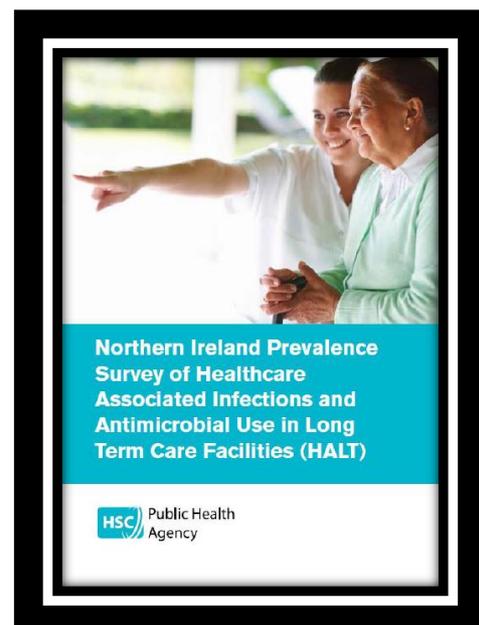
Dr B Clarke
Health Protection LAT Doctor

Point Prevalence Survey 2017 – Healthcare-Associated Infections and Antimicrobial Use in Long Term Care Facilities (HALT 2017) in Northern Ireland

Healthcare-associated infections (HCAI) and the consequences of increasing rates of antimicrobial resistance are potentially serious health threats for elderly people, including those living in long-term care facilities (LTCFs). Residents in Care Homes have complicated underlying medical conditions and are from older age groups which have made them susceptible to infection. Good infection prevention and control practices and antimicrobial stewardship is essential in all healthcare settings to prevent HCAI and the emergence of antimicrobial resistance.

The 2017 HALT survey was coordinated by the Public Health Agency and took place across Care Homes in Northern Ireland in autumn 2017. The aims and objectives of the HALT 2017 survey were to:

1. Evaluate the prevalence of HCAIs and antimicrobial use in LTCFs
2. Describe the related infection prevention & control and antimicrobial stewardship practices and resources in LTCFs.



This last HALT survey was conducted during May/June 2013. Forty two Care Home facilities participated in this survey and 1503 residents were surveyed. On the day of survey, the prevalence of HCAI in Nursing homes was 5.5% and varied across homes from 0% to 25%. The prevalence of antimicrobial use in Nursing homes was 7.3% (95% CI 6.6-8.1) and ranged from 0% to 27.8%.

In 2017 a total of 70 Care Home facilities participated in HALT across Northern Ireland and over 3600 residents were surveyed. The data emerging from HALT 2017 will be used to:

- quantify the prevalence of infections and antimicrobial use in individual LTCFs and across the care home sector in general;
- identify good practice in infection prevention and control (IPC) and antimicrobial stewardship to facilitate shared learning and further improvement;
- identify needs for intervention, training and/or additional IPC and antimicrobial stewardship resources, and
- foster and enhance a focus on the safety and quality of care for residents in the LTCF and the ageing population in general.

Results of the 2017 HALT survey will be available in Spring 2018.

Ms C McGeary
Senior Infection Control Nurse

Cluster of Meningococcal Disease in a High School

During the peak of Storm Ophelia (October 2017), the Public Health Agency (PHA) Health Protection Directorate investigated and managed a cluster of meningococcal group B disease in secondary school aged children attending the same high school.

Meningococcal disease is caused by the bacterium *Neisseria meningitidis*. There are 12 known capsular groups including A, B, C, W and Y. In Northern Ireland there has been a downward trend in meningococcal disease over the last decade, with serotype B the predominant strain. In September 2015, the MenB vaccine (Bexsero®) was introduced into the routine childhood immunisation schedule at 2, 4 and 12 months of age. Since introduction of Bexsero, early observations suggest a reduction in the number of serogroup B cases.

On 5th October the PHA Duty Room was notified of a probable case of meningococcal disease in an 11 year old female. A probable case of meningococcal disease is a clinical diagnosis of invasive meningococcal disease where the physician, microbiologist and public health consultant agrees that meningococcal infection is the most likely diagnosis. Chemoprophylaxis was arranged for household contacts in order to prevent onward transmission and written information was provided for those at risk and to primary care. Microbiological testing subsequently confirmed the case to be serotype B meningococcus.

On 12th October the Duty Room was notified of a second probable case in an 11 year old female (one week later). As before, chemoprophylaxis was arranged for household contacts and information provided. Information revealed that the two cases attended the same class of a local high school.

The definition of a cluster of meningococcal disease is *'two or more confirmed or probable cases of meningococcal disease in same pre-school group, school, or college/university within a four week period'*. On 13th October a cluster of meningococcal disease was declared and an Outbreak Control Team (OCT) was convened on the same day to risk assess and implement control measures. In educational settings, once a second case has occurred, the risk of a third case may be as high as 30-50% with the risk being highest in the week after the second case. Letters were sent to out of hours GP and emergency departments to notify them of the cluster and in conjunction with the school headmaster, communication was made with the wider school group. A risk assessment was carried out and thirty-seven pupils and seventeen teachers were identified at higher risk of meningococcal transmission because they spent all day together in one classroom with the cases. There were no other extracurricular or social links between the cases. Arrangements were made to offer chemoprophylaxis and two doses of Bexsero vaccine one month apart to these contacts.

It can be logistically challenging to administer chemoprophylaxis and information to a risk group, and Storm Ophelia made this more complicated. As the school was closed communication with parents of pupils was carried out by the headmaster through the school texting service. Arrangements were initially made with Trust school nursing teams and pharmacy to attend the school on 17th October. However, due to adverse weather conditions, the school remained closed. As an alternative, the next day public health nursing and medical staff spoke to parents of pupils and the teachers by telephone.

The OCT is extremely grateful to local GPs in assisting public health with the prompt administration of chemoprophylaxis on the day. Arrangements were also made for the first dose of Men B vaccine to be administered the same week.

Within one week of declaring the cluster, the PHA with the assistance of primary care, identified, phoned and administered chemoprophylaxis and the first dose of MenB vaccine to all contacts. Microbiological results subsequently confirmed both cases as indistinguishable serotype B meningococcus. There have been no further cases of meningococcal disease linked to the cluster.

Please report any confirmed or suspected cases of meningococcal disease to the PHA Duty Room or Out-of-hours Public Health on-call through the usual reporting arrangements.

Reference

Guidance for public health management of meningococcal disease in the UK. Health Protection Agency Meningococcus and Haemophilus Forum. March 2012

Dr J Mack
ST2, Public Health Registrar

PHA Web Links to Surveillance Data

Surveillance data on the main topics of Public Health interest are available through the following web links:

Notifications of Infectious Diseases:

<http://www.publichealth.hscni.net/directorate-public-health/health-protection/notifications-infectious-diseases>

Group B Streptococcus:

<http://www.publichealth.hscni.net/directorate-public-health/health-protection/group-b-streptococcus>

Vaccination coverage:

<http://www.publichealthagency.org/directorate-public-health/health-protection/vaccination-coverage>

Avian Influenza:

<http://www.publichealthagency.org/directorate-public-health/health-protection/avian-influenza>

Brucellosis:

<http://www.publichealthagency.org/directorate-public-health/health-protection/brucellosis-human>

Gastrointestinal infections:

<http://www.publichealthagency.org/directorate-public-health/health-protection/gastrointestinal-infections>

Hepatitis:

<http://www.publichealthagency.org/directorate-public-health/hepatitis>

Healthcare Associated Infections:

<http://www.publichealthagency.org/directorate-public-health/health-protection/healthcare-associated-infections>

Meningococcal disease:

<http://www.publichealthagency.org/directorate-public-health/health-protection/meningococcal-disease>

Respiratory infections:

<http://www.publichealthagency.org/directorate-public-health/health-protection/respiratory-infections>

Sexually transmitted infections:

<http://www.publichealthagency.org/directorate-public-health/health-protection/sexually-transmitted-infections>

Tuberculosis:

<http://www.publichealthagency.org/directorate-public-health/health-protection/tuberculosis>

Department of Health Web Links

CMO Letters and Urgent Communications relevant to Health Protection, and issued in the three months preceding publication of this edition of Transmit, are accessible through the following web links:

Carbon Monoxide Poisoning

25 October 2017

<https://www.health-ni.gov.uk/sites/default/files/publications/health/hss-md-24-2017.pdf>

Hepatitis B

Health Clearance and Management

16 November 2017

<https://www.health-ni.gov.uk/sites/default/files/publications/health/hss-md-28-2017.pdf>

Pneumococcal Polysaccharide Vaccine

25 October 2017

<https://www.health-ni.gov.uk/sites/default/files/publications/health/hss-md-23-2017.pdf>

Safe Transfusion Practice

13 November 2017

<https://www.health-ni.gov.uk/sites/default/files/publications/health/hss-md-27-2017.pdf>

Seasonal Flu

Flu Vaccination for Front Line Care Home Staff

2 November 2017

<https://www.health-ni.gov.uk/sites/default/files/publications/health/hss-md-25-2017.pdf>

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or articles that you would like to see included.