



Case Reports

Tetanus

In May, a 71 year old man sustained a dirty wound of his elbow having fallen on a concrete farmyard surface. Three days later he attended a hospital Accident and Emergency Department with swelling and pitting oedema of his arm. He was admitted with a diagnosis of cellulitis and treatment commenced with oral clindamycin. Forty eight hours later and 5 days after the initial injury clinical tetanus was diagnosed when he was having difficulty opening his mouth due to muscle spasm. Despite intensive care support, three doses of human tetanus immunoglobulin and wound debridement the patient died 17 days after his fall. He had no history of having received tetanus immunisation.

Prior to this incident there have been two notifications of tetanus in Northern Ireland since 1984. One case was reported in 1994 and the other in 1997. Between 1984 and 1995 there were 145 cases of tetanus in England and Wales with 53% of cases aged over 65 years¹. Effective protection against tetanus is provided by active immunisation which was introduced nationally from 1961 though it had been available for many years to the Armed Forces. Thus adults most at risk are the elderly who would not have received immunisation as an infant. This latest case highlights the importance of ensuring elderly individuals have received tetanus immunisation.

Reference

1 Immunisation against Infectious Disease. 1996 UK Health Departments.

(contributed by Dr B Morgan, CCDC, EHSSB)

Typhoid

An eight year old child presented to a hospital Accident and Emergency Department in May with a history of vomiting, nausea, abdominal pain, constipation and intermittent pyrexial episodes. He had returned 10 days previously from a two week visit to India with his parents and two siblings. *Salmonella typhi* was isolated from blood cultures. He initially received intravenous ceftriaxone and then oral ciprofloxacin. The household contacts did not belong to any of the high risk groups for spread of infection and their stool samples were negative.

Prior to this most recent report there have been five notifications of typhoid

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in Northern Ireland since 1984 (four since 1996).

(contributed by Dr B Morgan, CCDC, EHSSB)

Necrotising fasciitis

There has been a recent death from necrotising fasciitis in Northern Ireland. The case involved a 35 year old female who was involved in a road traffic accident. She sustained injury to her chest and arm 5 days before onset of illness and died from haemolytic streptococcal Group A infection.

E. coli O 157

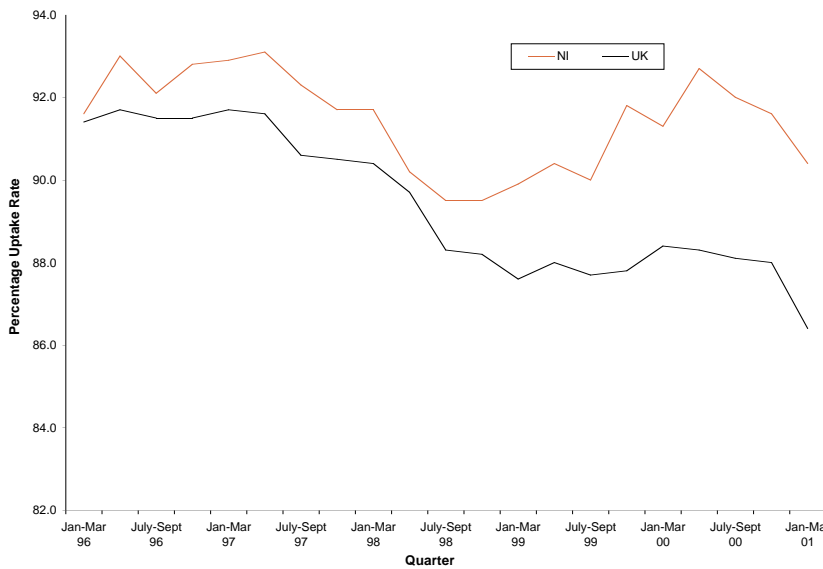
The Eastern Health and Social Services Board is currently investigating an outbreak of illness in west Belfast associated with the organism *E.coli* O157.

Enhanced MMR Vaccination Uptake Surveillance

The latest set of coverage statistics for Northern Ireland (COVER/Korner) is now available for the first quarter of 2001. The detailed analysis by Board and by age is described later in this report. MMR vaccination uptake at 24 months is currently 90.4% which is a decrease of 1.2 percentage points compared with the previous quarterly cohort.

As well as using the quarterly COVER statistics which monitor MMR uptake at 24 months of age, CCDCs are undertaking additional monthly monitoring of MMR vaccine uptake in order to identify any decline in uptake rates as early as possible.

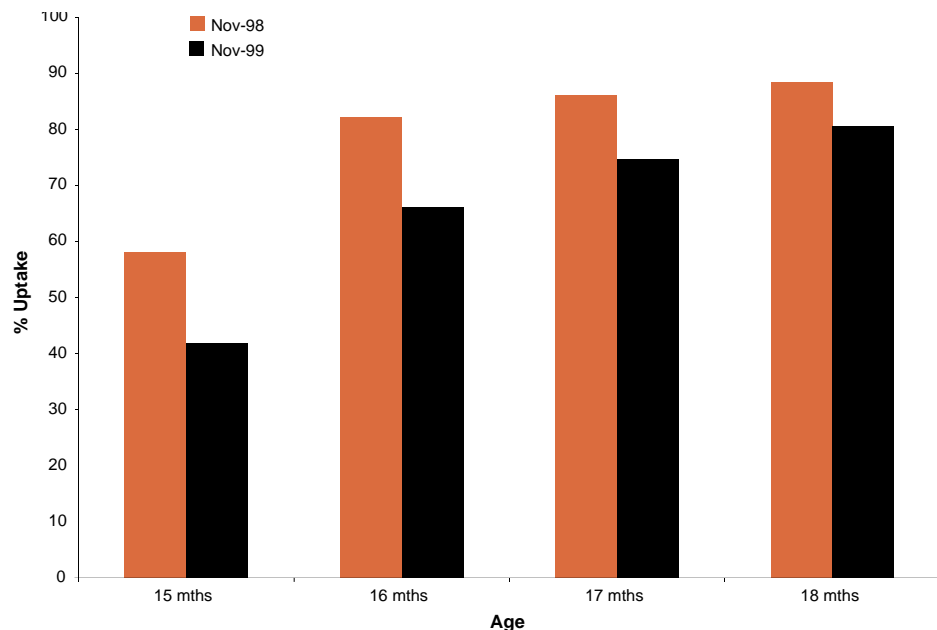
Figure 1: MMR Vaccination Uptake Rate at 24 months, NI and UK, 1996-2001



Enhanced monitoring of MMR vaccination uptake rates in those aged from 15 months show a decrease in the number of children receiving vaccination compared to a similar cohort 12 months earlier. For example, when comparing the November 1998 cohort with the November 1999 cohort, there was a difference of 16 percentage points at 15 months, but this has narrowed to 8 percentage points at 18 months (Figure 2).

Initiatives are underway in each Board, as outlined in Communicable Diseases Monthly Report Vol 10 No 3, to further promote MMR vaccine uptake.

Figure 2: Enhanced MMR Vaccine Uptake Surveillance Birth Cohort November 1998 vs November 1999



Efficient isolation of campylobacters from stools: what are we missing?

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The past three decades have witnessed the rise of *Campylobacter enteritis* in man from virtual obscurity to notoriety, with present isolation rates superseding those of other enteric pathogens such as *Salmonella* spp. and *Shigella* spp. in most developed countries. Unlike the salmonellae and other enteric pathogens, the majority (ca. 99%) of clinical reports concerning *Campylobacter* are sporadic and *Campylobacter enteritis* outbreaks are rare. Although campylobacters are not completely new to applied bacteriology, they have largely evaded traditional techniques used for the isolation of pure cultures, apart from single isolations that were free from competing organisms. Until the development of a selective medium by Skirrow [1, 2], these organisms were known mainly by veterinarians as animal pathogens which were responsible for a wide variety of disorders in cattle, sheep and pigs [3]. Since the development of more sophisticated isolation techniques, the true disease potential of these organisms has become apparent and today campylobacteriosis is regarded as a zoonosis, which is capable of being transmitted to man by a wide range of domestic animals [3].

There have been several reports describing the inability of selective media to recover certain *Campylobacter* spp., especially the catalase-weak or negative organisms, from faecal specimens

[4, 5]. In addition, there are significant epidemiological differences between rates of infection with campylobacters between Northern Ireland and the rest of the UK, as Northern Ireland has a significantly lower rate of infection in comparison to England and Wales, as previously described [6]. However no data exists with regard to the rates of isolation of the atypical campylobacters from stool specimens locally. Therefore, it was the aim of this study to evaluate the efficacy of recovery of clinically significant campylobacters from faecal specimens in Northern Ireland, employing direct plating and differential filtration techniques.

One hundred and eighty six faecal specimens from an equal number of patients with acute gastroenteritis were submitted to the Northern Ireland Public Health Laboratory, Belfast City Hospital, as part of the routine diagnostic service for general practitioners in the community, as well as from hospital wards and these faecal specimens were examined for the presence *Campylobacter* spp. over the peak seasonal period May - June. Faecal specimens were examined within 24h of receipt. Two isolation methods were compared for their efficacy in recovering viable organisms, i.e. (a) direct plating of faeces onto two selective media and (b) differential filtration on non-selective media. For both treatments, 0.5g faeces

was emulsified in 0.1% [w/v] peptone water. For direct plating, 10₋₁ of faecal suspension was inoculated onto both modified CCDA agar (Oxoid Ltd, Dorset, UK), containing cefoperazone (32mg/l) and amphotericin B (10mg/l) and also onto Preston selective medium (Oxoid Ltd, UK), containing rifampicin (10mg/l), trimethoprim (10mg/l), cycloheximide (100mg/l) and polymyxin B (5,000 IU/l). For recovery by differential filtration, 300₋₁ faecal suspension was passively filtered through a 0.65_{-m} cellulose triacetate membrane (Millipore Ltd., UK), as previously described [7]. In both treatments, plates were incubated in microaerophilic conditions (5% [v/v] O₂) and incubated at 37°C for 2-5 days. Presumptive positive colonies were further characterised as previously described [8].

By direct plating, 17/186 (9.14%) faecal specimens were positive, whereas 22/186 (11.83%) specimens were positive by the differential filtration method using non-selective media. The modified CCDA medium failed to culture seven specimens, which was positive for *C. jejuni* (n=6) and *Helicobacter fennelliae* (n=1), formerly *C. fennelliae* and the Preston selective did not detect campylobacters in four specimens, including *C. jejuni* (n=3) and *H. fennelliae* (n=1). Employment of both media together missed three specimens, which were positive by filtration.

Overall this study demonstrated that non-thermophilic campylobacters were not commonly isolated from faeces and that employment of a combination of selective media were superior to employment of a sole selective agar and that use of differential filtration with a non-selective medium was

superior to direct plating on selective agars. Surprisingly, only one atypical organism, *H. fennelliae*, was isolated from 186 patients and that direct plating failed to detect up to six strains of *C. jejuni*. Likewise to our study, in England and Wales, the IID study [9] noted remarkably few cases of other “non-thermophilic” organisms, including *C. upsaliensis*, *C. fetus*, *C. hyointestinalis* and *C. lanienae* [10], whenever a filtration method was employed. The study however did not comment on the number of *C. jejuni* strains missed by selective plating, which was significant in the N. Ireland study. Given that approximately 1000 laboratory reports for campylobacters from faeces in Northern Ireland are currently received by CDSC (Northern Ireland) annually, extrapolation of recovery rates based on this study would equate to approximately 27 cases being undetected in the laboratory.

Moore and Murphy [11] previously demonstrated that employment of selective agents in laboratory media may result in the failure to recover sensitive strains. In the present study, the inability of the selective media employed to recover all strains may be due to the sensitivity of these wild-type *C. jejuni* and *H. fennelliae* to the antibiotics incorporated within the selective formulations.

Presently in Northern Ireland, most clinically relevant campylobacters from faeces are being isolated on either Preston or Skirrow’s selective agar. Two laboratories are using Preston’s medium, six laboratories are using Skirrow’s medium and an additional laboratory is using selective enrichment with Preston’s medium and no laboratories are routinely employing filtration. Hence, this may result in the under-reporting of approximately 3% of antibiotic sensitive *C. jejuni* isolates, as well as the “non-thermophilic” campylobacters. Furthermore, although no specific

selective medium is detailed in the PHLS Standard Operating Procedures (SOP) for faeces [12], this method directs that selective media should be incubated at 35-37°C, whereas the SOP at NIPHL states that selective media should be incubated at 42°C, which may have an effect on the positive obtained.

Although the employment of an additional selective medium and filtration will improve the overall recovery rate of campylobacters from faecal specimens, the adoption of such additional protocols has significant implications for both the management and resources of routine faecal microbiology, especially space and labour requirements. For example, for a routine laboratory examining an average 25 faecal specimens per day, this would equate to an additional space requirement of approximately 2394 cm² bench space, and would require an additional 1 hour 45 minutes per day to accomplish by one person. As it may not be cost effective to introduce double media and/or filtration protocols as part of the routine diagnostic work-up of faecal specimens for

campylobacters, employment of total pathogen screening using multiplex PCR may prove a sensitive and specific alternative, where only positive stools are subsequently cultured, employing extended culture techniques when indicated.

We therefore conclude that differential filtration of faecal specimens for the detection of campylobacters should be included as a additional algorithm following negative results by direct plating, particularly in AIDS/HIV positive patients, in patients with haematological malignancies and oncology patients undergoing immunosuppressive chemotherapy and in areas where atypical campylobacter strains may be of epidemiological significance, including homosexual men.

Acknowledgements

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Guidance issued for local reporting of cases of Creutzfeldt-Jakob Disease (CJD)

Guidance has been issued for the local reporting of cases of Creutzfeldt-Jakob Disease (CJD). The guidance has been prepared jointly by the UK Health Departments, the Public Health Medicine Environment Group (PHMEG), the National Creutzfeldt-Jakob Disease Surveillance Unit (NCJDSU), and the PHLS.

Clinicians caring for cases of both sporadic and variant CJD will be asked to inform the local Consultant in Communicable Disease Control (CCDC) and to state whether the cases are classified as possible, probable or definite. The guidance also describes the actions to be taken by CCDCs on being informed about a resident with possible, probable, or definite CJD.

The NCJDSU is sending the guidance to all neurologists in the UK and the PHMEG is cascading the guidance to all its members. The guidance has already been sent to regional epidemiologists and the CJD Policy Unit of the Department of Health is forwarding it to other relevant national organisations. The guidance will be posted on the NCJDSU website at www.cjd.ed.ac.uk.

A number of other guidance documents on CJD already exist www.doh.gov.uk/cjd.cjd_pubs.htm and guidance on the investigation

of geographically associated cases of CJD will be available soon. The CJD incidents Panel at the Department of Health (tel: 020 7972 5324) has been established to provide advice on the management

of the possible risk of transmission resulting from medical or dental procedures in people subsequently diagnosed with CJD.

These guidance documents will be revised as knowledge accrues and experience in managing particular situations increases. The Department of Health, Social Services and Public Safety is hosting a conference on vCJD in September.

CoSurv Update

CDSC Colindale has now released the CoSurv laboratory module, LabMod3. It will undergo testing at CDSC NI before being piloted in the Antrim Area Laboratory and Belfast Link Labs.

The recruitment of a Technical Support Officer by CDSC NI is currently being processed. The postholder will assume responsibility for the roll-out and support of the CoSurv Laboratory and District Modules across Northern Ireland.

We are very appreciative for the co-operation of laboratories in sending reports to CDSC NI, and

acknowledge the difficulties involved in paper reporting. We are optimistic that the appointment of the Technical Support Officer will expedite the roll-out of the software. For further information regarding the CoSurv database modules, please contact Audrey Lynch, Information Manager at 028 9026 3765 or email alynch@phls.org.uk.

Vaccination Coverage Statistics for Children in Northern Ireland

The vaccination coverage statistics for Northern Ireland (COVER/Körner Programme) are now available for the first quarter of 2001. The statistics give detailed coverage data and numbers of children in the four Boards in Northern Ireland. The tables below show the coverage data for Northern Ireland and the United Kingdom as a whole by the first and second birthday.

Completed Primary Immunisations by 12 months and 24 months COVER/Körner: Data Northern Ireland (Jan – Mar 2001)

Board	No of children in cohort	% Coverage at 12 months							No of children in cohort	% Coverage at 24 months						
		Dip3	Tet3	Pol3	Pert3	Hib3	MMR	MenC		Dip3	Tet3	Pol3	Pert3	Hib3	MMR	MenC
Eastern	2044	92.9	93.0	92.7	92.3	92.9	0.0	90.4	2071	95.8	95.8	95.6	94.7	95.9	87.6	89.0
Northern	1308	95.6	95.6	95.6	95.2	95.6	0.2	n/a	1414	98.2	98.2	98.2	97.5	98.2	93.3	n/a
Southern	1077	96.1	96.1	96.3	95.5	96.5	0.0	95.7	1158	96.7	96.7	96.8	95.3	97.1	92.7	88.3
Western	953	95.5	95.5	95.5	94.8	95.5	0.2	93.3	1036	96.5	96.6	96.6	95.2	96.3	89.5	92.2
NI Total	5382	94.6	94.7	94.6	94.1	94.7	0.1	92.5	5679	96.7	96.8	96.7	95.6	96.8	90.4	89.6

Compared with the previous quarter uptake rate for all vaccines at 12 months show an increase of between 0.5 and 0.8 percentage points. At 24 months Dip3, Tet3, Pol3 and Hib3 show an increase, Pert3 remains steady but MMR has dropped 1.2 percentage points to 90.4%. This is the first time MenC data has been presented for Northern Ireland; data was submitted by three of the four Health Boards.

Country	% Coverage at 12 months				% Coverage at 24 months				
	Dip3	Pert3	Hib3	MenC	Dip3	Pert3	Hib3	MenC	MMR
England	90.6	90.0	90.4	88.2	94.1	93.0	93.7	83.8	85.8
Wales	94.8	93.4	94.6	94.0	96.5	94.6	96.4	91.4	87.2
Scotland	94.1	93.4	94.0	93.3	97.3	96.5	97.2	92.3	90.7
UK	91.3	90.6	91.1	89.1	94.5	93.5	94.3	85.1	86.4

Vaccine Coverage at 5 years (Jan – Mar 2001)

Board	Dip3	Pert3	Hib3	Dip4	MMR1	MMR2	MenC
Eastern	97.5	95.0	96.5	86.2	96.3	82.4	85.9
Northern	98.3	96.9	97.6	91.9	97.6	91.0	
Southern	97.8	96.0	97.2	89.1	97.8	90.9	89.7
Western	97.9	95.8	97.3	91.6	97.5	86.6	93.9

NI	97.8	95.8	97.0	89.2	97.1	87.0	88.9
England	94.6	93.1	93.7	81.1	92.4	75.5	78.3
Wales	96.3	93.2	95.7	82.0	93.6	74.4	83.6
Scotland	Not available						
England, Wales & NI	94.8	93.2	93.6	81.5	92.7	75.9	79.0

Compared with last quarter's data, only MMR1 exhibits a decrease (0.1 percentage points). MMR2 uptake rate has increased by 1.6 percentage points. Coverage in Northern Ireland compares favourably with the rest of the United Kingdom.

Laboratory Reports

Foodborne and Gastro-intestinal Tract Infections: Laboratory Reports, Weeks 17-20

	Number of Reports received		Cumulative total	
	01/17-20	00/17-20	01/01-20	00/01-20
<i>Campylobacter</i>	98	110	270	371
<i>C. difficile</i> Toxin	30	51	146	154
<i>E. coli</i> O157	0	4	1	15
<i>Salmonella</i> total	23	19	89	81
<i>S. enteritidis</i> (PT 4)	10 (6)	9 (4)	46 (32)	40 (33)
<i>S. typhimurium</i> (DT 104)	3 (1)	7 (3)	16 (4)	27 (11)
<i>Salmonella</i> other serotypes	10	3	27	14
<i>Shigella</i>	4	1	4	6
<i>Cryptosporidium</i>	124	101	293	146
<i>Giardia</i>	1	1	5	4
Adenovirus (faeces)	7	5	55	43
Enterovirus (faeces)	2	0	7	17
Rotavirus	78	89	237	335
SRSV	3	4	51	44

Salmonella (other than *enteritidis* or *typhimurium*):

<i>S. bareilly</i>	1
<i>S. bredeney</i>	1
<i>S. hidalgo</i>	1
<i>S. muenchen</i>	1
<i>S. rostock</i>	1
<i>Salmonella sp</i>	5

Comment:

The following were associated with foreign travel:

Male, 8 years, *Cryptosporidium*, Tenerife; male, 8 years, *Salmonella enteritidis*, Tenerife; female, 45 years, *Salmonella bareilly*, Goa.

Cumulative reports of *Campylobacter* to week 20 of 2001 are showing a 27% reduction compared to the same period last year. Reports of *E. coli* during 2001 remain markedly less than during 2000. There have been 89 reports of *Salmonella* to week 20 of 2001, compared to 81 for the same period of 2000 (10% increase) and 84 during weeks 1-20 of 1999.

Mycobacteria: Laboratory Reports Weeks 09-20

	Number of Reports received			Cumulative total	
	01/09-12	01/13-16	01/17-20	01/01-20	00/01-20
<i>M. avium-intracellular</i> group	0	3	1	6	10
<i>M. chelonae</i>	0	0	1	1	2
<i>M. kansasii</i>	1	0	1	3	2
<i>M. malmoense</i>	0	0	0	0	3
<i>M. marinum</i>	0	1	0	1	1
<i>M. tuberculosis</i>	4	2	0	11	13
Total	5	6	3	22	31

Comment:

There were four reports of *M. avium-intracellular* during weeks 9-20 of 2001. Two were isolated from sputum, one from tissue and one from bone. All four patients were female with ages ranging from 2 to 57 years.

There was one report *M. chelonae* during this twelve week period

isolated from sputum. The patient was male aged 73 years.

There were two reports of *M. kansasii*. The organism was isolated from gastric aspirate and sputum. Both patients were male aged 6 and 80 years.

There was one report of *M. marinum* during this twelve week reporting period. The patient

was male, aged 30 years; the organism was isolated from skin/wound. This is the first report of *M. marinum* to date in 2001.

There were six reports of *M. tuberculosis* during weeks 9-20 of 2001. Four were isolated from sputum, one was from pus and one was from lower respiratory tract. Three patients were male and three were female. Ages ranged from 38 to 81 years.

Staphylococcus aureus bacteraemias: Laboratory Reports, Weeks 01-20

Total reports of <i>S. aureus</i>		Reports of MRSA (%)		Reports of MSSA (%)	
01/01-20	00/01-20	01/01-20	00/01-20	01/01-20	00/01-20
133	116*	64 (48%)	37* (32%)	69 (52%)	79 (68%)

*includes 1 isolate from CSF

Annual Conference on the Epidemiology and Control of Infectious Diseases and Environmental Hazards

Monday 5 November - Wednesday 7 November 2001, Dublin

This year's annual conference will, for the first time, be held in Dublin rather than at Colindale. The conference is aimed primarily at consultants in communicable disease control, but will also interest medical microbiologists, and environmental health officers and nursing professionals involved in the control of communicable disease and environmental hazards. The conference will address important public health issues that

have arisen in the past year and provide fresh perspectives on established areas of disease prevention and control. There will be sessions on: antimicrobial resistance and hospital acquired infection; immunisation issues; social inequalities and infectious disease e.g. prisons, immigrants and homelessness; environmental hazards; and control and prevention policies: evidence and effectiveness.

Abstracts are invited for papers and posters on the themes to be covered in the above sessions. Further details can be obtained from Vivienne Fitch at PHLS/CDSC, 61 Colindale Ave, London NW9 5EQ tel: 020 8200 6868 ext 4569 email: vfitch@phls.org.uk.

Abstracts should be sent by email to V Fitch by 5 September 2001

Oral Sex and the Risk of HIV and other Sexually Transmitted Infection (STI) Transmission

The UK Chief Medical Officers' Expert Advisory Group on AIDS (EAGA) 'Review of the Evidence on Risk of HIV Transmission associated with Oral Sex' concluded that the risk of HIV transmission associated with oral sex might be greater than previously thought. Following on the

publication of this document a need to clarify the conclusions of the group was identified. EAGA has now revisited the review and considered more recent evidence. Although EAGA's original conclusions are unchanged the group has formulated a single summary statement of risk and an associated set of questions and answers. The

Department of Health, Social Services and Public Safety has circulated these documents to Boards, Trusts, CCDCs and Consultants in Genito-urinary medicine. The documents also highlight that other STIs are also transmissible via oro-genital contact.

Contributing Laboratories

Altnagelvin	Mater
Antrim	Musgrave Park
Belfast City	Regional Mycology
Belvoir Park	Regional Virus
Causeway	Royal Victoria
Craigavon	South Tyrone
Daisyhill	Tyrone County
Erne	Ulster

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