

Message

From: Whitty, Chris [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0B3EE62E0CA04E978730B14F9B416A1E-WHITTY, CHR]
Sent: 05/01/2020 18:37:10
To: Cavanagh, Cheryl [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=07dcacc8e17648f9865ff40561ec4923-CCavanag]; Van Tam, Jonathan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d29c846fc8fa4678b419c6f0dc3836f3-JVanTam]; [NR] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0ec6dd97afd94ca7954617810d162314]; [NR]; Dodds, Kevin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=de217b42bf93443b9ace02930082ad6c-KDodds]; [NR] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d21258c9254e4e32942f15c21ee78f6]; [NR]; Reed, Emma [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=173f921982a14676bd2ddede2616bc10-EReed2]
CC: Yvonne Doyle [Yvonne.Doyle@phe.gov.uk]; [NR] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9927e90f50a44bb58ea40461cfe7f413]; [NR]
Subject: RE: Outbreak of undiagnosed viral pneumonia in China - update

Thanks Cheryl, and Yvonne for the v helpful note.

My view is that any of three triggers would mean we should start taking a close interest and considering risk to the UK.

- 1) Healthcare workers dying. This is often the early warning that a new infection is both severe and transmissible (eg SARS, MERS, Ebola). This would be the most concerning.
- 2) Evidence of person-to-person spread eg in families.
- 3) Geographical spread implying a zoonosis is spreading (in this case we would also want to liaise with DEFRA).

Absent that, at present I don't think we need to go further and leave it with PHE to alert us if the situation changes.

Chris

From: Cavanagh, Cheryl
Sent: 03 January 2020 11:15
To: Whitty, Chris <Chris.Whitty@dhsc.gov.uk>; Van Tam, Jonathan <Jonathan.VanTam@dhsc.gov.uk>; [NR] @dhsc.gov.uk; Dodds, Kevin <Kevin.Dodds@dhsc.gov.uk>; [NR] @dhsc.gov.uk; Reed, Emma <Emma.Reed@dhsc.gov.uk>
Personal Data: @dhsc.gov.uk; Swinson, Clara <clara.swinson@dhsc.gov.uk>; [NR] @dhsc.gov.uk; Permanent Secretary <permanent.secretary@dhsc.gov.uk>; Response <response@dhsc.gov.uk>; [NR] @dhsc.gov.uk; [NR] @dhsc.gov.uk
Subject: Outbreak of undiagnosed viral pneumonia in China - update

Hi Chris

Emma has received the note from PHE but I am not sure who else it has been sent to so and copying it here to officials.
In summary:

- On 31 December 2019, PHE identified Promed reports of an outbreak of undiagnosed viral pneumonia in Wuhan City, People's Republic of China (population 11.2m).

- Currently there are 27 cases, including seven cases with serious illness. Investigations are currently ongoing. No human to human transmission has been found.
- Viral pneumonia is common in winter and spring and there are many potential causes of undiagnosed severe acute respiratory illness.
- The People's Republic of China has established processes for investigating clusters of severe acute respiratory illness in humans. Inferences about Severe Acute Respiratory Syndrome (SARS) is speculative in the absence of any confirmation of coronaviruses being identified among these cases.
- PHE will maintain vigilance of this issue through established mechanisms such as epidemic intelligence and International Health Regulations (IHR) updates from the WHO. Any significant findings will be reported to the Department of Health and Social Care (DHSC).

I will alert CCS so that they know PHE are on the case. Copying Pr/Off colleagues for info only.

Cheryl Cavanagh
 Policy Lead for Pan Flu & Infectious Diseases
 UK Health Security Team
 Emergency & Health Protection Directorate
 Global Health Group
 Department of Health & Social Care
 39 Victoria Street, London SW1H 0EU
 LANDLINE: [I&S] [I&S]
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From: Whitty, Chris
Sent: 02 January 2020 22:57
To: Van Tam, Jonathan <Jonathan.VanTam@dhsc.gov.uk>; [NR] <[redacted]@dhsc.gov.uk>; Cavanagh, Cheryl <cheryl.cavanagh@dhsc.gov.uk>; Dodds, Kevin <Kevin.Dodds@dhsc.gov.uk>; [NR] <[redacted]@dhsc.gov.uk>; Reed, Emma <Emma.Reed@dhsc.gov.uk>
Subject: Re: ProMED Digest, Vol 91, Issue 5 OFFSEN

Yvonne mentioned this this morning. I think PHE will be doing a very short note, c

From: Van Tam, Jonathan <Jonathan.VanTam@dhsc.gov.uk>
Sent: Thursday, January 2, 2020 10:40:43 PM
To: Whitty, Chris <Chris.Whitty@dhsc.gov.uk>; [NR] <[redacted]@dhsc.gov.uk>; Cavanagh, Cheryl <cheryl.cavanagh@dhsc.gov.uk>; Dodds, Kevin <Kevin.Dodds@dhsc.gov.uk>; [NR] <[redacted]@dhsc.gov.uk>; Reed, Emma <Emma.Reed@dhsc.gov.uk>
Subject: FW: ProMED Digest, Vol 91, Issue 5 OFFSEN

OFFSEN,

Colleagues,

ProMed is somewhat akin to a football transfers website (excitable in January) for ID folks but the highlighted article (Message 1) is I think one we should watch (no more than that) and see what WHO and CDC China have to say in due course. My US CDC contacts don't have any additional info at this stage. Maybe we can ask PHE [NR] to actively track this?

JVT

From: "promed-request@promedmail.org" <promed-request@promedmail.org>
Date: 2 January 2020 at 16.37.59 CET
To: "promed@promedmail.org" <promed@promedmail.org>
Subject: ProMED Digest, Vol 91, Issue 5
Reply-To: <promed@promedmail.org>

Today's Topics:

1. PRO/AH/EDR> Undiagnosed pneumonia - China (02): (HU) wildlife sales, market closed, RFI (promed@promedmail.org)
2. PRO/EDR> Legionellosis - USA: (IL) vet home, updated water treatment, new case, RFI (promed@promedmail.org)
3. PRO/EDR> Clostridioides difficile - USA: RT591, clinda-resist./FQ suscept. related RT027 (promed@promedmail.org)

Message: 1
Date: Thu, 2 Jan 2020 14:25:08 +0000
From: promed@promedmail.org
Subject: PRO/AH/EDR> Undiagnosed pneumonia - China (02): (HU) wildlife sales, market closed, RFI
To: promed-post@promedmail.org, promed-edr-post@promedmail.org, promed-ahead-post@promedmail.org
Message-ID:

Irrelevant & Sensitive

Content-Type: text/plain; charset=UTF-8

UNDIAGNOSED PNEUMONIA - CHINA (02): (HUBEI) WILDLIFE SALES, MARKET CLOSED, REQUEST FOR INFORMATION

A ProMED-mail post
<<http://www.promedmail.org>>
ProMED-mail is a program of the
International Society for Infectious Diseases
<<http://www.isid.org>>

Date: 1 Jan 2020
Source: South China Morning Post
<<https://www.scmp.com/news/china/politics/article/3044207/china-shuts-seafood-market-linked-mystery-viral-pneumonia>>

World Health Organisation in touch with Beijing after mystery viral pneumonia outbreak

The World Health Organisation said it is in ongoing contact with authorities in China over an unidentified outbreak of viral pneumonia in the central city of Wuhan, amid concern it may have been transmitted from animals.

Wuhan health authorities on Tuesday [31 Dec 2019] said 27 people - most of them stallholders at the Huanan Seafood Wholesale Market - had been treated in hospital, with 7 said to be in serious condition.

Pathology tests were under way to try and identify the virus, officials said. Hong Kong medical authorities were also on alert.

Wuhan authorities ordered the closure of the market on Wednesday [1 Jan 2020]. Local media said the market sold other animals, including birds, raising concern after the 2002-03 outbreak of severe acute respiratory syndrome (Sars) in China killed several hundred people and is thought to have jumped from animals to humans.

Officials in China and at the WHO said the virus in Wuhan had yet to be identified. "Investigations are still being carried out and authorities cannot yet confirm what pathogen is causing this illness," said Paige Snider, a senior adviser with the WHO in China, adding that the organisation had been in contact with Chinese authorities.

"There are many potential causes of viral pneumonia, many of which are more common than severe acute respiratory syndrome coronavirus [SARS-CoV]. WHO is closely monitoring this event and will share more details as we have them," she said.

Online news outlet Hongxing, an affiliate of Chengdu Economic Daily, reported late on Tuesday [31 Dec 2019] that the market sold other wildlife, including pheasants and snakes. It also said the organs of rabbits and other animals were found in the market. A seafood vendor confirmed the Hongxing report, saying such animals were available for sale in the market.

Medical authorities in Hong Kong, which is about 4 hours from Wuhan by high-speed train, said late on Tuesday [31 Dec 2019] they had stepped up border screening and put hospitals in the city on alert. "The situation in Wuhan is unusual, and we are not sure about the reasons behind the outbreak yet," Hong Kong's Secretary for Food and Health Sophia Chan Siu-chee said after a meeting with officials and experts on New Year's Eve.

"Since we are now in the holiday season, and Hong Kong has close transport ties with Wuhan, we must stay alert."

Yuen Kwok-yung, a microbiologist at the University of Hong Kong, said that although the Wuhan case had similarities to the 1997 outbreak of bird flu and the SARS epidemic, there was no need for people to panic

though they should remain alert. "There are chances that the virus was transmitted from animals to humans, but so far the authorities have not identified the virus," he said on Tuesday [31 Dec 2019] before the Hongxing report.

Law enforcement officers wearing face masks were on guard outside the market on Wednesday [1 Jan 2020] morning as seafood vendors were allowed to remove their stocks, the official Yangtze Daily reported. The city's health and commerce regulators issued the notice to close the market. "After considering the municipal health commission's report about the current pneumonia situation in the city, it is decided that Huanan seafood market will be closed for sanitation and renovation ... the date for reopening will be announced later," the notice said.

News of the outbreak in Wuhan came to light after an urgent notice from the city's health department, which told hospitals to report further cases of "pneumonia of unknown origin", started circulating on social media on Monday night.

The 2002-03 SARS epidemic infected more than more than 5300 people and killed 349 in mainland China. In Hong Kong, 1750 people were infected and 299 died.

According to the WHO, the SARS coronavirus is thought to be an animal virus from an as-yet-uncertain animal reservoir, perhaps bats, that spread to other animals and 1st infected humans in Guangdong, near Hong Kong, in late 2002.

[Byline: Kristin Huang]

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Communicated by:
ProMED-mail Rapporteur Kunihiko Iizuka

[There continue to be social media reports on twitter and Weibo (the Chinese social media) on this outbreak without significant news on results of laboratory tests. Most recently there was a report of a suspected case of respiratory illness in Hong Kong in a traveler coming from Wuhan. Follow-up reports state the patient tested negative for SARS and avian influenza.

The above media report has details on the wildlife animals sold in the market, fostering suspicion that if this is a new human virus, it is plausible to have made a leap from wildlife to humans in this market. Again, this is all speculation. Prudently, at present the Wuhan authorities have closed the market as it appears to be the geographic location of transmission.

Again, we at ProMED-mail would greatly appreciate information on the laboratory study results, both positive and negative.

A map of China showing locations of major cities in China can be found

at: <<https://www.chinadiscovery.com/china-maps/city-maps.html>>.

The HealthMap/ProMED map of China:

<<http://healthmap.org/promed/p/155>>.

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[See Also:

2019

Undiagnosed pneumonia - China (HU), RFI

<http://promedmail.org/post/20191230.6864153>]

.....mpp/dk

Message: 2

Date: Thu, 2 Jan 2020 15:20:40 +0000

From: promed@promedmail.org

Subject: PRO/EDR> Legionellosis - USA: (IL) vet home, updated water treatment, new case, RFI

To: promed-post@promedmail.org, promed-edr-post@promedmail.org

Message-ID:

Irrelevant & Sensitive

Content-Type: text/plain; charset=UTF-8

LEGIONELLOSIS - USA: (ILLINOIS) VETERANS HOME, UPDATED WATER TREATMENT, NEW CASE, REQUEST FOR INFORMATION

A ProMED-mail post

<<http://www.promedmail.org>>

ProMED-mail is a program of the International Society for Infectious Diseases

<<http://www.isid.org>>

Date: Tue 31 Dec 2019 10:05 PM CST

Source: WGEM [edited]

<<https://wgem.com/2019/12/31/staff-on-edge-at-illinois-veterans-home-in-quincy-after-new-case-of-legionnaires-disease/>>

The Illinois Department of Public Health is investigating a single new case of legionnaires' disease. Tuesday [31 Dec 2019], staff is revealing how policies helped them respond to this case they say: quickly and efficiently. They said for now, no other resident has been infected at the vets home, but they say they will continue to monitor for legionnaire's disease.

Staff at the Illinois Veterans' Home in Quincy is on edge after a new confirmed case of legionnaires' disease. "I think that because we are put in the spotlight, that's why we always do take over precaution a

lot," said adjutant Dawn Whitcomb. Whitcomb said the man who contracted the disease lives at Fifer Infirmary. She said the water at the home gets tested every day.

"Different buildings get tested at different times. Flushing occurs twice a day here at the home. We also do thermal, meaning that we heat the water to a certain temperature and bring it back down to ensure that it's safe for our residents and our staff," said Whitcomb.

Meanwhile, the state has committed USD 230 million to renovate the entire home. That includes new systems that officials say should dramatically reduce the possibility someone contracts legionnaires' disease. "The money that's been allocated to us from the government will help with a new water loop. We'll be putting in a new water loop," said Whitcomb.

Officials said the man who contracted legionnaires' is recovering after being diagnosed last week [week of 23 Dec 2019]. He and other respiratory patients are being monitored closely. "We're doing what we call vital signs every 2 hours to make sure we are keeping an eye on those residents," said Whitcomb. It's the 1st confirmed case at the Illinois Veterans' Home in Quincy since 2018. State officials said Illinois Department of Public Health is working with the facility at the home to collect information and further investigate this most recent case.

The legionnaires' outbreak started in 2015 when 12 residents died and 56 others were sickened. State officials unveiled a new USD 5 million dollar water treatment plant at the home in 2016. There have been cases every year since 2015. Officials revealed plans for a new USD230 million dollar facility last year.

[Byline: Brett Knese]

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Communicated by:
ProMED-mail from HealthMap Alerts
<promed@promedmail.org>

[Many veterans' homes are managed and funded by state governments (<https://en.wikipedia.org/wiki/Old_soldiers%27_home>). The Illinois Veterans Home in Quincy, Illinois, is responsible for providing long-term care for veterans and their spouses, which includes domiciliary care, intermediate care, and skilled healthcare (<<http://www.quincyivh.org>>). According to its website, the Illinois Veterans Home in Quincy is one of the larger and older veterans homes in the country, with nearly 450 residents and over 25 buildings that house a post office, bank, assembly hall, guest house, mini post exchange, chapel, animal park, museum, and television station; water, sewer, gas, electricity, telephone, and data networks are owned and maintained by the Veterans Home.

In 2015, ProMED-mail posted a report on 53 cases of legionnaires'

disease, including 12 deaths, at the Quincy veterans home, plus another 4 patients with legionnaires' disease in Quincy who were said to be not connected to the veterans home (Legionellosis - USA (15): (IL) fatal, veterans home, update, RFI <http://promedmail.org/post/20150924.3668124>).

The outbreak recurred in 2016, when 2 cases were reported in July 2016, less than a month after a nearly USD 5 million state-of-the-art water treatment plant and delivery system was unveiled at this facility (Legionellosis - USA (04): (IL) vet home, updated water treatment, new cases, RFI <http://promedmail.org/post/20160728.4377020>).

Again in October 2017, 2 more cases were reported in residents of the Quincy Illinois Veterans Home (ProMED-mail post Legionellosis - USA (17): (IL) vet home, updated water treatment, new cases <http://promedmail.org/post/20171020.5394079>) and a month later another case was reported in a resident of the Illinois Veterans Home (Legionellosis - USA (23): (IL) vet home, updated water treatment, new case, RFI <http://promedmail.org/post/20171130.5474288>).

We have not been told the species of *Legionella* involved, the results of genotyping the patient and environmental *Legionella* isolates, or any epidemiological linkages among the patients. More information in this regard from knowledgeable sources would be appreciated.

Legionella are Gram-negative bacilli that are found in both natural freshwater environments, like lakes and streams, and in manufactured plumbing systems, such as showerheads and sink faucets, cooling towers, decorative fountains, and hot tubs/spas and hot water tanks and heaters. Eradication of these bacteria from plumbing systems is often difficult. Long-term persistence within these water systems is favored by the intracellular location of *Legionella* within several species of protozoa, where *Legionella* replicate and which provide protection from environmental stressors, like biocides and heat treatment; the formation of biofilms allows adherence of *Legionella* to the inner surfaces of the plumbing systems (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5835138/>). *L. pneumophila* have been shown to persist for long periods after exposure to a biocide or heat treatment in biofilms in a viable but nonculturable (VBNC) state (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5515819/>). Monitoring *L. pneumophila* in water systems, usually done by culture, would miss VBNC [viable but nonculturable] *Legionella*, which can be revived by the subsequent addition of amoeba (<https://www.ncbi.nlm.nih.gov/pubmed/18839249>). The persistence of *Legionella* over many years in the water system at the veterans' facility could perhaps be due to VBNC organisms.

Quincy, with a population of 40 633 in 2010, is a city on the Mississippi River and the county seat of Adams County, Illinois, United States (https://en.wikipedia.org/wiki/Quincy,_Illinois). -

Mod.ML

HealthMap/ProMED-mail map of Illinois, United States:

<<http://healthmap.org/promed/p/216>>

[See Also:

2018

Legionellosis - USA (3): (IL) vet home, updated water treatment, new cases, RFI <http://promedmail.org/post/20180214.5628298>

2017

Legionellosis - USA (23): (IL) vet home, updated water treatment, new case, RFI <http://promedmail.org/post/20171130.5474288>

Legionellosis - USA (17): (IL) vet home, updated water treatment, new cases <http://promedmail.org/post/20171020.5394079>

2016

Legionellosis - USA (04): (IL) vet home, updated water treatment, new cases, RFI <http://promedmail.org/post/20160728.4377020>

2015

Legionellosis - USA (15): (IL) fatal, veterans home, update, RFI <http://promedmail.org/post/20150924.3668124>

Legionellosis - USA (14): (IL,CA) fatal, veterans home, prison, update, RFI <http://promedmail.org/post/20150905.3625315>

Legionellosis - USA (12): (IL) fatal, veterans home, update, RFI <http://promedmail.org/post/20150903.3620340>

Legionellosis - USA (11): (NY, CA, IL) RFI <http://promedmail.org/post/20150829.3610573>

.....sb/ml/mj/dk

Message: 3

Date: Thu, 2 Jan 2020 15:35:53 +0000

From: promed@promedmail.org

Subject: PRO/EDR> Clostridioides difficile - USA: RT591, clinda-resist./FQ suscept. related RT027

To: promed-post@promedmail.org, promed-edr-post@promedmail.org

Message-ID:

Irrelevant & Sensitive

Content-Type: text/plain; charset=UTF-8

CLOSTRIDIoidES DIFFICILE - USA: RIBOTYPE 591, A
CLINDAMYCIN-RESISTANT/FLUOROQUINOLONE SUSCEPTIBLE STRAIN RELATED
RIBOTYPE 027

A ProMED-mail post

<<http://www.promedmail.org>>

ProMED-mail is a program of the
International Society for Infectious Diseases
<<http://www.isid.org>>

Date: Tue 31 Dec 2019

Source: Beckers Hospital Review [edited]

<<https://www.beckershospitalreview.com/quality/new-clindamycin-resistant-strain-of-c-diff-recognized-in-15-va-patients.html>>

During a surveillance study at Veteran Affairs facilities, researchers identified a newly recognized strain of *Clostridioides difficile* [formerly *Clostridium difficile*] [aka C. diff] that is highly resistant to the antibiotic clindamycin, the CDC reports [1].

In 2012, researchers conducted a surveillance study of C. diff at 2 VA [Veterans Administration] long-term care facilities and their affiliated acute care facilities. They detected a clonal outbreak of C. diff at one of the long-term care facilities and its acute care facility. 15 patients were infected with the strain.

The strain was initially identified as the epidemic strain BI/RT027, which is associated with several healthcare facility outbreaks. But after further testing, researchers identified the strain as restriction endonuclease analysis group DQ, ribotype 5.

Among C. diff infections that developed because of the new strain, 43 percent classified as severe in accordance with Infectious Diseases Society of America and Society for Healthcare Epidemiology of America guidelines.

The strain is resistant to clindamycin but is susceptible to moxifloxacin, another antibiotic.

[Byline: Anuja Vaidya]

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Communicated by:

ProMED-mail from HealthMap Alerts

<promed@promedmail.org>

[Reference

1. Skinner AM, Petrella L, Siddiqui F, et al. Unique clindamycin-resistant *Clostridioides difficile* strain related to fluoroquinolone-resistant epidemic BI/RT027 strain. *Emerg Infect Dis*. 2020; 26(2): early release;
<https://wwwnc.cdc.gov/eid/article/26/2/18-1965_article>.

Clostridioides difficile (C. diff) ribotype (RT) 027, also known as North American PFGE type 1 or NAP1, is a hypervirulent strain that has been associated with numerous healthcare outbreaks that have increased severity, high relapse rates, and increased mortality. RT027

hyperproduces toxins A and B and has binary toxin CDT. The strain has an 18-bp deletion in the *_tcdC_* gene, which is thought to lead to enhanced production of toxins A and B. However, the genes encoding the same or similar toxin profile have also been found in non-RT027 strains, such as the DQ/RT591 strain described in the news report above and the referenced journal article (1). Fluoroquinolones have been associated with outbreaks due to *C. diff* RT027, which is highly resistant to fluoroquinolones, including moxifloxacin, and variably resistant to clindamycin. The RT591 strain, however, was found to be susceptible to moxifloxacin, but highly resistant to clindamycin.

The following is the abstract that has been extracted from the journal article referenced in the news report above:

Abstract

"During a surveillance study of patients in a long-term care facility and the affiliated acute care hospital in the United States, we identified a *_Clostridioides difficile_* strain related to the epidemic PCR ribotype (RT) 027 strain associated with hospital outbreaks of severe disease. 15 patients were infected with this strain, characterized as restriction endonuclease analysis group DQ and RT591. Like RT027, DQ/RT591 contained genes for toxin B and binary toxin CDT and a *tcdC* gene of identical sequence. Whole-genome sequencing and multilocus sequence typing showed that DQ/RT591 is a member of the same multilocus sequence typing clade 2 as RT027 but in a separate cluster. DQ/RT591 produced a similar cytopathic effect as RT027 but showed delayed toxin production in vitro. DQ/RT591 was susceptible to moxifloxacin but highly resistant to clindamycin. Continued surveillance is warranted for this clindamycin-resistant strain that is related to the fluoroquinolone-resistant epidemic RT027 strain."

- Mod.ML

HealthMap/ProMED-mail map of the United States:

<<http://healthmap.org/promed/p/106>>

[See Also:

2012

Clostridium difficile - worldwide: fluoroquinolone resistance, 027

<http://promedmail.org/post/20121211.1445682>

Clostridium difficile - Panama: new strain, RFI

<http://promedmail.org/post/20120227.1054069>

2011

Clostridium difficile - Ireland: nosocomial increased incidence

<http://promedmail.org/post/20110718.2178>

Clostridium difficile, increased virulence - Australia: (NS)

<http://promedmail.org/post/20110103.0025>

2010

Clostridium difficile, increased virulence - Australia (02): (WA)

<http://promedmail.org/post/20100529.1790>

Clostridium difficile, increased virulence - Australia: (VI)

<http://promedmail.org/post/20100526.1752>

2009

Clostridium difficile, ribotype 027 - UK: (England) fatal

<http://promedmail.org/post/20090327.1195>

2008

Clostridium difficile, ribotype 027 - UK (03): (Scotland)

<http://promedmail.org/post/20080703.2030>

Clostridium difficile, ribotype 027 - UK (02): (Scotland)

<http://promedmail.org/post/20080518.1662>

Clostridium difficile, ribotype 027 - UK: (N. Ireland)

<http://promedmail.org/post/20080207.0498>

2007

Clostridium difficile, ribotype 027 - Finland

<http://promedmail.org/post/20071109.3641>

Clostridium difficile, ribotype 027, 2005-2006 - UK (England), Ireland

<http://promedmail.org/post/20070427.1377>

2005

Clostridium difficile, ribotype 027 - Belgium

<http://promedmail.org/post/20051021.3071>

.....sb/ml/mj/dk

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End of ProMED Digest, Vol 91, Issue 5

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