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Gastroenteritis  
Vaccination Uptake  
Tuberculosis  
Measles  
MMR vaccine  
Influenza Surveillance '07-'08 Season



## Gastroenteritis

**Salmonella:** In 2007, based on provisional data, there were 30 cases of salmonellosis (8.9 cases per 100,000 population) in residents of the Mid-West, compared to 31 in 2006. The majority of cases (27) occurred in the last six months of 2007. The distribution of species is shown in Table 1. *S. Enteritidis* was the most common species isolated.

The rate of salmonellosis was lowest in Clare (4.5) and highest in Tipperary North (10.6) compared to Limerick (9.8). More males than females were affected. The ages affected ranged from 1 year to 69 years, average and median were 32 years. Eleven cases (39%) were associated with foreign travel (Spain and Turkey mainly).

**Campylobacter:** Campylobacteriosis remains the most common bacterial cause of gastroenteritis. The number of isolates from residents in the Mid-West rose 32% in 2007 (n=169) compared to 2006 (n=128). Two peaks in incidence occurred in 2007, one in May and another in November. More males than females are affected by campylobacter. The median age of cases (22 years) is lower than salmonellosis given that more younger children are affected (Age Range 2 months – 86 years). The incidence was lowest in Tipperary North (32/100,000 population) compared to Clare (49) and Limerick (51). *C. jejuni* remains the most common species isolated.

**Enterohaemorrhagic E. coli:** In 2007 there were 17 cases of EHEC reported in Mid-West residents, four fewer than 2006. Males and females were equally affected. There were four cases in Clare, six in Limerick and seven in Tipperary North. All isolates were confirmed as verotoxin positive O157 except one female and one male from Clare who had verotoxin positive O26 and O111 respectively. Eleven of the cases were part of two family outbreaks of EHEC. One case of verotoxin positive O26 also yielded a verotoxin positive O113.

**Table 1: Species of salmonella in 2007 in residents of the Mid-West (Clare, Limerick, Tipperary North).**

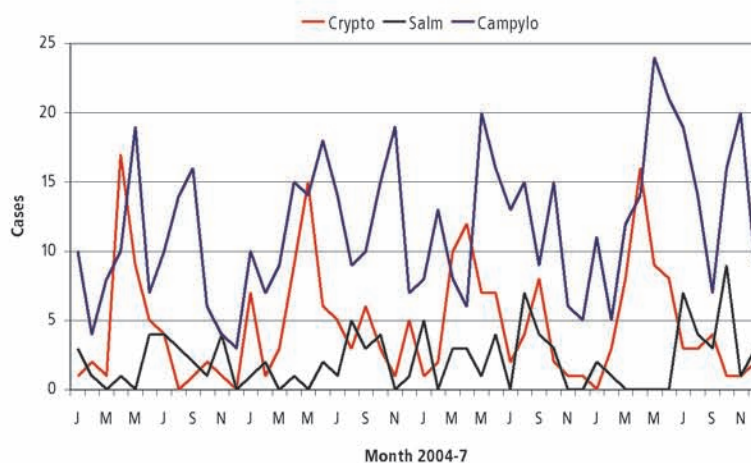
Salmonella species	
Enteritidis	13
Typhimurium	9
Agama	1
Bredeney	1
Java	1
Oranienberg	1
Poona	1
sp.	2
Haifa	1
30	

**Cryptosporidium:** The usual seasonal distribution of cryptosporidium in the Mid-West was evident in 2007 (see figure 1). Most cases occurred in the first six months (41), peaking in April, compared to the last six months (14). Slightly more males than females were affected. Mostly young children are affected by cryptosporidium and unless specifically requested, testing is only carried out on samples from children under 15 years. The incidence in 2007 was similar in all three regions of the Mid-West (15/100,000 population).

**Shigellosis:** Eight cases of *S. sonnei* have been reported by the Microbiology Laboratory to the Department of Public Health since the beginning of December '07. (This compares with six cases of *S. sonnei* notified in Limerick, Clare and North Tipperary for all of 2006). Six cases live in Limerick City, 1 in Limerick County and one in South Tipperary. Two are pre-school children and the others are adult women aged between 23 and 46 years. Three of the confirmed cases are epidemiologically linked and they are also linked to a further two cases. Six of the eight isolates are indistinguishable on Pulse Field Gel Electrophoresis (PFGE), with a seventh very similar, and PFGE awaited on one isolate.

**Norovirus:** Commonly referred to as "winter vomiting bug" and SRSV previously, norovirus activity is regarded as high in Ireland in the weeks leading up to Christmas and afterwards. In the Mid-West, the surge has not manifested as strongly as other areas, with only 13 cases reported in the last three months of 2007.

**Rotavirus:** Rotavirus activity decreased in 2007 (n=60) compared to 2006 (n=93). Rotavirus is a common cause of acute infectious gastroenteritis in children under two years and results in a large number of hospitalisations annually in Ireland. DW

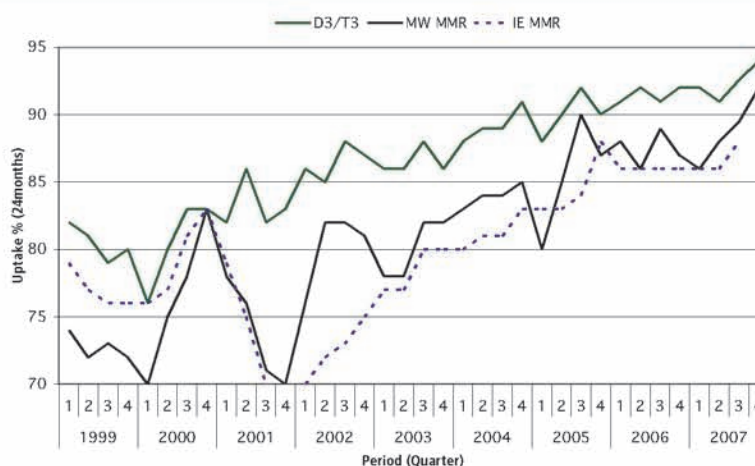


**Figure 1:** Monthly cases of laboratory confirmed campylobacter, cryptosporidium and salmonella notified in the Mid-West, January 2004 – December 2007

## Vaccination Uptake

Uptake of the MMR vaccination in Clare, Limerick and Tipperary North has increased considerably in quarter four 2007 and now stands at 92%, up 2.5% since quarter three. This vaccine protects children against Measles, Mumps and Rubella. There is also an increase in the national uptake of MMR for the first time since early 2006 as the uptake remained constant at 86% from quarter one 2006 until the recent rise to 88% in quarter four 2007.

The uptake at 24 months of the '5-in-1' vaccine, which protects children from diphtheria, tetanus, pertussis (whooping cough), polio and *Haemophilus influenzae b*, has also increased significantly in quarter 4 2007 to 94% which has almost reached the 95% uptake target (see figure 2). OH



**Figure 2:** Percentage uptake of DT and MMR at 24mths in HSE MWA and MMR in Ireland, 1999-2007. (D3-Diphtheria T3-Tetanus MMR=Measles Rubella)



## Tuberculosis

In 2006, there were 37 confirmed cases of tuberculosis notified in residents of the Mid-West (Clare, Limerick, Tipperary North) corresponding to a rate of 10.2/100,000 population. This rate is the lowest TB rate since 2002, and is lower than the TB rate in 2005 (14.7), see Figure 3. Cases occurred in all months in 2006 but peaked in April. The incidence of active TB disease was highest in Limerick (12.0) compared to Clare (8.1) and Tipperary North (9.1). As in previous years, men were more commonly diagnosed with TB disease (24) than women (13) in 2006. Seventy-three percent of cases of TB disease were diagnosed in Irish-born individuals. Nearly half of the cases were aged 55 years or over. Eighty-one percent of cases had a pulmonary component to disease. Direct smears were positive in 19/30 cases with pulmonary TB. Twenty-seven isolates of *Mycobacterium tuberculosis* and one isolate of *M. bovis* were isolated. Four males (two Irish-born and two foreign-born) with pulmonary TB died, including a 19 year old. TB was specified as cause of death in three cases but not as the cause in one other. The percentage of those who had therapy completion verified (78%) is higher compared to 2005. Provisional data for 2007 indicates that a smaller or similar number of TB cases will be confirmed in the Mid-West. A full report on TB in 2006 for the region will be posted on the HSE website in early 2008. DW

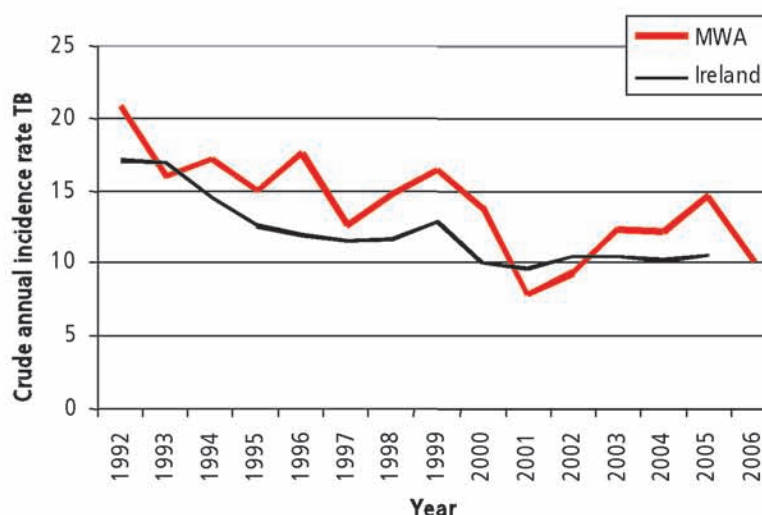


Figure 3: Annual incidence of tuberculosis disease in the Mid-West (Clare, Limerick, Tipperary North) from 1992 – 2006 per 100,000 population.

## Measles

Measles is an acute illness caused by a virus in the family paramyxovirus genus Morbillivirus. Measles is characterized by an early phase or 'prodrome' which may last from 2-4 days. This usually includes fever and malaise, cough, coryza and conjunctivitis. This is followed by the erythematous maculopapular rash of measles.

The rash starts at the hairline and from there to the head and neck. Over the following three days the rash proceeds downwards and outwards spreading out to hands and feet. Koplik's spots are blue-white spots against a red background found on the mucosa on the inside of the mouth and are characteristic (pathognomonic) of measles. They appear 1-2 days before rash and last for 1-2 days after appearance of rash.

Though usually mild or moderate illness of childhood, it can lead to some residual impairment from encephalitis in about 5-10 cases per 10,000 and in death in approximately 1-3 cases per 1000. Complications such as otitis media, pneumonia, croup and diarrhea occur more commonly in children under the age of five. Pneumonia may be viral or superimposed bacterial infection and is the most common cause of death. Complications such as pneumonia and acute encephalitis are increased in adults over the age of 20 years.

In 2007 there were a total of 71 notifications of measles in Ireland which was a slight decline in numbers of cases since the previous year. During that time there were a number of small outbreaks of measles with two in the eastern part of the country with one centred in the Midwest in Clare. Nationally two of the cases are known to have been hospitalised. In the last decade the incidence of cases peaked in 2000 with

over a thousand cases followed by a further but smaller peak in 2003 with 587 cases. Since then there has been a decline year on year in the number of cases and in the incidence rate of the disease.

While the incidence is showing a very positive downward trend, it is important to still be vigilant to ensure as far as is possible that all children are immunized. Figures from recent years about who catches measles show that the majority of cases are under two years of age, which relates to the vulnerability of young children before vaccination is complete. The greater degree of coverage of the population the less chance there will be of cases or outbreaks of disease in those who have not yet been fully vaccinated. For 2007 there is not full information on the vaccination status of those who have been notified. However vaccination status is known for 44 of the cases notified and it shows that nineteen cases were not vaccinated, eleven of whom were less than 16 months.

Most notifications are based on the clinical diagnosis of the doctor seeing them with the classical symptoms and signs. Some of the cases have laboratory testing as well for confirmation with 39 having laboratory testing in the last year.

The most common way to confirm a diagnosis of measles is through antibody investigations either on blood serum samples or on oral fluid samples taken with foam swab saliva collection. IgM antibodies can be detected in serum within 4 days of illness and for 2-3 months afterwards and can be detected in saliva between 7 days from beginning of the illness and 2 months afterwards. AMC





## MMR vaccine

MMR vaccine protects against measles, mumps and rubella (German measles). It is recommended that it be given to children aged 12-15 months with a second dose at 4-5 years (or 11-12 years for those who have not already had two doses). MMR is also recommended for women in childbearing years who are not rubella immune and non-immune health care workers. In a measles outbreak situation MMR may be recommended for infants from the age of 6 months.

The MMR vaccine contains weakened forms of the natural viruses to give protection against disease without the risks associated with natural infection. The side effects from the MMR vaccine are generally mild. Soon after vaccination there may be soreness, redness or swelling at the injection site. About 10 days after vaccination children may experience a very mild form of measles with rash (about 1 in 10), fever (about 1 in 15), loss of appetite and a general feeling of being unwell for 2 or 3 days. More rarely (1 in 50) a child may develop a mild form of mumps with swelling of the glands in the cheek, neck or under the jaw

about 3 weeks after vaccination, lasting for a day or two.

There is now ample evidence that there is no difference in rates of autism between those who have received the MMR vaccine and those who have not. Kaye et al using the UK General Practice research database of children diagnosed with autism over the period 1988-99 and a Danish study (Madsen et al) of all children born in Denmark between January 1991 and December 1998 showed no link between MMR and autism.

The efficacy of MMR is in excess of 90%, so over 90% of children who have had one dose have immunity against measles, mumps and rubella. With two doses 99% of recipients are protected. Due to the use of MMR vaccine the numbers of cases of measles have fallen from 8,000 cases per year during the 1950's to less than 100 per year.

The risk of serious complications from the actual diseases far outweighs the risk of side effects from the vaccination (Table 2). RF

Condition	Children affected after the natural diseases	Children affected after the first dose of MMR
Febrile convulsions (fits that may occur when a child has a high fever)	1 in 200 (measles)	1 in 1,000
Meningitis (inflammation of the lining of the brain) encephalitis (inflammation of the brain)	1 in 1,000 (measles, mumps, encephalitis) 1 in 20 (mumps meningitis) 1 in 6,000 (rubella encephalitis)	Less than 1 in 1 million
ITP (Idiopathic thrombocytopenic purpura) – Conditions affecting blood clotting	1 in 3,000 (rubella) 1 in 6,000 (measles)	1 in 22,000
Severe allergic response (anaphylaxis)	0	1 in 100,000
SSPE (subacute sclerosing panencephalitis) – a delayed complication of measles that causes brain damage and death	1 in 8,000 (Children who get measles under 2)	0
Death	1 in 2,500 to 1 in 5,000 (measles – higher in children under 1) 1-2 in 1,000 notified cases of measles in recent years.	0

Table 2: Rates of conditions after natural disease and after MMR vaccine (National Disease Surveillance Centre, 2002)

### References for MMR Vaccine article

Kaye James A, del Mar Melero-Montes Maria, Jick Hershel. Mumps, measles, and rubella vaccine and the incidence of autism recorded by general practitioners: a time trend analysis. *BMJ* 2001; 322: 460-463  
Madsen K. M., Hviid A., Vestergaard M., Schendel D., Wohlfahrt J., Thorsen P., Olsen J., Melbye M. A Population based study of Measles, Mumps, and Rubella Vaccination and Autism. *N Engl J Med* 2002; 347:1477-1482, Nov 7, 2002.

## Influenza Surveillance '07-'08 Season

The general practitioner consultation rate of influenza like illness (ILI) in Clare, Limerick and Tipperary North increased from 10.3 per 100,000 population in week 52 2007 to 103 per 100,000 population in week 1 2008. This was in line with a national increase in general practitioner consultation rates of ILI which rose to 52.4 per 100,000 population in week 1 2008 from a rate of 16.3 per 100,000 for week 52, 2007 (see figure 4).

On the 10th of January 2008 the Health Protection Surveillance Centre website reported that the national rate exceeded the threshold at which the UK National Institute of Clinical Excellence (NICE) guidelines (2003) for the use of antiviral drugs is triggered and recommended that in line with the NICE guidelines, the use of antiviral drugs for the prevention or treatment of influenza in at-risk groups was now recommended. The national rate of ILI has gradually decreased from 52.4 per 100,000 in week 1 to 30.5 per 100,000 in week 5 2008. For further details see [www.hpsc.ie](http://www.hpsc.ie).

There were 17 laboratory notifications of Influenza in Clare, Limerick and Tipperary North during the month of January 2008, 15 Influenza A and two Influenza B. This is an increase from the

same period last year when eight cases of Influenza A and one case of Influenza B were notified from the laboratory. OH

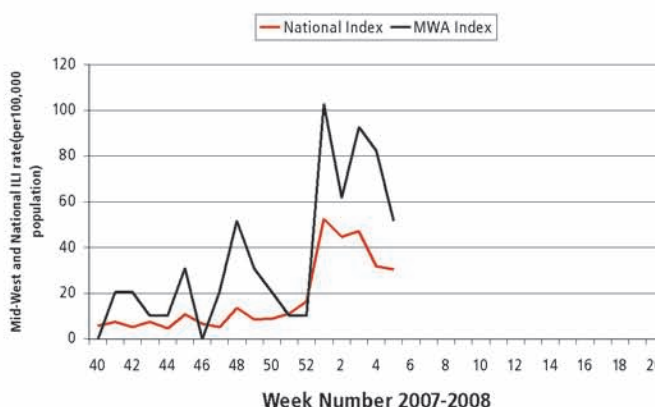


Figure 4: Weekly index of influenza like illness (ILI) (MWA and national) based on sentinel GP practices September 2007-2008

# clean your hands - say no to infection

Notice: We would encourage general practitioners to make a copy of ID-Link available in the surgery waiting area.

If your contact details have changed, please let the Department of Public Health know (061-483337) and this will ensure timely delivery of your copy.

This report is produced with the assistance of the Senior Medical Officers and the Mid-Western Regional Hospital Laboratory.

Some data are provisional and are subject to amendment.

ISSN No. 1649-1912. All rates calculated using 2002 or 2006 Census data where appropriate.