



# **Communicable Disease Unit**

# **2010 Annual Report**

**January 1 to December 31**

**Prepared by the CD Unit**  
**January 2011**

## OVERVIEW

During 2010 there were two significant outbreaks during the first two quarters. A **pertussis** outbreak centering on under-immunized communities in East Kootenay led to review of the immunization records with letters sent to parents to update immunization status along with radio and print ads regarding the benefit of immunization. An outbreak of **measles**, linked to importation during the Winter Olympics, led to 14 lab confirmed and 1 suspect cases with 378 contacts who were provided immunization based on susceptibility status. The Communicable Disease (CD) Unit provided the leadership during both outbreaks but worked in close partnership with Community Integration Health Services (CIHS) Promotion and Prevention, to manage the outbreaks. CIHS staff is to be commended for managing the increase in their workload and achieving outcomes that ensured the risk of transmission was minimized.

Other major CD events in Interior Health (IH) during 2010 were:

- The outbreak of **tuberculosis** (TB) in Kelowna's vulnerable street-involved population which began in May 2008, continued on into 2010 with twelve new active cases (n=30 overall in the three calendar years). Due to the long incubation period of this disease and issues of gaining access to this population, it may take another full year or more to bring this outbreak under control, despite application of significant Public Health (PH) staff resources.

An inter-sectoral approach with acute care, area physicians and the Kelowna Outreach Urban Health (OUH) clinic has been crucial in the successes of active case finding and contact identification that has occurred thus far, which is key to TB control. On the other side of the coin, the Kelowna TB outbreak and ongoing transmission represents our collective societal failure to protect vulnerable citizens through income supports, housing and health treatment services, especially when complications with addictions and/or other mental health issues may exist. The Kelowna OUH clinic is a big step forward in addressing some of the care issues, but is not able to fully address the societal underpinnings that exaggerate the health risk to the marginalized.

- An outbreak of **salmonella** chester was managed in partnership with the BC Centre for Disease Control (BCCDC), Vancouver Coastal Health and Fraser Health. The outbreak was associated with consumption of headcheese.

The CD Unit, as part of the IH restructure, worked to become an independent unit under the VP of Medicine and Quality but continue to report through the Medical Health Officers (MHO). As part of the overall CIHS restructuring, the CD Unit assumed responsibility for Sexually Transmitted Infection (STI) reporting and contact tracing as per other reportable diseases and assumed a leadership role in all aspects of the TB Prevention and Control program.

## SERVICES

CD prevention and control activities require a team approach. The CD Unit works in close collaboration with all other IH portfolios to fulfill its mandate. CD services are provided to IH residents, physicians, and other IH programs beyond the normally defined public health programs.

Services to residents include:

- Case investigation for a lab report which is a confirmed or suspected reportable CD,
- Contact identification following confirmation of a CD,
- Implementation of PH measures to mitigate the effects,
- Education to prevent further exposures, and
- Collaboration with primary care provider for appropriate follow-up.

Services to all IH portfolios include:

- Consultation with Health Protection (HP), CIHS and Occupational Health staff around case definition and risk of transmission,
- Education to maintain CIHS, Prevention and Promotion staff capacity to deal with CD outbreaks,
- Coordination and management of outbreaks, and
- Development of protocols and guidelines for use by CIHS, Prevention and Promotion field staff.

Services to physicians' primary care include:

- Consultation around case reporting and follow-up,
- Education and consultation (reporting and referrals), and
- Coordination of contact tracing and prophylaxis.

Services to infection control include:

- Assistance with outbreak surveillance and management, and
- Development of protocols and guidelines to support mutual responsibilities.

## YEAR IN REVIEW

### Significant Events

#### ***January to March 2010***

- Continued to provide coordination of active TB follow-up related to the outbreak in marginalized populations residing in Central Okanagan.
- Pertussis outbreak, centered in Kootenay Boundary South, was declared and outbreak measures initiated.
- Salmonella, shigella and campylobacter reports were reviewed due to increase over previous years with analysis showing a corresponding increase in rates over 2009. No travel or epidemiological link found.
- An investigation of a shigella outbreak related to a restaurant, however no source food was identified.

#### ***April to June 2010***

- A cluster of measles cases associated with the BC outbreak was followed, with IH having cases in the Thompson, Cariboo and Shuswap (TCS) and Okanagan (OK) health service delivery areas (HSDA). Intensive contact tracing and immunization of susceptible individuals with MMR was initiated. The last reported case was on April 18, 2010. Heightened awareness by physicians has led to increased investigation of individuals presenting with rashes.
- Salmonella, shigella and campylobacter continued to show increases over previous years with analysis showing a corresponding increase in rates over 2009. No travel or epidemiological link has been found.

#### ***July to September 2010***

- A cluster of E.coli 0:157 in the TCS area was investigated with n=2 confirmed cases that were PGFE identical and n=2 suspect cases, symptomatic but untested acquaintances of one of the lab-confirmed cases. There was no further identified epidemiological links or obvious common source of exposure (food, water, other) between the four cases. With the geo-time clustering of onsets in a one-week period in a small area of Salmon Arm/Shuswap, this alone indicates some common source (as yet undetermined). It may take more case occurrence to be able to determine the common source, however no further linked cases have been identified. As of the end of 2010 no further cases were reported.
- BC tracked a cluster of salmonella chester cases linked to headcheese with IH reporting 9 cases linked to this cluster.

#### ***October to December 2010***

- The number of salmonella cases reported trended higher in 2010 (n=136) when compared to 2009 (n=103). BC The nine cases associated with the salmonella chester cluster represents 6% of the 2010 cases and only accounts for a small percentage of the increased reports. The two other common strains are S. enteritidis and S. typhumurium. The S. typhumurium case numbers are not different in comparison to year-to-date 2009 numbers (13 in 2010 compared to 14 in 2009) however the S. enteritidis accounts for the majority of the increase with 34 cases (40% of reports) to date for 2010 in comparison to 15 reports (30% of reports) year-to-date 2009. No clustering of cases or common exposures has been identified to date but increased surveillance is continuing.
- With the IH wide organizational changes, the CD Unit has been working to develop the appropriate linkages with other departments to ensure seamless client care.
- In partnership with CIHS, Prevention and Promotion, the leadership for STI and TB services has been transferred to the CD Unit. Resources were transferred to accommodate the increased workload.

The CD Unit continues to be aligned with the office of the MHOs under the VP of Medicine and Quality. This transfer has resulted in the CD Unit being set up as an independent department.

## ANALYSES OF TRENDS

### VACCINE PREVENTABLE DISEASES

Case reports related to CD where vaccines are available, remain low and are summarized in **Table 1**.

**Table 1**  
**Vaccine Preventable Diseases**  
**Case Numbers and Rates (per 100,000) for**  
**Interior Health and BC 2009 and 2010<sup>1</sup>**

Disease	2009				2010			
	IH		BC		IH		BC	
	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
Measles	0	0.0	0	0.0	14	1.9	85	1.9
Mumps	0	0.0	28	0.6	2	0.3	18	0.4
Pertussis	23	3.2	164	3.7	45	6.1	129	2.9
Rubella	0	0.0	2	1.0	0	0.0	10	0.2

#### Measles

In 1994 the Federal Ministry of Health in partnership with Pan American Health Organization set a target of measles elimination in the Western Hemisphere. As a result of this goal, British Columbia (BC) and the majority of provinces, added a second dose of MMR as part of the routine vaccination schedule and in 1995/96 offered a second measles dose to all children between 19 months and 18 years of age resulting in 85% coverage. The last major outbreak in BC was in 1997 and resulted in 273 cases. From 1998 to 2009 a total of 90 cases were reported (range 0 to 42 cases) with 60% (n=54) being lab confirmed. However, 72% occurred in 2000 (n=42) and 2001 (n=23).

While the total absence of cases is synonymous with elimination, this is not achievable in the absence of global eradication. Progress is now assessed as “the interruption of endemic measles transmission and failure to re-establish endemic transmission after importation”. During 2010, following the Winter Olympics, a total of 85 cases of measles occurred in BC with the likely source being international visitors. In IH, 14 cases were linked to the BC outbreak and one case was a traveller who was likely exposed prior to his return. During the outbreak in IH, a total of 378 exposures were linked to the cases (mean: 25.2; range 4 to 84). Of those exposed, 38% (n=145) were exposed in a health care setting, such as a physician’s office or an Emergency Department. All those considered exposed were contacted to assess susceptibility and offered MMR if indicated. There was no evidence of sustained transmission, with one secondary case related to exposure in a health care setting. One named contact developed symptoms which was lab confirmed as a measles case, however symptom onset date indicated this was unlikely to be the source exposure.

A further 17 rash reports were investigated but did not meet case definition or had a negative lab finding.

#### Pertussis

Following the addition of acellular pertussis vaccine component to the routine school-based Grade 9 tetanus-diphtheria immunization (TdaP) in 2004, the case incidence of pertussis in the 14 to 19 year-old school cohort continues to decline. Overall pertussis numbers and rates remain low among fully immunized children, and most importantly for infants at highest risk of severe disease.

<sup>1</sup> Case numbers and rates calculated by Cognos reports run February 4, 2011 (<https://phr.bccdc.ca/cognos/>)

Between January and March an outbreak of pertussis was investigated, centering in the Kootenay Boundary HSDA which resulted in 39 cases being linked to the outbreak. The age range of cases was from > 1 yr. to 52 years of age. 64% of the cases reported were unimmunized (n=25) or had not completed a primary series (n=4) of a pertussis containing vaccine. Outbreak measures were initiated and included physician notification, accelerated immunization schedules and public service ads.

## ENTERIC DISEASES

Routine individual case follow-up of selected enterics (campylobacter, yersinia, giardia and cryptococcus) was discontinued in September 2007 as routine case interview was not helpful for either disease control or epidemiologic purposes. Instead, in collaboration with BCCDC and other health authorities, the decision to conduct focussed surveillance for specific information to inform public health decision making, was enacted. No enhanced surveillance of enterics was conducted in 2010.

Enteric diseases in general were trending higher in early 2010 with salmonella significantly higher. There were 136 cases reported in comparison to 103 cases in 2009. There was an increase in the rate from 14.1/100000 in 2009 to 18.3/100000 in 2010 and was the highest rate in the past 5 years with a range=10.1 to 15.6/100000 for the years 2005 to 2009. Of the reported cases (n=9 were salmonella chester and associated with an outbreak linked to headcheese. Case numbers were up in all HSDAs except Kootenay Boundary with no other clustering or epidemiological links found in the remaining cases. *S. enteritidis* accounted for 48% (n=66) of the salmonella subtypes and *S. typhimurium* for 12.5% (n=17).

**Table 2: Enteric Diseases  
 Case Numbers and Rates (per 100,000) for  
 Interior Health and BC 2009 and 2010<sup>2</sup>**

Disease	2009				2010			
	IH		BC		IH		BC	
	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
Campylobacteriosis	202	27.7	1757	39.6	202	27.2	1558	34.4
E.coli, Verotoxigenic	22	3.0	161	1.9	29	3.9	109	2.4
Salmonellosis	103	14.1	889	20.0	136	18.3	1032	22.8
Shigellosis	11	1.5	196	4.4	21	2.8	191	4.2
Yersiniosis	29	4.0	464	10.4	38	5.1	424	9.4
Cryptosporidiosis	8	1.1	86	1.9	8	1.1	54	1.2
Giardiasis	78	10.7	616	13.9	89	12.0	626	13.8
Hepatitis A	2	0.3	32	0.7	2	0.3	30	0.7

The case number for shigellosis was higher in 2010 when compared to 2009, however 60% of the increase was due to a cluster (n=6 cases sonnei) linked to a restaurant with no source identified. Exposure data was completed on 66% of reported cases (n=14/21) with 78% (n=11) associated with out-of-country travel. Of the cases subtyped, 33% were flexneri (n=7) and 66% were sonnei. Flexneri is more commonly associated with travel to developing countries while sonnei is more commonly reported in Canada.

<sup>2</sup> Case numbers and rates calculated by Cognos reports run January 25, 2009 (<https://phr.bccdc.ca/cognos/>)

## CHRONIC INFECTIOUS DISEASES

Previous to the 2008 CD Annual Report, diseases related to blood-borne transmission were categorized under Blood Borne Pathogens and included viral hepatitis B (HBv) and hepatitis C (HCv) and human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS). While these diseases have an acute infectious stage, their larger health impact is when they become a chronic disease, both in terms of long-term infectiousness and the long-term impact on the individual's health. The other important chronic infectious disease is TB, often affecting a similar at-risk population.

### VIRAL HEPATITIS

**Table 3: Hepatitis Cases-Interior Health**

Disease	2006	2007	2008	2009	2010
Hepatitis B: Chronic carrier	25	24	33	31	27
Hepatitis B: Unknown/undetermined status	2	1	0	4	3
Hepatitis C	424	404	370	366	356
Hepatitis C: Acute	14	12	15	10	8

#### Hepatitis B (HBv):

The burden of chronic HBv on both the individual and the health care system is significant. Due to the universal immunization program, acute HBv numbers have declined dramatically. The burden of HBv is related to the chronic cases found through screening, many cases of which were acquired in infancy or childhood in foreign countries with high endemic levels of HBv. Chronic HBv carriers can potentially transmit the disease to sexual partners and through other high-risk behaviours. Within Canada HBv spread is also a problem where a Manitoba study found the prevalence of chronic HBv was 32% among injection drug users (IDU) ([www.gov.mb.ca/health/publichealth/cdc/surveillance/sns2.pdf](http://www.gov.mb.ca/health/publichealth/cdc/surveillance/sns2.pdf)).

The case numbers of HBv and the corresponding rate for individuals classed as chronic carriers during 2010 in IH, is significantly below that of other provincial jurisdictions. Cases for 2010 (n=27) show a slight decrease over case numbers for 2009 (n=30). The fluctuation in raw case numbers and rates is indicative of the low case numbers found historically in IH, secondary to the lower proportion of foreign-born residents in IH as compared to the lower mainland of BC. Rates (see **Table 9**) continue to remain well below the provincial rate of 22.7 per 100,000.

#### Hepatitis C (HCv):

HCv continues to impact health care services due to the chronic nature of the disease. Transmission is mainly through injection drug use (IDU), with the Canadian Center for Substance Abuse estimating the prevalence of HCv in IDU to be between 44.1% to 81.6 % depending on the study ([www.ccsa.ca/2005%20CCSA%20Documents/ccsa-004030-2005.pdf](http://www.ccsa.ca/2005%20CCSA%20Documents/ccsa-004030-2005.pdf)). With no HCv vaccine yet developed, harm reduction strategies and education have been the main strategies taken in an attempt to reduce transmission. New HCv provincial test protocols were introduced at BCCDC in 2008, which allow an increasing proportion of the overall HCv reports to be identified as "acute" (i.e. infected in 12-month period prior to test date). The new testing protocol has not resulted in a higher number of acute cases being identified and several more years of data will be needed to analyze the trend for acute disease. Trend analysis indicates the incident rate or the number of newly reported cases of chronic HCv has shown a steady decline from 69.4/100,000 in 2005 to 50.3/100,000 in 2009.

In January 2009, the CD Unit began follow-up on all new acute hepatitis C cases to obtain information on the epidemiology of this disease specific to IH. Follow-up included: an initial interview with the client regarding means of exposure, disease education and harm reduction strategies; referrals and information regarding hepatitis services and immunization; as well as a letter to the primary care provider with eligibility for immunization and hepatitis C resources available. Additionally a second interview with the client 6 to 12 months post lab test was conducted to collect further data related to resources and referrals.

Due to the low numbers of acute cases reported annually (n=9) in IH, individuals who were 16 to 39 (n=67) years of age who were being reported for the first time in BC were also included in the follow-up. This age range was chosen following a literature review that indicated a response to a diagnosis varied by age group and to increase the likelihood that the disease was acquired recently. Individuals who were outside of this age range (n=300) were not interviewed; however a letter to the primary care provider was sent.

Data collected in 2009 was analysed and reported in the 2009 annual report. In the first quarter of 2010 the data based on initial and the follow-up interviews was analyzed to see if the contact by the CD Unit has resulted in behavioural change. It was expected that the individuals who completed both interviews would be motivated to act on the education provided. Completion of immunization was targeted as the most objective indicator for the individual seeking to mitigate other risks that would have a health impact.

In BC, individuals identified as HCv positive are eligible for hepatitis A and B vaccine based on susceptibility. The immunization status of 67 individuals eligible to be included was reviewed using iPHIS. Two individuals who had completed both interviews were excluded from the analysis as they had been immunized prior to their diagnosis for other risk factors. Individuals who had initiated but not completed the series were included in the analysis.

The records were reviewed and those who were not eligible for immunization based on serological immunity to hepatitis A and B were also excluded, reducing the sample size even further. In total, 48 cases were flagged as requiring immunization, of which 29% (n=14) had been interviewed. The data was placed in a contingency table and utilized the Chi-squared test to determine if there was an association between the intervention and immunization. The resulting p value was > than 0.025% and < 0.05%. This indicated the education offered at the interview was likely to have increased the number of HCv individuals receiving immunization. However, review of the other data indicated that outside of immunization, the interview did not lead newly diagnosed individuals to seek other HCv services.

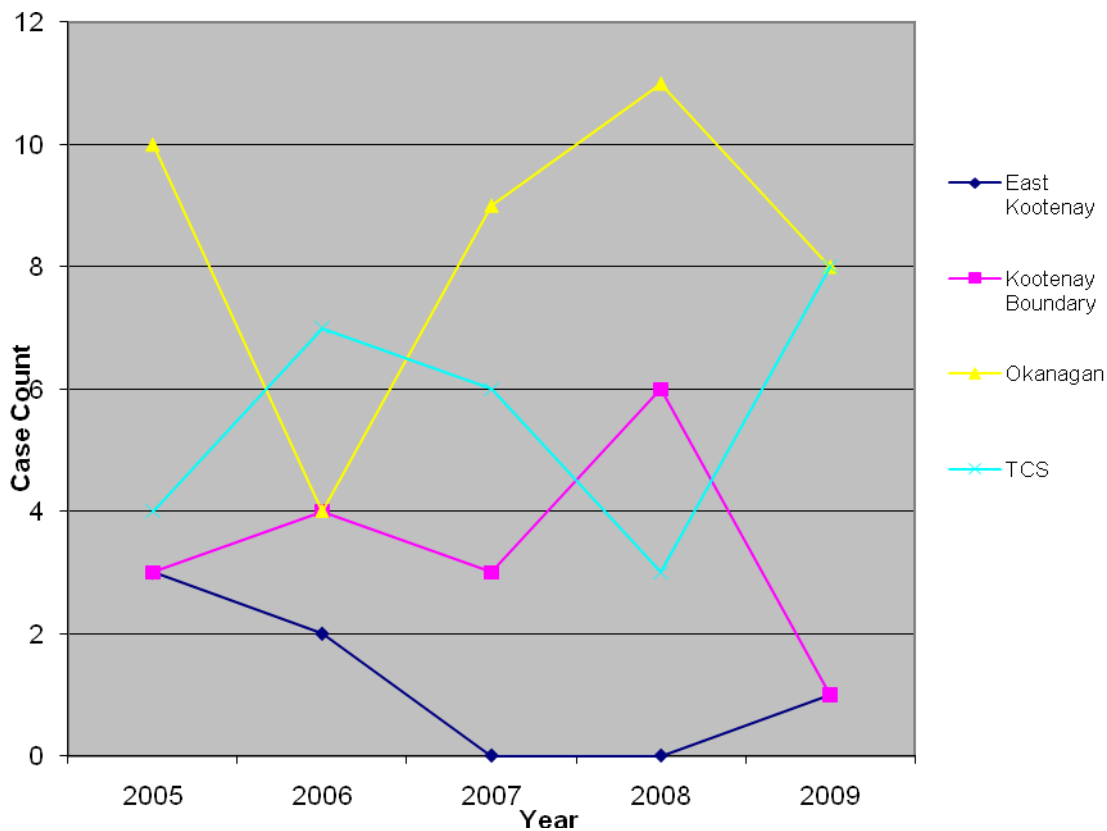
## HIV/AIDS

HIV cases are identified and referred to designated, specially trained PH nurses for follow-up. The number of newly reported cases per year in IH has been relatively stable over the past 5 to 10 years, although with small absolute numbers there can be some rate fluctuation year-to-year. In 2008 the CD Unit became responsible for IH surveillance and establishing a data quality assurance system for HIV cases. Having the CD Unit monitor and review HIV case reports has resulted in newly diagnosed case reports being sent to BCCDC within the standard of three months from call-out and with all data elements complete. This ensures aggregate data is available in a timely manner and allows IH real time access to surveillance data.

**Table 4: IH HIV case reports and rates by HSDA: 2006-2010**

HSDA	2006		2007		2008		2009		2010		Total	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
EK	1	1	0	0	0	0	1	0	0	3	2	4
KB	1	3	0	3	3	4	0	1	0	1	4	12
OK	0	4	4	5	0	10	3	6	2	1	9	26
TCS	2	5	1	5	3	5	3	5	3	2	12	22
<b>Total</b>	<b>4</b>	<b>13</b>	<b>5</b>	<b>12</b>	<b>6</b>	<b>20</b>	<b>7</b>	<b>11</b>	<b>5</b>	<b>7</b>	<b>27</b>	<b>63</b>
<b>IH Total</b>	<b>17</b>		<b>17</b>		<b>26</b>		<b>18</b>		<b>12</b>		<b>90</b>	
<b>IH Rates</b>	<b>2.5</b>		<b>2.4</b>		<b>3.6</b>		<b>2.5</b>		<b>1.6</b>			

**Chart 3: HIV Case Counts 2006 to 2010 for IH HSDAs**





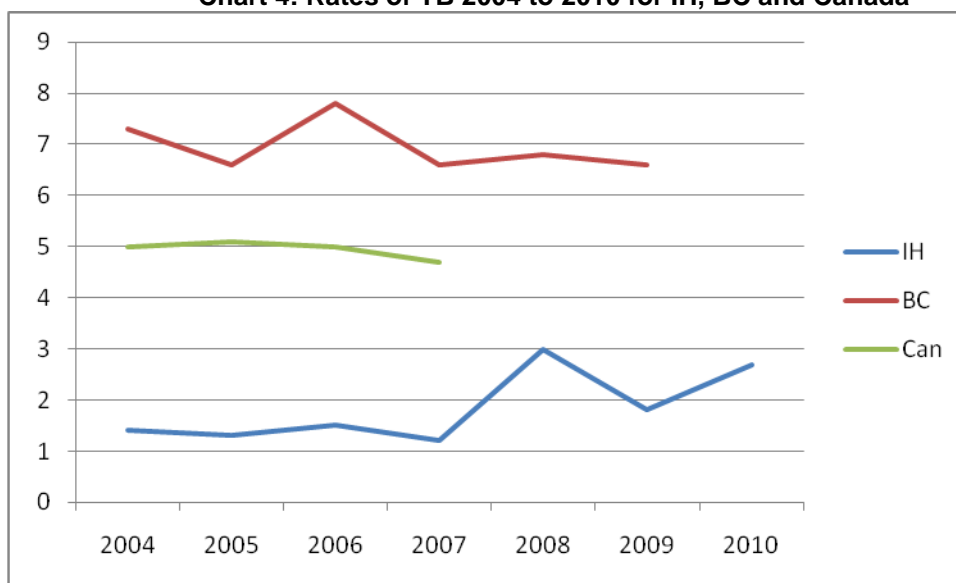
## TUBERCULOSIS (TB)

During 2010, there were 20 active TB cases reported. This case count and the corresponding rate remains higher than the average of nine cases per year reported between 2003-2007, but is attributable to the ongoing TB outbreak centered on the marginalized population in downtown Kelowna with 60% (n=12) of the cases.

**Table 5: Rates of TB 2006 - 2010**

Year	Case Numbers	IH (rate per 100,000)	BC (rate per 100,000)	Canada (rate per 100,000)
2006	11	1.5	7.8	5.0
2007	9	1.2	6.6	4.7
2008	22	3.0	6.8	4.8
2009	13	1.8	6.6	4.5
2010	20	2.7	NA	NA

**Chart 4: Rates of TB 2004 to 2010 for IH, BC and Canada**



An outbreak of TB with confirmed same-strain transmission began in May 2008, with a total of 30 active TB cases identified over the three calendar years 2008-2010 associated with the downtown street-involved population of Kelowna, and is ongoing. Specialized DNA “fingerprint” testing of the culture isolates indicate that 13/18 cases were the same genetic strain (with results pending on the remaining case cultures). This and other case findings indicate the cases were from recent infection.

To date 1,193 individuals have been identified over the 2 ½ year outbreak period as being potentially exposed and have been investigated, with 1019 individuals receiving tuberculin skin testing and 262 having positive TSTs (Table 1). Of these individuals with a positive skin test for TB exposure but no current symptoms or illness, 97 are receiving or have completed preventative antibiotic therapy. Another 59 individuals have declined preventative therapy but are complying with ongoing monitoring of their health status, to detect any early signs of symptomatic TB illness onset. Thirty-eight individuals (either not initially found, or found to be TST+) are currently lost to follow-up, but are the focus of ongoing Public Health staff efforts to find.

## SEXUALLY TRANSMITTED INFECTIONS (STI)

Individuals present for screening and/or diagnosis of STIs through family physicians and special clinics. Those who test positive are reported to BCCDC and the local health centre for follow-up and treatment. It is important to identify not only the cases of disease but those individuals who may have been potentially exposed and may be asymptomatic. Each case may generate a single or multiple contacts that also require testing and potential treatment.

In 2010, the CD Unit assumed responsibility for STI reporting and in partnership with primary care providers, the contact notification. For cases tested at IH clinics, the public health nurse (PHN) continues to provide treatment and contact notification. This has allowed for real time surveillance and the ability to analyze trends.

### Chlamydia

**Table 7: Chlamydia 2006 - 2010**

Year	IH Case Count	IH Rate (per 100,000)	BC Rate (per 100,000)
2006	1519	220	219
2007	1663	236	234
2008	1864	258	246
2009	1842	251	251
2010	1847	249	261

Chlamydia case reports in 2010 are higher compared to the previous three years, which matches the longitudinal trend increase in both BC and Canada. Those aged 15 to 29 accounted for 92% of the total cases, with a peak incidence in 20-24 year-olds. Females test positive more frequently (n= 1294; 70%) than males (n=553; 30%). It is not clear what is driving the long-term rate increase across Canada, but at least a portion of the increase is thought to be due to increased lab testing with a relatively new urine screening that has high test sensitivity.

### Gonorrhea

**Table 8: Gonorrhea 2006 – 2010**

Year	IH Case Count	IH (rate per 100,000)	BC (rate per 100,000)
2006	81	11.7	25.3
2007	126	17.9	29.7
2008	192	26.6	32.9
2009	126	17.2	30.3
2010	118	15.9	30.1

There was a minimal decrease in the IH gonorrhea case reports in 2010 as compared to 2009. There has been a steady long-term increase in gonorrhea (and other STI) rates across BC and Canada in the last decade, tending to affect northern areas predominantly more than southern locales. It is interesting to note the wide variations in gonorrhea case number and corresponding rates across IH with TCS having the highest number (n=72) and KB/EK (n=4) having the lowest number. All are well below the BC rate.

TCS continues to have the highest rates for gonorrhea with the majority of tests attributed to the urban centers of Kamloops and Williams Lake which account for 66% of all cases. However Lillooet had a significant increase in the case numbers (n=13) over 2009 (n=5).

## **WEST NILE VIRUS (WNV)**

The summer of 2010 saw some northward extension of the virus, evidenced by several dead crows found in Kelowna in August being WNV positive. However, no WNV positive detections were found in any of our 22 mosquito trap sites in summer 2010, no large scale bird die-offs, and only two human cases (a married couple with same-time exposure in south Okanagan) in 2009 and one human case (in Kelowna) in summer 2010.

## **RABIES**

There have been only two cases of human rabies in BC residents in the past 50 years: one in 1985 (Alberta-acquired) and one in 2003 (BC bat exposure). Cases of rabies in animals other than bats are rare in BC, other than in bats. Bats are the only BC animal species in which rabies is endemic, albeit at low levels. The CD Unit revised and implemented a new protocol for potential rabies exposure in 2008. The local IH PH offices will continue to take the lead role in initial review of an animal contact/exposure. When the exposure is likely to result in rabies post-exposure prophylaxis (RPEP), the CD Unit will conduct a detailed risk assessment and work with the MHO and Prevention Services (PS) to ensure immunization is provided.

In 2009, BCCDC also instituted a policy change regarding bat exposures, where, if contact with a bat could not be confirmed (e.g. waking up with a bat in a room) no recommendation for RPEP would be initiated. In accordance with IH guidelines, HP will forward their report to the CD Unit who will discuss with the client why RPEP will not be administered.

In 2010, a total of 114 human animal contacts were investigated with 18 determined to have no contact. Of those investigated 12 were classified as 'high' and 21 were classified as 'moderate' risk exposure which necessitated RPEP in 23 individuals. On average, 5% to 10% bats that are submitted, test positive for rabies in BC in any given year. In IH, 14 animals were submitted for testing with no positives reported in 2010.

## **SUMMARY OF OUTBREAKS**

### **GastroIntestinal (GI)**

During 2010 there were 53 GI outbreaks reported by community care facilities (CCF) with 60% (n=32) confirmed as norovirus. The outbreaks ranged from 1 to 27 days with a mean duration of 10 days and attack rates ranged from 4.0% to 76.7%

An additional 9 GI outbreaks were reported in acute care settings with 66% (n=6) confirmed as norovirus. GI outbreaks were reported in 17 community settings (n=7 in assisted/supported living; n=3 in a child care setting; n=7 in other community settings). 11 schools reported absenteeism of greater than 10% due to GI symptoms. Lab confirmation by PH is not routinely sought in community settings, unless there is an indication of clinical severity or other problem, beyond the expected mild, self-limiting presentation of viral gastrointestinal disease, most commonly due to norovirus.

### **Respiratory Infection (RI)**

In 2010, there were 17 respiratory infection outbreaks reported by CCF. A total of 4 outbreaks were attributed to human metapneumovirus virus; 2 outbreaks to Respiratory Syncytial Virus (RSV) and 4 outbreaks to rhinovirus. No influenza outbreaks were reported in a CCF in 2010.

One community setting reported respiratory illness. 13 schools reported absenteeism of greater than 10% due to respiratory illness.

**Table 9: Case Numbers and Rates for Selected Diseases 2006 to 2010**

	2006			2007			2008			2009			2010			Five Year Average	
	Cases		Rate	Cases		Rate	Cases		Rate	Cases		Rate	Cases		Rate		
	IH	IH	BC	IH	IH	BC	IH	IH	BC	IH	IH	BC	IH	IH	BC	IH	BC
Campylobacteriosis	201	29.1	37.5	197	27.9	38.8	189	26.2	37.8	202	27.7	39.6	202	27.2	34.4	27.6	37.6
Cryptosporidiosis	23	3.3	3.0	11	1.6	2.1	14	1.9	2.6	8	1.1	1.9	8	1.1	1.2	1.8	2.2
E.coli, Verotoxigenic	29	4.2	3.6	37	5.2	4.3	17	2.4	2.6	22	3.0	1.9	29	3.9	2.4	3.7	3.0
Giardiasis	72	10.4	15.9	71	10.1	15.3	67	9.3	14.6	78	10.7	13.9	89	12.0	13.8	10.5	14.7
Hepatitis A	10	1.4	1.3	5	0.7	1.0	6	0.8	0.9	2	0.3	0.7	2	0.3	0.7	0.7	0.9
Hepatitis B: Acute	4	0.6	1.0	2	0.3	1.0	2	0.3	0.9	2	0.3	0.6	1	0.1	0.2	0.3	0.7
Hepatitis B: Chronic carrier	25	3.6	33.3	24	3.4	32.7	33	4.6	30.2	31	4.2	26.7	27	3.6	22.7	3.9	29.1
Hepatitis B: Unknown/undetermined	2	0.3	3.7	1	0.1	3.2	0	0.0	5.1	4	0.5	3.9	3	0.4	5.5	0.3	4.3
Hepatitis C	424	61.4	66.5	404	57.3	65.0	370	51.2	53.8	366	50.2	53.8	356	48.0	47.2	53.6	57.3
Hepatitis C: Acute	14	2.0	2.7	12	1.7	2.6	15	2.1	3.5	10	1.4	2.5	8	1.1	1.7	1.7	2.6
Influenza	139	20.1	17.5	91	12.9	18.3	200	27.7	26.6	886	121.4	182.2	3	0.4	3.2	36.5	49.6
Measles: Rubella (Red)	4	0.6	0.1	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	14	1.9	1.9	0.5	0.4
Meningitis/Encephalitis: Bacterial	1	0.1	0.3	4	0.6	0.2	2	0.3	0.1	7	1.0	0.2	4	0.4	0.1	0.5	0.2
Meningococcal invasive	8	1.2	0.8	6	0.9	1.0	4	0.6	0.6	3	0.4	0.7	4	0.5	0.3	0.7	0.7
Mumps	0	0.0	0.2	4	0.6	0.6	4	0.6	3.1	0	0.0	0.6	2	0.3	0.4	0.3	1.0
Pertussis	152	22.0	7.1	23	3.3	4.0	9	1.2	5.6	23	3.2	3.7	45	6.1	2.9	7.2	4.7
Pneumococcal Meningitis	0	0.0	0.3	0	0.0	0.2	2	0.3	0.3	1	0.1	0.3	1	0.1	0.2	0.1	0.3
Pneumococcal Other	54	7.8	10.3	87	12.3	12.7	79	10.9	8.9	53	7.3	7.1	56	7.6	5.8	9.2	9.0
Rubella (German Measles)	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	1.0	0	0.0	0.2	0.0	0.2
Salmonellosis	83	12.0	14.9	107	15.2	17.6	113	15.6	19.4	103	14.1	20.0	136	18.3	22.8	15.0	18.9
Shigellosis	13	1.9	4.0	11	1.6	6.4	6	0.8	4.7	11	1.5	4.4	21	2.8	4.2	1.7	4.7
Group A strep : Invasive	25	3.6	4.7	38	5.4	5.8	49	6.8	6.1	25	3.4	4.0	12	1.6	3.2	4.2	4.8
West Nile Virus	0	0.0	0.0	4	0.6	0.4	1	0.1	0.0	2	0.3	0.0	1	0.1	0.0	0.2	0.1
Yersiniosis	44	6.4	17.5	71	10.1	16.4	44	6.1	13.1	29	4.0	10.4	38	5.1	9.4	6.3	13.4
HIV	17	2.5	8.5	17	2.4	9.1	26	3.6	7.9	18	2.5	7.6	12	1.6	6.6	5.4	7.9
Chlamydia	1519	220	219	1663	236.2	233.8	1864	258	246.2	1842	251.2	251.3	1847	249.0	261.2	242.9	242.3
Gonorrhea	81	11.7	25.3	126	17.9	29.7	192	26.6	32.9	126	17.2	30.3	118	15.9	30.1	17.9	29.7
Infectious Syphilis	5	0.7	7.8	10.0	1.4	7.0	7	1.0	7.5	13	1.8	4.8	4	0.5	3.4	1.1	6.1