

Disease WAtch the Western Australian Communicable Diseases Bulletin

www.public.health.wa.gov.au

From the Director's desk

The major article in this issue of Disease Watch is a review of notifiable diseases in 2009. Also in this issue are updates on the investigation into adverse events in young children associated with one brand of influenza vaccine and the current outbreak of measles in Perth, and information relating to the release of updated guidelines on management of sexually transmitted diseases in WA, commonly known as the 'Silver Book'.

Please note that plans are underway to change the distribution method for Disease Watch to an electronic format. More on this in later issues.

Dr. Paul Armstrong, June 2010

Guidelines for managing STIs now available online

WA Health's *Guidelines for Managing Sexually Transmitted Infections*, also known as the "Silver Book", have been updated, following statewide consultation. The guidelines are available online and feature an easy to navigate interface, regularly updated information and a range of patient and health professional resources.

To view the guidelines or to provide feedback, please go to: <u>http://silverbook.health.wa.gov.au</u>

A hard copy of the updated guidelines is also being produced and will include an updated *WA Endemic Regions STI/HIV Control Supplement* for the Kimberley, Pilbara and Goldfields regions.

The Communicable Disease Control Directorate would like to thank all the health care providers who have participated in the development of the guidelines.

For further information, please contact Sue Laing, Sexual Health and Blood-borne Virus Program (Email: <u>susan.laing@health.wa.gov.au</u>) June 2010 Volume 14 No. 2 ISSN 1441-015X

Suspension of Influenza vaccination for children less than five years

- Influenza vaccination for children less than 5 years of age without medical risk factors continues to be suspended, as recommended by the Commonwealth Chief Medical Officer on 1 June 2010.
- The investigation by the Therapeutic Goods Administration ongoing; to date they have not identified any factors that could explain the higher than expected rates of fever with convulsions in children less than five years of age following administration of 2010 seasonal influenza vaccine.
- While influenza vaccinations for healthy children less than five years of age have been suspended until further notice, children under the age of five with medical risk factors for severe influenza illness should be encouraged to be vaccinated if, in the opinion of their provider, the benefits of influenza vaccine outweigh the potential risks.
- For the remainder of this year, the Department of Health recommends using Solvay or sanofi pasteur formulations of the 2010 seasonal influenza vaccine when vaccinating children less than five years of age.
- Panvax[®] vaccine, which is specific for the 2009 swine flu strain, is still freely available and is an option for those parents who do not wish to have seasonal influenza vaccine.
- Reporting potential adverse events following administration of medicines, including vaccines can be done online at: <u>www.tga.gov.au/adr/bluecard.htm</u>

Update on Perth measles outbreak

- Following our recent media alert on 8 June 2010 advising GPs of three confirmed measles cases in Perth, two additional measles infections have been confirmed within the metropolitan area. Both recent infections occurred among health care workers believed to be exposed at Royal Perth Hospital. Public health follow up of contacts is ongoing.
- Clinicians can access detailed information regarding measles, including exposure management guidelines at <u>www.public.</u> <u>health.wa.gov.au/3/336/3/measles.pm</u>

Disease WAtch is the newsletter of the Communicable Disease Control Directorate. To subscribe or contribute, contact the editor, Andy Parnell, at cdc@health.wa.gov.au or 9222 6424.



Review of notifiable diseases 2009

In 2009, there was a record 26,930 communicable disease notifications in WA, 25% more than in 2008. The increase was mostly attributed to the influenza A (H1N1) pandemic that occurred during the winter months. There were also increased notifications of campylobacteriosis, pertussis and salmonellosis relative to recent years, and a continuing increase in notifications of genital chlamydia and varicella-zoster infections.

The most frequently notified diseases in 2009 were genital chlamydia (8,881 cases), influenza (5,575 cases), campylobacteriosis (2,597 cases) and varicella-zoster infection (1,736 cases).

Vaccine-preventable diseases

The number of **measles** notifications remains low, with the exception of an outbreak in 2006, mostly among unvaccinated children associated with a visiting spiritual group. The majority of cases continue to be imported into Western Australia. Of the ten measles cases notified in 2009, nine cases were acquired overseas (New Zealand x 2, United Kingdom x 2, Vietnam x 2, Thailand x 1, Indonesia x 1), including one case which was acquired after exposure to two infectious siblings during an air flight from Dubai to Perth. The single locally acquired case was a sibling of an imported case; no other secondary cases were identified. The median age was 21 years (range: 9 months – 56 years) and apart from one adult, all were unvaccinated for measles.

The number of **rubella** cases also remained low with five notifications in 2009, of which two were acquired in Malaysia.

Mumps activity declined to baseline levels (20 cases), after a sustained outbreak during 2007 and 2008, predominantly among teenage and young adult Aboriginal people in the Kimberley region. Cases were evenly distributed across all age groups (range: 6 – 88 years) and the majority resided in the metropolitan region. Five cases reported being fully vaccinated for mumps. There were four *Haemophilus influenzae type B* cases; all were Aboriginal people from the remote regions (Kimberley x3, Pilbara x1). Three cases were babies less than one year old (range: 3 - 5 months) and one case was 17 years old. Two of the babies had been partially immunised while the third baby and the adolescent had no history of immunisation.

The number of **invasive pneumococcal disease** notifications decreased from 161 cases in 2008 to 149 cases in 2009, but was still higher compared to 2005 to 2007. The recent increases have been attributed to an increase in disease caused by non-vaccine serotypes. In 2009, 30 children under 5 years (20% of cases) were notified. Of these, only one case was caused by a serotype included in Prevenar, the current seven valent conjugate vaccine. There were six deaths among adults.

Influenza activity in 2010 was dominated by the pandemic (H1N1) 2009 virus. Notifications peaked in mid-July and declined to near baseline levels by the end of October. Of 5,575 influenza notifications for the year, typing data were available for 5,067 cases (91%). Of these, the vast majority (4,592 cases, 91%) were caused by the novel type A pandemic (H1N1) 2009 influenza virus, with 475 cases (9%) caused by **seasonal influenza** viruses, comprising mostly type A H3N2 (309 cases, 65%); H1N1 (102 cases, 21%) and a few type B viruses (64 cases, 13%). For both pandemic influenza and seasonal influenza, females just outnumbered males (ratio =1.1). Pandemic influenza cases were younger than the seasonal influenza cases (median age: 24 vs 37 years, respectively).

Notification rates for pandemic influenza were between 130 to 210 cases per 100,000 population in most regions of the state, compared to rates of between 10 to 23 cases per 100,000 population for seasonal influenza. The exception was the Kimberley region where rates of both pandemic and seasonal influenza were up to 4 and 7 times higher, respectively compared to the other regions. This may

Disease category/DiseaseconspaceconspaceconspaceconspacePopulation(me2,070,80)(me2,069,891)(me2,106,901)(me2,106,901)(me2,106,901)Enteric diseases(me2,070,801)(me2,069,891)(me2,106,901)(me2,106,901)Campyobactericois24001940210218302670Campyobactericois183021106110140235Chobra1832110611016105Hepatitis E211<026Hepatitis E21<10065Usericois41<121<05Paratyphoid fever41<1241<0Salmonelicois18912121212Salmonelicois18912121212Salmonelicois18912121212Shagehous16512121212Shagehous12321212Shagehous121109312Shagehous1213131313Shagehous1213131313Shagehous1213131313Shagehous1213131313Shagehous1213131313Shagehous12131314	Table 1. Number of notifications in WA by year, 2005 to 2009.									
Disease category/DiseaseInternational state international sta										
Dots of the series2006200720082009Population(m=2,07,088)(m=2,09,987)(m=2,18,491)(m=2,18,491)(m=2,18,949)Enteric diseases2450194921021830207Cincypichacteriosis2450194921021830207Cholera100200Chylosportidesis183251010164235Hepatits E2106516Listeriosis4132815Parahyloid tever4255724452419Rotavita18255724452123Stationalization786865852123Shigablesis18512910288Shigablesis61988Yarahashig function2311212Yarahashig function211911Yarahashig function119111Yarahashig function231111Yarahashig function211111Yarahashig function111111Yarahashig function111111Yarahashig function211111Yarahashig function21111<										
Papulation(n=2,017,080)(n=2,08,947)(n=2,13,497)(n=2,13,497)(n=2,13,497)Enter diseasesIIIIIICamycbacteriosia24501440210218302507Coblea10020ICholpacteriosia183251611164.01256Chyptaporidiosi183.01211114.01212.0135Hepatits A54121.0131516.01Listeros43316.011512.01Paratyhol terer4110.01312.0112.01Saimonilosis105129122123123123Shigalosi15512912.0112.0112.0112.01Shigalosi Covir12312.0112.0112.0112.01Shigalosi Covir12.0112.0112.0112.0112.0112.01Shigalosi Covir12.0112.0112.0112.0112.0112.01Shigalosi Covir12.0112.0112.0112.0112.0112.0112.01Shigalosi Covir12.0112.0112.0112.0112.0112.0112.01Shigalosi Covir12.0112.0112.0112.0112.0112.0112.01Shigalosi Covir12.0112.0112.0112.0112.0112.0112.01Shigalosi Covir12.0112.01<	Disease outegory/Disease	2005	2006	2007	2008	2009				
Enteric diseasesinininininCamyoboacteriosis24601949210218362597Cholera100200Cholera183251611164255Hepatits A5471212236Hepatits F21065Listeriosis41335Paralybid fever41335RotariusNN255724425419Salinoneliosis7987809658521123Shigalvion torotong E. coli123206Yigh vare811988Vibrio parahemolyticus03979Vibrio parahemolyticus20379Vibrio parahemolyticus20102102102Vibrio parahemolyticus203111Vibrio parahemolyticus203111Vibrio parahemolyticus201111Vibrio parahemolyticus203111Vibrio parahemolyticus203111Vibrio parahemolyticus201111Vibrio parahemolyticus201111Vibrio parahemolytic	Population	(n=2,017,088)	(n=2,059,381)	(n=2,106,119)	(n=2,138,491)	(n=2,180,946)				
Camp/obacteriosis24501949210218362597Cholea10020Crylosporidiosis183251611164235Crylosporidiosis1832112112235Hepatits A21065Listeriosis21065Paralyhoid fever4132815Paralyhoid fever413355RolaviusNN235724425419Sationeliosis7987868658521123Shigeliosis155129102169122Shigeliosis1551291021698Vicrio parahemolyticus03979Yersinoisi23573Vacine preventable diseases198101101Hermonitus influenze type B212102103101575Massis130113101101101Pertussis255289134481132161149Numps2217109920101149Pertussis657289134481132161149Munps1134132161149149149Pertussis657134134132161 <td< td=""><td>Enteric diseases</td><td></td><td colspan="2"></td><td></td><td></td></td<>	Enteric diseases									
Cholera10020Cryptospondiosis183251611114235Hepattis E5471212235Hepattis E21065Literiosis4132815Paratyphold fever41335SalmonellosisNN235724425419Salmonellosis15120102123123Shigalver-toxin producing E. coli153979Yersinosis239799Yersinosis239799Yersinosis20104101010Yersinosis2010311857510Mumps211301181011010Mumps2217103811857510Mumps2217109952020Petusis52526913448784Numps22134132161149Rubella160134323366319Pretusis52526913448784Numps1633336319114Nuclei (ricken pox)NN16638651752Variella (rinken pox)NN16638651754	Campylobacteriosis	2450	1949	2102	1836	2597				
Crybosportioisis183251611144238Hepattis A5471212235Hepattis E21065Listeriois413335Pardythoid fever41335RotaviusNN235724425419Salmoellosis7989858521123Shigelosis1551291021603Shigalver Joxin producing E. coll12321Yaphoid fever8111988Shigalver Joxin producing E. coll23979Yaphoid fever8119881Yaphoid fever8119899Yaphoid fever8119999Yaphoid fever8119999Yaphoid fever8119999Yaphoid fever81199999Yaphoid fever811999999Yaphoid fever812999999999Yaphoid fever812910999999999999999999999	Cholera	1	0	0	2	0				
Hepatitis A5471212235Hepatitis E21065Literosis4132815Paratyphold fever4132815RotavirusNN235724425419Salmoneliosis7987989658521123ShigeNotsin producing E, coli123206Typhold fever8119888Varians039799Varians039799Varians039799Varians039799Varians2012101101101Varians039799Varians235799Varians1988101101Varians039799101Varians23101101101101101Heamophilus influenzae type B2018101101Mumps2217109952020Pertussis52528914448874102Nucesti Healt10114102101101Varicela (chicen pox)NN1	Cryptosporidiosis	183	251	611	164	235				
Hepathis E21065Listeriosis4132815Paralyhold fever41335RotavinsNN235724425419Salmonelosis7989858521123Shigelidisi155120160122Shigelidisi15512010216922Shigelidisi123206Typhoid fever811988Yorio parahaemolyticus03979Yersinoisi23979Yersinoisi20101210Influenza66513110381018575Measles1301933Influenza62626913446874Perussio52526913446874Preusoccal infection10141414Numps2134321613Perussio623753Teatus001413216114Varicela (chicken pox)10N16636574Varicela (chicken pox)0N248325651Varicela (chicken pox)0N166365752Varicela (chicken pox)NN16636575	Hepatitis A	54	71	21	22	35				
Literiosis4132815Paratyphol fever41335RotavirusNN235724425419Salmoneliosis786786985852123Singalocs, coxin producing <i>E. coli</i> 1551291021696Singalver-coxin producing <i>E. coli</i> 123206Typhol fever8119888Yersinoisi039799Yersinoisi2004193Vacina parahaemolyticus039793Yersinoisi2010109331Haemophilus influenzee type B2004101010Influenza46521310311857533Murps22710995221010Numps25269134468741414Pertussis6237533101Nuclei (chicken pox)1014<	Hepatitis E	2	1	0	6	5				
Paratyphoid fever41335RotavirusNN235724425419Salmonellosis7987989858521123Shigalosis155129102169122Shigalver-toxin producing <i>E coli</i> 123206Typhoid fever8119888Voliro parhaemolyticus039799Versiniosi2357331Vaccine preventable diseases1110110111Infuenza46521310381018575575Mangs2217103410185751Mungs22134132161191Pertussi525269144688784Preunococcal infection14013412216119Rubella622336631419Varicella (chicken pox)NN248323366319Varicella (shingles)NN16636417<	Listeriosis	4	13	2	8	15				
RetavirusNN235724425419Salmonellosis7989858521123Shigellosis155129102169122Shigelvon's producing E. coli123206Typhoid feer8119881Vibrio parahaemolyticus039799Versinosis235733Vaccine preventable diseases102044Influenza455213103810185575557Measles130181014Mumps22171099520201Pertussis52526913446878419Rubelia6233563191Rubelia6235175252516Rubelia1341321611491210Rubelia62351752515151Rubelia1601341321611491214Rubelia6235175251515151Rubelia161149132161149151515151515151515151515151516161616 <td>Paratyphoid fever</td> <td>4</td> <td>1</td> <td>3</td> <td>3</td> <td>5</td>	Paratyphoid fever	4	1	3	3	5				
Salmonellosis7987989858521123Shigelosis155129102169122Shigal/ero-toxin producing E. coli123206Typhoid fever811988Vibro parahaemolyticus03979Yersinosis23573Vaccine preventable diseases10204Influenza665213103810185575Measles1301810Mumps22771099520Pertussis525269134488784Rubella62375Teanus001014314Varicela (hingles)NN248323356319Varicela (hingles)NN166386517542Varicela (hingles)NN16856319314Aburdifield5205555Rubella623755Teanus0010336319Varicela (hingles)NN166386517542Varicela (hingles)633555Varicela (hingles)855555State55555 <td< td=""><td>Rotavirus</td><td>NN</td><td>235</td><td>724</td><td>425</td><td>419</td></td<>	Rotavirus	NN	235	724	425	419				
Shigellosis155129102169122Shiga/Vero-toxin producing <i>E. coli</i> 123206Typhold fever811988Vibrio parahaemolyticus03979Yersinoisis23573Vaccine preventable diseases10204Heemophilus influenzae type B20204Influenza465213103810185575Measles1301810Murps22171099520Pertusis555269134468784Rubella62375Tetanus000103Varicela (chicken pox)NN248323356319Varicela (shingles)NN166386517542Varicela (unspecified)NN166367732Varicela (unspecified)NN341321112Varicela (unspecified)NN16636517542Varicela (unspecified)NN166367735Varicela (unspecified)NN166361112Varicela (unspecified)NN1851361714Varicela (unspecified)NN1851361714Varicela (unspecified)<	Salmonellosis	798	798	985	852	1123				
Shiga/Vero-toxin producing E. coli123206Typhoid fever8119888Typhoid fever039799Vibrio parahaemolyticus039793Yersiniosis235733Vaccine preventable diseases102044Influenza4652131038101855755575Measles1301810110Murps2217109952020Pertussis525269134468784784Nubella623755Tetanus0010010Varicella (chicken pox)NN248323356319Varicella (unspecified)NN166386517542Varicella (unspecified)NN198659757875Varicella (unspecified)NN198659757875Arboviral encephalitis03010366Arboviral encephalitis03010366Barmah Forest virus84185136177154	Shigellosis	155	129	102	169	122				
Typhold fever811988Vibrio parahaemolyticus03979Yersiniosis23573Vaccine preventable diseasesI0204Haemophilus influenzae type B20204Influenza465213103810185575Measles1301810Mumps22171099520Pertussis525269134468744Rubella62375Tetanus0001014Varciella (hicken pox)NN248323356319Varcella (unspecified)NN198659757642Arboviral encephalitis03012Arboviral encephalitis84185136177154	Shiga/Vero-toxin producing E. coli	12	3	2	0	6				
Vibrio parahaemolyticus03979Yersiniosis23573Yecsiniosis20173Vaccine preventable diseases10204Haemophilus influenzae type B20204Influenza465213103810185575Measles1301810Murps22171099520Pertussis525269134468784Rubella62375Tetanus001149149Varicella (chicken pox)NN248323366319Varicella (unspecified)NN198659757652Varicella (unspecified)NN198659757542Varicella (unspecified)NN198659757675Varicella (unspecified)NN198659757675Arboviral encephalitis03012Arboviral encephalitis84185136177154	Typhoid fever	8	11	9	8	8				
Yersiniosis23573Vaccine preventable diseasesIIIIIHaemophilus influenzae type B20204Influenza465213103810185575Measles1301810Mumps22171099520Pertussis525269134468784Nedella62375Tetanus00010Varciela (chicken pox)NN248323356319Varciela (unspecified)NN198659757875Varciela (unspecified)NN198659757875Arboviral encephalitis03012Arboviral encephalitis84185136177154	Vibrio parahaemolyticus	0	3	9	7	9				
Vaccine preventable diseasesIndexIndexIndexIndexHaemophilus influenzae type B2004Influenza465213103810185575Measles1301810Mumps22171099520Pertussis525269134468784Pneumococcal infection140134132161149Rubella62375Tetanus000100Varicella (chicken pox)NN248323356319Varicella (unspecified)NN166386517542Varicella (unspecified)NN198659757875Arboviral encephalitis03012Barmah Forest virus84185136177154	Yersiniosis	2	3	5	7	3				
Haemophilus influenzae type B 2 0 4 Influenza 465 213 1038 1018 5575 Measles 1 30 1 8 10 Mumps 22 17 109 95 20 Pertussis 525 269 134 468 784 Pneumococcal infection 140 134 132 161 149 Rubella 6 2 3 7 5 Tetanus 0 0 0 1 0 0 Varicella (chicken pox) NN 248 323 366 319 Varicella (shingles) NN 166 386 517 542 Varicella (unspecified) NN 198 659 757 875 Varicella (unspecified) NN 198 659 517 542 Varicella (unspecified) NN 198 659 757 875 Arboviral encephalitis	Vaccine preventable diseases									
Influenza465213103810185575Measles1301810Mumps22171099520Pertussis525269134468784Pneumococcal infection140134132161149Rubella62375Tetanus000100Varicella (chicken pox)NN248323356319Varicella (shingles)NN198659757875Vertor-borne diseasesIIIIIArboviral encephalitis03012Barmah Forest virus84185136177154	Haemophilus influenzae type B	2	0	2	0	4				
Measles1301810Mumps22171099520Pertussis525269134468784Pneumococcal infection140134132161149Rubella62375Tetanus000100Varicella (chicken pox)NN248323356319Varicella (shingles)NN198659517542Varicella (unspecified)NN198659757875Arboviral encephaltits03311Barmah Forest virus84185136177154	Influenza	465	213	1038	1018	5575				
Mumps22171099520Pertussis525269134468784Pneumococal infection140134132161149Rubella62375Tetanus000100Varicela (chicken pox)NN248323356319Varicela (shingles)NN166386517542Varicela (unspecified)NN198659757875Vector-borne diseases033011Arboviral encephaltis84185136177154	Measles	1	30	1	8	10				
Pertussis525269134468744Pneumococal infection140134132161149Rubella623755Tetanus000100Varicella (chicken pox)NN248323356319Varicella (shingles)NN166386517542Varicella (unspecified)NN198591577875Vector-brane diseases03361101Arboviral encephaltis033611364Barmah Forest virus84185136177154	Mumps	22	17	109	95	20				
Pneumococcal infection140134132161149Rubella623755Tetanus000100Varicella (chicken pox)NN248323356319Varicella (shingles)NN166386517542Varicella (unspecified)NN198659757875Vector-borne diseases033011Arboviral encephaltis03361754Barmah Forest virus84185136177154	Pertussis	525	269	134	468	784				
Rubella642375Tetanus000000Varicella (chicken pox)NN248323356319Varicella (shingles)NN166361517542Varicella (unspecified)NN198659757875Vector-borne diseases033010Arboiral encephaltis033161154154	Pneumococcal infection	140	134	132	161	149				
Tetanus00010Varicella (chicken pox)NN248323356319Varicella (shingles)NN666386517542Varicella (unspecified)NN198659757875Vector-borne diseases03601020Arboniral encephaltis036012Barmah Forest virus84185166177154	Rubella	6	2	3 7		5				
Varicela (chicken pox) NN 248 323 356 319 Varicela (shingles) NN 166 386 517 542 Varicela (unspecified) NN 198 699 577 875 Varicela (unspecified) NN 198 690 757 875 Varicela (unspecified) O Image: State	Tetanus	0	0	0	1	0				
Varicella (shingles) NN 166 386 517 542 Varicella (unspecified) NN 198 659 757 875 Vector-borne diseases Image: Constraint of the symbol of	Varicella (chicken pox)	NN	248	323	356	319				
Varicella (unspecified) NN 198 659 757 875 Vector-borne diseases Image: Constraint of the symptotic of the symptot of the symptotic of the symptotic of the symptotic of	Varicella (shingles)	NN	166	386	517	542				
Vector-borne diseases Image: Sector diseases </td <td>Varicella (unspecified)</td> <td>NN</td> <td>198</td> <td>659</td> <td>757</td> <td>875</td>	Varicella (unspecified)	NN	198	659	757	875				
Arboviral encephalitis 0 3 0 1 2 Barmah Forest virus 84 185 136 177 154	Vector-borne diseases									
Barmah Forest virus 84 185 136 177 154	Arboviral encephalitis	0	3	0	1	2				
	Barmah Forest virus	84	185	136	177	154				
Chikungunya virus infection NN NN NN 2 10	Chikungunya virus infection	NN	NN	NN	2	10				
Dengue fever 19 16 54 98 134	Dengue fever	19	16	54	98	134				
Malaria 85 120 85 85 84	Malaria	85	120	85	85	84				
Ross River virus 311 881 599 884 854	Ross River virus	311	881	599	884	854				
Schistosomiasis 403 272 357 337 271	Schistosomiasis	403	272	357	337	271				
Typhus (Rickettsial infection) 10 21 7 19 24	Typhus (Rickettsial infection)	10	21	7	19	24				
Zoonotic diseases	Zoonotic diseases									
Brucellosis 0 1 1 0 1	Brucellosis	0	1	1	0	1				
Leptospirosis 5 3 5 1 1	Leptospirosis	5	3	5	1	1				
Psittacosis 4 4 3 6 2	Psittacosis	4	4	3	6	2				
Q fever 6 5 7 6 2	Q fever	6	5	7	6	2				
Blood-borne viral diseases	Blood-borne viral diseases									
Hepatitis B (newly acquired) 34 50 42 48 39	Hepatitis B (newly acquired)	34	50	42	48	39				
Hepatitis B (unspecified)* 375 552 576 705 699	Hepatitis B (unspecified)*	375	552	576	705	699				
Hepatitis C (newly acquired) 107 110 82 102 94	Hepatitis C (newly acquired)	107	110	82	102	94				
Hepatitis C (unspecified)* 954 1010 1163 1265 1067	Hepatitis C (unspecified)*	954	1010	1163	1265	1067				
Hepatitis D 2 1 4 6 0		2	1	4	0	0				
	Chancroid (coff sore)	1	0	0	0	2				
Onlamotion (soft soft) I U U U 2 Chlamotia (nenital) 5445 6141 7750 9659 0001		5445	6141	7750	8658	8881				
One Original (general) Original (general) Original (general) Original (general) Original (general) Object (general) <td></td> <td>2</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td>		2	0	0	0	0				
Gonorrhoea 1576 1675 1761 1696 1347	Gonorrhoea	- 1576	1675	1761	1696	1347				

00



Table 1. Number of notifications in WA by year, 2005 to 2009.										
Disease category/Disease	Year (population)									
	2005	2006	2007	2008	2009					
Population	(n=2,017,088)	(n=2,059,381)	(n=2,106,119)	(n=2,138,491)	(n=2,180,946)					
Human immunodeficiency virus	64	72	76	89						
Syphilis (infectious)	19	50	103 177		88					
Syphilis (non-infectious)*	186	140	128	110	109					
Other diseases										
Acute rheumatic fever*	NN	NN	NN	6	4					
Haemolytic Uraemic Syndrome	1	0	0	0	0					
Creutzfeldt-Jakob disease*	1	1	2 7		3					
Legionellosis	71	92	82	73	51					
Leprosy*	3	3	2	2	2					
Melioidosis	1	5	4	6	7					
Meningococcal infection	47	21	20	24 28						
Tuberculosis*	61	113	60	96	109					
Total	14,648	16,221	20,396	21,491	26,930					

represent, at least in part, increased testing in Aboriginal communities.

The proportion of laboratory confirmed cases that were hospitalised was similar for both seasonal and pandemic influenza cases (175 (18%) and 856 (19%) hospitalisations, respectively). There were 27 deaths (0.6% of notifications) associated with pandemic influenza and 3 deaths with seasonal influenza (0.3% of notifications).

For more detailed information on the epidemiology pandemic (H1N1) 2009 influenza in WA, see Disease Watch, December 2009.

Pertussis notifications increased for the third consecutive year with 784 cases in 2009, of which 30% were less than 15 years old. A two month old unvaccinated baby died with pertussis infection. Rates were highest in the Great Southern region.

Varicella-zoster notifications increased from 1,630 in 2008 to 1,736 in 2009 and comprised 18% chickenpox, 31% shingles and 50% unspecified laboratory-confirmed cases.

Vector-borne diseases

There were ten **Chikungunya virus** notifications in 2009. All infections were acquired in South-East Asian countries (India, Malaysia, Singapore and Thailand) where outbreaks have recently been reported. Two **Murray Valley encephalitis** cases were notified; one in an Aboriginal child from the Kimberley region and the other in a non-Aboriginal adult from the Pilbara region. Both cases survived, but have long term neurological deficits as a result of their infections.

Notifications of both **Ross River virus** and **Barmah Forest virus** decreased marginally compared to 2008. The Pilbara and Kimberley regions again recorded the highest notification rates for both these viruses.

The number of **dengue fever** notifications increased for a third year in a row, from 98 cases in 2008 to 134 cases in 2009. All infections were acquired overseas, mainly in South-East Asia, with almost two-thirds of cases (63%) acquired in Bali.

Schistosomiasis notifications decreased to 271 cases in 2009, however they are still elevated compared to the period prior to 2005 (~ 80 cases/year), reflecting increased migration under humanitarian programs in recent years, mostly from African and Asian countries. Only 15 cases in 2009 were Australian-born, most of whom had acquired their infections in Africa.

Zoonotic diseases

Notifications for brucellosis, leptospirosis, psittacosis and Q fever continue to be very low.



The single case of **brucellosis** was acquired in Kenya after drinking camel milk and the single case of **leptospirosis** was acquired in Laos. Both cases of **psittacosis** had a history of handling sick birds in the metropolitan and south-west regions respectively. Of the two cases of **Q fever**, one was a shearer and the other was an abattoir worker.

Blood-borne viral diseases

There were 39 "newly acquired" **hepatitis B** notifications in 2009, almost 20% less than the 48 cases notified in 2008. The majority of cases (97%) were non-Aboriginal people and the male to female ratio was 2.5:1. The number of "unspecified" hepatitis B notifications remained stable in 2009, after a steady upward trend from 2005 to 2008 which partly reflected the inclusion of a backlog of delayed laboratory disease notifications and also an increase in overseas migrants to Western Australia. The Kimberley region had the highest notification rate of "unspecified" hepatitis B – almost seven times higher compared to the metropolitan regions.

The number of "newly acquired" **hepatitis C** cases remained stable at 94 cases. The male to female ratio was 2.4:1 and 27% of cases were Aboriginal people. As with the "unspecified" hepatitis B notifications, the number of "unspecified" hepatitis C notifications also increased from 2005 to 2008, partly as a result of the inclusion of a backlog of delayed laboratory cases. However, "unspecified" hepatitis C notifications declined to 1,067 cases in 2009, a level similar to 2007. "Unspecified" hepatitis C notification rates were highest in the Kimberley region and were double that of the metropolitan region.

Sexually transmissible infections

The increasing trend in **genital chlamydia** notifications continued, although the increase was small (2.5%) in 2009 compared to previous years. The increases have been attributed to more testing, inclusion of laboratory notifications and a real increase in infections. In 2009, 65% of notified cases were aged 15 to 24 years and there were more females than males (ratio 1.4:1). There was a further decline in **gonorrhoea** notifications in 2009 suggesting a true decrease in the incidence of infections. About half the notified cases (52%) were aged 15 to 24 years and males outnumbered females (ratio 1.4:1). Notification rates for both chlamydia and gonorrhoea were highest in the remote regions, particularly in the Kimberley region.

After a nine-fold increase in infectious syphilis notifications over the period 2005 to 2008 (from 19 to 177 cases, respectively), the number dropped sharply to 88 cases in 2009. Decreases were most evident among men who have sex with men from the Perth metropolitan region and among Aboriginal people from the Pilbara region. Almost 40% of infectious syphilis cases were Aboriginal people. The downward trend in the number of non-infectious syphilis notifications stabilised in 2009 with 109 cases, of which 32% were Aboriginal people. Notification rates for both infectious and **non-infectious syphilis** were many times higher in the Kimberley region compared to the other regions in WA.

The two cases of *Haemophilus ducreyi* (chancroid) were both acquired overseas (Asia and Africa).

The number of **human immunodeficiency virus (HIV)** notifications increased again in 2009 with 89 cases, 13 (17%) cases more than in 2008. The majority of cases were male (75%) and the median age of notified cases was 37 years (range: 4 – 55 years); three cases were Aboriginal people. Most cases (92%) reported sexual contact as the most likely route of transmission; 37% were men who had sex with men, 31% were heterosexual men, 24% were heterosexual women and 8% reported other or unknown exposures.

Other diseases

Acute rheumatic fever notifications remained low with four notifications in 2009.

The median age was 10 years (range: 5 - 14 years). All were Aboriginal people who lived in the remote areas of the state (Pilbara 2; Kimberley 1; Goldfields 1).

Notes on tables 1 and 2.

1. Data extracted from the WA Notifiable Diseases Database (WANIDD) on 29th March 2010.

2. All data analysed on basis of the earliest availa date reflecting date of onset of disease ("optimal date of onset" in WANIDD), wit the exception of diseases marked with " * ", which were analysed by date of receipt notification. 3. Data for methicillin resistant Staphylococcu aureus (MRSA are not shown as these are better subject to laboratory surveillance, a a high proporti of cases are detected by screening and represent carriage rathe than disease.

4. Rate = crud rate per 100,0 population. Rates were calculated using the Rate Calculator Version 9.5.1 (Department o Health, Weste Australia) 5. "Total" in Table 2 includes cases with interstate or overseas residential addresses, or where no postcode was specified. 6. NN = not notifiable

Table 2 Number and rate	of notifications in	WA by region 2009
Table 2. Number and rate	or nouncations in	WA by region, 2009

		14 819)				73 988)	- (n=5	6 799)
	Cases	Rate	Cases	Rate	(n=/ Cases	Rate	(<i>n=</i> 5 Cases	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Enteric diseases		- Nuite	00303			Tute		
Campylobacteriosis	1113	123.0	915	115.8	80	108 1	62	109 :
Cholera	0	0.0	0	0.0	0	0.0	0	0.0
Cryptosporidiosis	43	4.8	53	6.7	8	10.8	7	12.3
Henatitis A	12	1.3	15	1.9	0	0.0	,	0.0
Henatitis F	3	0.3	2	0.3	0	0.0	0	0.0
listeriosis	4	0.4	7	0.9	3	4.1	0	0.0
Paratyphoid fever	2	0.2	3	0.4	0	0.0	0	0.0
Rotavirus	221	24.4	131	16.6	3	4.1	7	12.3
Salmonellosis	433	47.9	354	44.8	28	37.8	17	29.9
Shiaellosis	23	2.5	15	1.9	2	2.7	6	10.6
Shiga/Vero-toxin producing <i>E. coli</i>	1	0.1	2	0.3	1	1.4	0	0.0
Typhoid fever	1	0.1	6	0.8	0	0.0	0	0.0
Vibrio parahaemolyticus	6	0.7	1	0.1	0	0.0	0	0.0
Yersiniosis	1	0.1	2	0.3	0	0.0	0	0.0
Vaccine preventable diseases			_					
Haemophilus influenzae type B	0	0.0	0	0.0	0	0.0	0	0.0
Influenza	2261	249.9	1902	240.7	177	239.2	147	258.8
Measles	5	0.6	3	0.4	1	1.4	0	0.0
Mumps	9	1.0	6	0.8	0	0.0	0	0.0
Pertussis	279	30.8	307	38.8	4	5.4	31	54.6
Pneumococcal infection	52	5.7	49	6.2	3	4.1	13	22.9
Rubella	4	0.4	1	0.1	0	0.0	0	0.0
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0
Varicella (chicken pox)	125	13.8	109	13.8	15	20.3	19	33.5
Varicella (shingles)	201	22.2	225	28.5	14	18.9	4	7.0
Varicella (unspecified)	392	43.3	304	38.5	22	29.7		1.8
Vector-borne diseases								
Arboviral encephalitis	0	0.0	0	0.0	0	0.0	0	0.0
Barmah Forest virus	17	1.9	60	7.6	1	1.4	4	7.0
Chikungunya virus infection	5	0.6	4	0.5	0	0.0	0	0.0
Dengue fever	56	6.2	50	6.3	6	8.1	2	3.5
Malaria	40	4.4	34	4.3	1	1.4	4	7.0
Ross River virus	186	20.6	251	31.8	37	50.0	28	49.3
Schistosomiasis	180	19.9	75	9.5	4	5.4	2	3.5
Typhus (Rickettsial infection)	8	0.9	5	0.6	1	1.4	1	1.8
Zoonotic diseases		2.1	<u> </u>		<u>^</u>		<u>^</u>	
Brucellosis	1	0.1	0	0.0	0	0.0	0	0.0
	0	0.0	1	0.1	0	0.0	0	0.0
	0	0.0	1	0.1	0	0.0	0	0.0
Blood-borne viral diseases	U	0.0	U	0.0		1.4	0	0.0
Henatitis B (newly acquired)	16	1.8	21	27	٥	0.0	1	1.8
Henatitis B (unsnecified)*	294	32.5	248	31.4	3	4.1	27	47.5
Hepatitis C (newly acquired)	42	4.6	29	3.7	2	2.7	5	8.8
Hepatitis C (unspecified)*	364	40.2	397	50.2	23	31.1	34	59.9
Hepatitis D	0	0.0	0	0.0	0	0.0	0	0.0
Sexually transmissible infections								
Chancroid (soft sore)	2	0.2	0	0.0	0	0.0	0	0.0
Chlamydia (genital)	3365	371.9	3075	389.1	163	220.3	388	683.1
Donovanosis	0	0.0	0	0.0	0	0.0	0	0.0
Gonorrhoea	238	26.3	191	24.2	12	16.2	164	288.7
Syphilis (infectious)	29	3.2	18	2.3	1	1.4	4	7.0
Syphilis (non-infectious)*	36	4.0	33	4.2	0	0.0	5	8.8
Other diseases								
Acute rheumatic fever*	0	0.0	0	0.0	0	0.0	1	1.8
Creutzfeldt-Jakob disease*	1	0.1	0	0.0	0	0.0	0	0.0
Haemolytic Uraemic Syndrome	0	0.0	0	0.0	0	0.0	0	0.0
Legionellosis	30	3.3	10	1.3	2	2.7	1	1.8
Leprosy*	1	0.1	0	0.0	0	0.0	0	0.0
Melioidosis	2	0.2	1	0.1	0	0.0	1	1.8
Mania and a strength in the st	7	0.8	12	1.5	1	1.4	2	3.5
Meningococcal Infection								

N.B. total excludes notifications where the patient's postcode is unknown or outside WA and also excludes HIV

Region												
_	Great Southern		Kimb		Midwest		Pilk	oara	South		To:	tal
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	4,460) Rate	Cases	Rate
	66	115.2	40	120.4	51	81.2	46	97.8	105	126.2	2597	119 1
	0	0.0	40	0.0	0	0.0	48	0.0	0	0.0	0	0.0
	8	14.0	46	138.4	18	28.7	20	42.5	28	18.1	235	10.8
	6	10.5	0	0.0	0	0.0	1	2.1	1	0.6	35	1.6
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	0.2
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	0.2
	4	7.0	12	36.1	2	3.2	14	29.8	20	12.9	419	19.2
	13	22.7	105	316.0	35	55.8	60	127.6	65	42.1	1123	51.5
	1	1.7	46	138.4	10	15.9	9	19.1	7	4.5	122 6	5.6 0.3
	0	0.0	0	0.0	0	0.0	0	0.0	1	0.6	8	0.4
	0	0.0	0	0.0	0	0.0	0	0.0	1	0.6	9	0.4
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.1
	0	0.0	3	9.0	0	0.0	1	21	0	0.0	4	0.2
	129	225.2	252	758.4	120	191.2	251	533.7	269	174.2	5575	255.7
	0	0.0	1	3.0	0	0.0	0	0.0	0	0.0	10	0.5
	1	1.7	1	3.0	0	0.0	1	2.1	2	1.3	20	0.9
	43	75.1 8.7	19 9	57.2 27.1	9	4.8	23	48.9	63	40.8	784	36.0 6.8
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	0.2
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	4	7.0	3	9.0	9	14.3	2	4.3	32	20.7	319	14.6
	g 22	15.7 38.4	3	9.0	5 20	8.0	6 26	55.3	41	46.0 26.5	542 875	24.9 40.1
	0	0.0	1	3.0	0	0.0	1	2.1	0	0.0	2	0.1
	9	15.7	16	48.1	1	1.6	30	63.8	16	10.4	154	7.1
	3	5.2	4	12.0	4	1.6 6.4	3	6.4	2	1.3	10	0.5 6.1
	0	0.0	0	0.0	0	0.0	2	4.3	1	0.6	84	3.9
	40	69.8	83	249.8	26	41.4	94	199.9	105	68.0	854	39.2
	1	1.7	4	12.0	1	1.6	1	2.1	1	0.6	271	12.4
	4	7.0	I	5.0	0	0.0	I	2.1	3	1.5	24	1.1
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
	0	0.0	0	0.0	0	0.0	0	0.0	1	0.6	2	0.1
	, in the second se	0.0	Ŭ	0.0	·		Ũ	0.0	Ŭ	0.0		
	0	0.0	0	0.0	0	0.0	0	0.0	1	0.6	39	1.8
	6	10.5	71	213.7	9	14.3	11	23.4	18	11.7	699	32.1
	6 28	10.5 48.9	31	3.0 93.3	3 45	4.8	2	4.3 51.0	4	2.6 49.9	94 1067	4.3 48.9
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
	0	0.0	0	0.0	0	0.0	0	0.0	430	0.0	0	0.0
	2	3.5	471	1417.4	32	51.0	191	406.1	27	17.5	1347	61.8
	0	0.0	26	78.2	0	0.0	9	19.1	0	0.0	88	4.0
	0	0.0	31	93.3	1	1.6	1	2.1	1	0.6	109	5.0
	0	0.0	1	3.0	0	0.0	2	4.3	0	0.0	4	0.2
	0	0.0	0	0.0	0	0.0	0	0.0	2	1.3	3	0.1
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	0	0.0	1	3.0	0	0.0	0	0.0		0.0		0.0
	0	0.0	2	6.0	0	0.0	1	2.1	0	0.0	7	0.3
	0	0.0	2	6.0	1	1.6	2	4.3	1	0.6	28	1.3
	1	1.7	5	15.0	0	0.0	3	6.4	3	1.9	109	5.0
	567	990.0	1,902	5723.7	742	1182.1	1,157	2460.2	1,503	973.1	26,930	1234.9



There were 28 **invasive meningococcal disease** notifications, a small increase on the historically low numbers of 2007 and 2008, but still less than a third of the 86 cases notified in 2000. The majority of cases were serogroup B (24 cases, 86%); there were two serogroup C cases (the first time this serogroup had been notified since 2005), one serogroup Y and one untypeable case. Of the cases notified in 2009, 13 (46%) were less than five years old. There was one death, as a result of serogroup B infection, reported in an elderly adult.

The number of **legionellosis** notifications decreased for the forth consecutive year to 51 cases. The majority (86%) of cases continued to be due to *Legionella longbeachae*, the type associated with exposure to potting mix, and there were also seven *L. pneumophila* cases.

There was a small increase in **tuberculosis** notifications in 2009 with 109 cases, of which seven were relapses. The majority of cases were born overseas (the largest proportion in South-East Asia – 34%) and acquired overseas. Seventeen cases were born in Australia and of these, seven were acquired locally.

Seven **meliodosis** cases with an age range of 38 to 62 years were notified in five non-Aboriginal and two Aboriginal people. Most cases lived or worked in remote regions of WA or the Northern Territory, and two cases acquired their infections while travelling in Asia.

Two **leprosy** notifications in the 40 and 54 year age group were reported in an Aboriginal adult from the Kimberley region and an overseasborn non-Aboriginal adult residing in the metropolitan area.

There were three cases of **Creutzfeldt-Jakob disease** notified in older adults (range: 64 – 76 years).

Enteric diseases

The total number of enteric disease notifications in 2009 (4582 cases) was higher than for any of the previous four years, and this was primarily due to increased numbers of notifications for the two most commonly notified enteric infections,

Campylobacter and *Salmonella*. The number of Salmonella notifications in 2009 (1123 cases) was 32% greater than the number of Salmonella notifications in 2008, with this increase largely due to greater numbers of Salmonella infections associated with travel to Bali. There were nine food-borne or suspected food-borne outbreaks caused by Salmonella in 2009, with 163 cases connected to these outbreaks. Confirmed or suspected sources of infection were fried ice-cream, Vietnamese pork rolls, pawpaw, raw egg mayonnaise and scrambled eggs. The number of Listeria cases in 2009 (15 cases) was also higher than for any of the previous four years, with two cases linked to a common food venue. The majority of infections were among older adults and there was also one neonatal and one intrauterine infection, in a 15 week old foetus. There were three deaths including the foetus. All adult cases had consumed foods considered to be high risk for Listeria.

The number of **Hepatitis A** notifications in 2009 (35 cases) was higher than for the previous two years. This increase was associated with two food-borne outbreaks, one caused by frozen berries, and the other by semi-dried tomatoes.

For other enteric infections, the number of notifications was within the expected range based on previous years.

For most of these enteric infections, notification rates in 2009 were higher for Aboriginal as compared to non-Aboriginal people. The greatest difference in rate was for Shigella infection, with the notification rate for Aboriginal people 38 times that for non-Aboriginal people. Notification rates were highest in the 0 to 4 year age group for all of the major enteric infections, with the exception of hepatitis A infection. Hepatitis A notification rates for young children have been low in WA since the introduction of a vaccination program for Aboriginal infants in 2005. There were large differences in the enteric disease notification rates for the different regions of WA, with the highest rates reported from the Kimberley region.