

Infectious Disease Epidemiology 2004 Annual Report



**Office of Infectious Disease Services
Bureau of Epidemiology and Disease Control
Division of Public Health Services**

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Executive Summary

The Infectious Disease Epidemiology Section (IDES) is one of five sections in the Office of Infectious Disease Services (OIDS) in the Bureau of Epidemiology and Disease Control. The Office of Infectious Disease Services in the Arizona Department of Health Services (ADHS) is responsible for monitoring and controlling diseases caused by infectious agents and toxins. The Office is also responsible for promulgating rules related to infectious disease surveillance, prevention, and control. The Office has five programs, Infectious Disease Epidemiology, Tuberculosis Control, Hepatitis C Surveillance and Prevention, Sexually Transmitted Disease Control and Vector-Borne and Zoonotic Diseases. HIV/AIDS surveillance and prevention activities are conducted by the Office of HIV/AIDS.

The IDES Program is responsible for detecting, preventing, and controlling communicable diseases in several areas: foodborne diseases, vaccine preventable diseases, nosocomial infections, antibiotic resistant organisms, and other infectious diseases.

The Program maintains a registry of over 70 notifiable communicable diseases; provides data and statistics on selected reportable infectious diseases by monitoring disease trends through surveillance and epidemiologic investigations; supplies technical assistance to local and tribal health departments regarding prevention and control of disease; and provides information for health care providers and disease information for the public.

Some of the highlights for the period of January 1, 2004 through December 31, 2004 include:

- Changes to the reporting requirements and lists of notifiable diseases became effective in October 2004, which resulted in changes to protocols and timelines for reporting selected infectious agents. In addition, several diseases and syndromes were added to the list of reportable conditions including influenza, methicillin resistant *Staphylococcus aureus* (MRSA), emerging infections, smallpox, severe acute respiratory syndrome (SARS), West Nile virus (WNV), and unexplained deaths with fever.
- Increased incidence of several communicable diseases including chronic hepatitis B, coccidioidomycosis, and norovirus.
- Improved influenza surveillance activities as a result of mandated laboratory reporting, enhanced communication with local and tribal health departments, new and improved laboratory testing, and better reporting by sentinel physicians.
- 55% decrease in reported cases of invasive *Streptococcus pneumoniae* in children under 5 years associated with increased use of pneumococcal conjugate vaccine.

I. Introduction



Data Sources and Limitations

The Arizona Department of Health Services (ADHS) maintains registries of selected conditions that are reportable per the Arizona Administrative Code R-9-202. The information is collected to assess and monitor the burden of disease, characterize the affected populations, assess trends in disease occurrence, guide control efforts and evaluate prevention initiatives. The list of reportable conditions is based upon the list of Nationally Notifiable Infectious Diseases jointly developed by the Council of State and Territorial Epidemiologists (CSTE) and the Centers for Disease Control and Prevention (CDC). The list is revised periodically to add newly emerging pathogens or delete conditions that are no longer justified.

Specific case definitions are used to increase the specificity of reporting, and to allow comparability of diseases nationwide. Only cases meeting this standardized surveillance case definition are included in the report. Criteria for surveillance case definitions are usually more stringent than those used by providers to diagnose and treat diseases.

The state and local public health officials rely on health care providers, laboratories, hospitals and other facilities to report notifiable diseases or conditions. Local health jurisdictions submit case information to ADHS, which in turn reports case information without personal identifiers to CDC for purposes of developing the national statistics. Incomplete reporting is inherent to any passive surveillance system. Knowledge and awareness of current reporting rules, willingness to comply, severity of the disease, available diagnostic tests, age of the patient, confidentiality issues surrounding the disease, changes in the case definitions over time, and access to or availability of health care services all may influence the likelihood of reporting.

The 2004 population estimates (<http://www.azdhs.gov/plan/menu/info/pd.htm>) were used for rate calculations. In general, disease rates were calculated per 100,000 population and are not age-adjusted. Rate calculations based on a small number of reported cases and for counties with populations less than 100,000 are not reliable since they can be dramatically influenced by small changes in the number of reported cases.

Purpose of the Report

The purpose of this report is to provide disease surveillance information to health care providers, health care organizations, governmental agencies, and other local health partners. This information is intended to assist agencies by providing uniform data on the disease burden in the state, trends in disease incidence and distribution and the evaluation of disease interventions.

Office staff collaborate with colleagues in the local and tribal health departments, as well as other ADHS Offices and Bureaus including: Environmental Health, Immunizations, HIV/AIDS, State Health Laboratory Services, and Emergency Preparedness and Response within the Division of Public Health Services. Direct public health services, as they relate to surveillance, investigation, and response to infectious diseases of public health importance, are the responsibility of the 15 county health departments and tribal health departments and/or Indian Health Service Units. This report is designed to be utilized by external stakeholders in identifying trends, targeting prevention efforts, and determining resource needs. The program would like to acknowledge both external and internal partners for their contributions to this report.

Reporting

Arizona Administrative Code (AAC) R9-6-202, 203, 204, and 205 list the diseases required to be reported by physicians, administrators of health care facilities, clinical laboratory directors, institutions, schools, pharmacists, and others.

On October 2, 2004, the department implemented new requirements for the reporting of infectious diseases. Changes to the requirements included adding reportable conditions for emerging diseases and bioterrorism agents; requiring certain organisms to be reported more rapidly (i.e., upon submission or within 24 hours of diagnosis and/or identification); expanding the reporting definitions to include more sites; requiring pharmacists to report certain prescriptions; and standardizing the investigation and reporting process for local health departments to include department investigation forms. Tables outlining the reporting requirements are listed below. Additional information on the reporting requirements can be found on the Secretary of State's website at http://www.azsos.gov/public_services/Title_09/9-06.pdf.

Table 1. Reporting Requirements for a Health Care Provider or an Administrator of a Health Care Institution or Correctional Facility

☒*,O Amebiasis	☒ Hantavirus infection	☒*,O Salmonellosis
☒ Anthrax	☒ Hemolytic uremic syndrome	O Scabies
☒ Aseptic meningitis: viral	☒*,O Hepatitis A	☒ Severe acute respiratory syndrome
☒ Basidiobolomycosis	☒ Hepatitis B and D	☒*,O Shigellosis
☒ Botulism	☒ Hepatitis C	☒ Smallpox
Ⓛ Brucellosis	☒*,O Hepatitis E	☒ Streptococcal Group A: Invasive disease
☒*,O Campylobacteriosis	☒ Herpes genitalis	☒ Streptococcal Group B: Invasive disease in infants younger than 90 days of age
☒ Chancroid	☒ HIV infection and related disease	☒ <i>Streptococcus pneumoniae</i> (pneumococcal invasive disease)
☒ <i>Chlamydia</i> infection, genital	☒ Kawasaki syndrome	☒ Syphilis
Ⓛ* Cholera	☒ Legionellosis (Legionnaires' disease)	☒*,O Taeniasis
☒ Coccidioidomycosis (valley fever)	☒ Leptospirosis	☒ Tetanus
☒ Colorado tick fever	☒ Listeriosis	☒ Toxic shock syndrome
O Conjunctivitis: acute	☒ Lyme disease	☒ Trichinosis
☒ Creutzfeldt-Jakob disease	☒ Lymphocytic choriomeningitis	Ⓛ Tuberculosis
☒*,O Cryptosporidiosis	☒ Malaria	Ⓛ Tuberculosis infection in a child younger than 6 (positive test result)
☒ <i>Cyclospora</i> infection	☒ Measles (rubeola)	☒ Tularemia
☒ Cysticercosis	☒ Meningococcal invasive disease	☒ Typhoid fever
☒ Dengue	Ⓛ Mumps	Ⓛ Typhus fever
O Diarrhea, nausea, or vomiting	☒ Pertussis (whooping cough)	☒ Unexplained death with a history of fever
☒ Diphtheria	☒ Plague	Ⓛ Vaccinia-related adverse event
☒ Ehrlichiosis	☒ Poliomyelitis	☒ Vancomycin-resistant <i>Enterococcus</i> spp.
☒ Emerging or exotic disease	☒ Psittacosis (ornithosis)	☒ Vancomycin-resistant or Vancomycin-intermediate <i>Staphylococcus aureus</i>
Ⓛ Encephalitis, viral or parasitic	Ⓛ Q fever	☒ Vancomycin-resistant <i>Staphylococcus epidermidis</i>
☒ Enterohemorrhagic <i>Escherichia coli</i>	☒ Rabies in a human	☒ Varicella (chickenpox)
☒ Enterotoxigenic <i>Escherichia coli</i>	☒ Relapsing fever (borreliosis)	☒*,O <i>Vibrio</i> infection
☒*,O Giardiasis	☒ Reye syndrome	☒ Viral hemorrhagic fever
☒ Gonorrhea	☒ Rocky Mountain spotted fever	☒ West Nile virus infection
☒ <i>Haemophilus influenzae</i> : invasive disease	Ⓛ* Rubella (German measles)	☒ Yellow fever
☒ Hansen's disease (Leprosy)	Ⓛ Rubella syndrome, congenital	☒*,O Yersiniosis

Key:

- ☒ Submit a report by telephone or through an electronic reporting system authorized by the Department within 24 hours after a case or suspect case is diagnosed, treated, or detected or an occurrence is detected.
- * If a case or suspect case is a food handler or works in a child care establishment or a health care institution, instead of reporting within the general reporting deadline, submit a report within 24 hours after the case or suspect case is diagnosed, treated, or detected.
- Ⓛ Submit a report within one working day after a case or suspect case is diagnosed, treated, or detected.
- ☒ Submit a report within five working days after a case or suspect case is diagnosed, treated, or detected.
- O Submit a report within 24 hours after detecting an outbreak.

Table 2. Reporting Requirements for an Administrator of a School, Child Care Establishment, or Shelter

<input type="checkbox"/>	Campylobacteriosis	<input type="checkbox"/>	Mumps
<input type="radio"/>	Conjunctivitis: acute	<input type="checkbox"/>	Pertussis (whooping cough)
<input type="checkbox"/>	Cryptosporidiosis	<input type="checkbox"/>	Rubella (German measles)
<input type="radio"/>	Diarrhea, nausea, or vomiting	<input type="checkbox"/>	Salmonellosis
<input type="checkbox"/>	Enterohemorrhagic <i>Escherichia coli</i>	<input type="radio"/>	Scabies
<input type="checkbox"/>	<i>Haemophilus influenzae</i> : invasive disease	<input type="checkbox"/>	Shigellosis
<input type="checkbox"/>	Hepatitis A	<input type="radio"/>	Streptococcal Group A infection
<input type="checkbox"/>	Measles	<input type="checkbox"/>	Varicella (chicken pox)
<input type="checkbox"/>	Meningococcal invasive disease		

Key:

- Submit a report within 24 hours after detecting a case or suspect case.
- Submit a report within five working days after detecting a case or suspect case.
- Submit a report within 24 hours after detecting an outbreak.

Table 3. Clinical Laboratory Director Reporting Requirements

①	Arboviruses	☞, ⊕	<i>Haemophilus influenzae</i> , type B, isolated from a normally sterile site	☒+	Respiratory syncytial virus
☞, ☞, ⊕	<i>Bacillus anthracis</i>	☒, ⊕	<i>Haemophilus influenzae</i> , other, isolated from a normally sterile site	①, ⊕	<i>Salmonella</i> spp.
☞, ⊕	<i>Bordetella pertussis</i>	☒	Hantavirus	☞	SARS-associated corona virus
①, ⊕	<i>Brucella</i> spp.	☒	Hepatitis A virus (anti-HAV-IgM serologies)	①, ⊕	<i>Shigella</i> spp.
☒	<i>Campylobacter</i> spp.	☒	Hepatitis B virus (anti-Hepatitis B core-IgM serologies, Hepatitis B surface antigen serologies, and detection of viral nucleic acid)	☒, ⊕	<i>Streptococcus</i> Group A, isolated from a normally sterile site
☒	CD ₄ -T-lymphocyte count of fewer than 200 per microliter of whole blood or CD ₄ -T-lymphocyte percentage of total lymphocytes of less than 14%	☒	Hepatitis C virus	☒	<i>Streptococcus</i> Group B, isolated from a normally sterile site in an infant younger than 90 days of age
☒	<i>Chlamydia trachomatis</i>	☒	Hepatitis D virus	☒, ⊕	<i>Streptococcus pneumoniae</i> and its drug sensitivity pattern, isolated from a normally sterile site
☞, ☞	<i>Clostridium botulinum</i> toxin (botulism)	☒	Hepatitis E virus	☒	<i>Treponema pallidum</i> (syphilis)
☒	<i>Coccidioides</i> spp., by culture or serologies	☒	HIV (by culture, antigen, antibodies to the virus, or detection of viral nucleic acid)	☒	Vancomycin-resistant <i>Enterococcus</i> spp.
①	<i>Coxiella burnetii</i>	☒	HIV—any test result for an infant (by culture, antigen, antibodies to the virus, or detection of viral nucleic acid)	①, ⊕	Vancomycin-resistant or Vancomycin-intermediate <i>Staphylococcus aureus</i>
☒	<i>Cryptosporidium</i> spp.	☒+	Influenza virus	①, ⊕	Vancomycin-resistant <i>Staphylococcus epidermidis</i>
①	<i>Cyclospora</i> spp.	☒, ⊕	<i>Legionella</i> spp. (culture or DFA)	☞, ☞	Variola virus (smallpox)
☞, ☞	Dengue virus	①, ⊕	<i>Listeria</i> spp., isolated from a normally sterile site	①, ⊕	<i>Vibrio</i> spp.
☞, ☞	Emerging or exotic disease agent	☒ ¹	Methicillin-resistant <i>Staphylococcus aureus</i> , isolated from a normally sterile site	☞, ☞	Viral hemorrhagic fever agent
☒	<i>Entamoeba histolytica</i>	☒, ⊕ ²	<i>Mycobacterium tuberculosis</i> complex and its drug sensitivity pattern	①	West Nile virus
①	<i>Escherichia coli</i> O157:H7	☒	<i>Neisseria gonorrhoeae</i>	①, ⊕	<i>Yersinia</i> spp. (other than <i>Y. pestis</i>)
①, ⊕	<i>Escherichia coli</i> , Shiga-toxin producing	☞, ⊕	<i>Neisseria meningitidis</i> , isolated from a normally sterile site	☞, ☞, ⊕	<i>Yersinia pestis</i> (plague)
☞, ☞, ⊕	<i>Francisella tularensis</i>	☒	<i>Plasmodium</i> spp.		

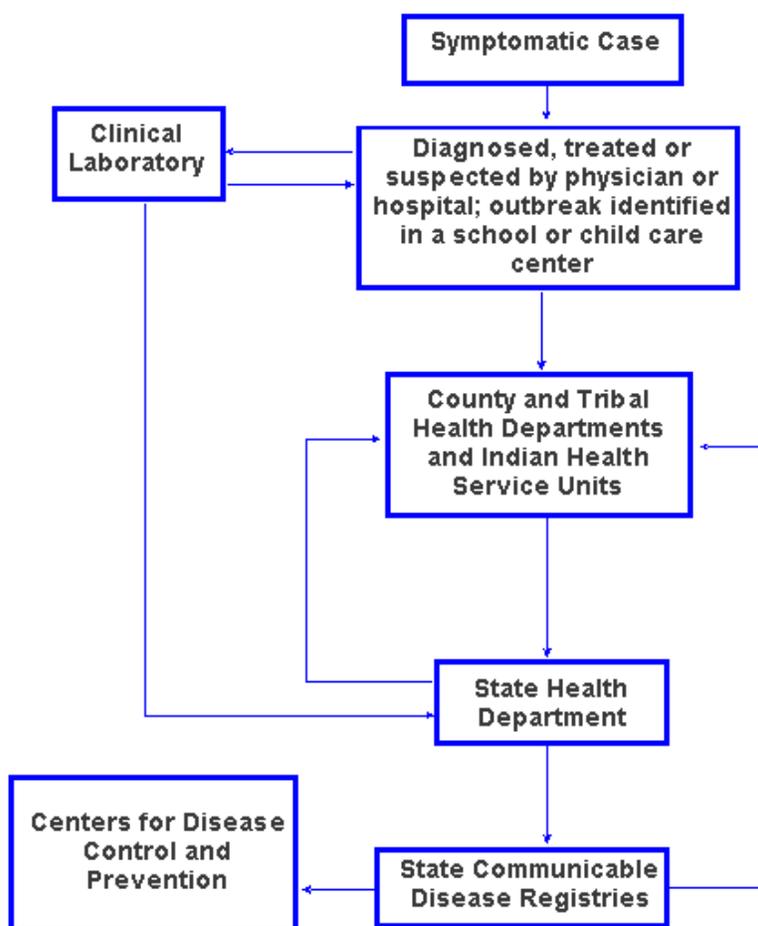
Key:

- ☞ Submit a report immediately after receiving one specimen for detection of the agent. Report receipt of subsequent specimens within five working days after receipt.
- ☞ Submit a report within 24 hours after obtaining a positive test result.
- ① Submit a report within one working day after obtaining a positive test result.
- ☒ Submit a report within five working days after obtaining a positive test result or a test result specified in Table 3.
- ⊕ Submit an isolate of the organism for each positive culture to the Arizona State Laboratory at least once each week, as applicable.
- + A clinical laboratory director may report aggregate numbers of positive test results every five working days rather than submitting individual reports as required in R9-6-204(B).
- ¹ Submit a report only when an initial positive result is obtained for an individual.
- ² Submit an isolate of the organism only when an initial positive result is obtained for an individual, when a change in resistance pattern is detected, or when a positive result is obtained ≥ 12 months after the initial positive result is obtained for an individual.

Arizona requires reporting by both health care providers and clinical laboratories as a dual surveillance measure to increase the sensitivity of the surveillance system and improve the completeness of reporting. Diseases are reported via fax, mail, and telephone using the communicable disease report (CDR) form. Additional information on communicable disease reporting and reporting and investigation forms can be found on the departmental website at: http://www.azdhs.gov/phs/oids/provider_info.htm#Reporting.

Since local health departments are the primary response agency, notifiable conditions are reported to the county health departments for immediate investigation and initiation of control measures, as needed. Figure 1 outlines the reporting structure and flow of information in Arizona.

Figure 1. Flow of communicable disease reports



All information supplied to state or county public health agencies is maintained in strict confidentiality in conformance to state statutes.

State and County Health Department Contact Information

Arizona Department of Health Services

Infectious Disease Epidemiology Section

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Emergency Answering Service

Phone: (480) 303-1919

State Laboratory Services

250 N. 17th Avenue
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Phone: (602) 542-1188
Fax: (602) 542-1169

County Health Departments

Apache County Health Department

395 South 1st Street West
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Phone: (928) 337-4364
Fax: (928) 337-2062

Greenlee County Health Department

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Cochise County Health Department

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Fax: (520) 432-9480

La Paz County Health Department

1112 Joshua Street #206
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Coconino County Department of Health Services

2625 N. King Street
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Fax: (928) 522-7808

Maricopa County Health Department

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Phoenix, AZ 85006
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Fax: (602) 506-0272

Gila County Health Department

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Mohave County Health Department

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Graham County Health Department

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Navajo County Health Services District

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Pima County Health Department

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Pinal County Health Department

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Santa Cruz County Health Department

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Yuma County Health Department

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