

INFECTIOUS DISEASES OF THE DOMINICAN REPUBLIC



Stephen Berger, MD

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E-BOOK SERIES

2018 Edition

Infectious Diseases of the Dominican Republic - 2018 edition

Stephen Berger, MD

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Scope of Content

Disease designations may reflect a specific pathogen (ie, Adenovirus infection), generic pathology (Pneumonia - bacterial) or etiologic grouping (Cotiviruses - Old world). Such classification reflects the clinical approach to disease allocation in the Infectious Diseases Module of the GIDEON web application. Similarly, a number of diseases which are generally diagnosed and treated outside of the field of Infectious Diseases are not included, despite the fact that a clear infectious etiology exists. Examples include Peptic ulcer, Creutzfeldt-Jakob disease, Human papillomavirus infections, etc. In contrast, a number of other entities of unknown etiology which do present to Infectious Diseases specialists have been included: Kawasaki's disease, Chronic fatigue syndrome, Kikuchi and Kimura diseases. Several minor infections having minimal relevance to the field of Infectious Diseases are not covered: Paronychia, Otitis externa, etc.

Introduction: The GIDEON e-book series

Infectious Diseases of the Dominican Republic is one in a series of GIDEON [ebooks](#) which summarize the status of Infectious diseases, Drugs, Vaccines and Pathogens in every country of the world.

Chapters are arranged alphabetically, by disease name. Each section is divided into three sub-sections:

1. Descriptive epidemiology
2. Status of the disease in the Dominican Republic
3. References

The initial items in the first section, Descriptive epidemiology, are defined as follows:

Agent	Classification (e.g., virus, parasite) and taxonomic designation.
Reservoir	Any animal, arthropod, plant, soil or substance in which an infectious agent normally lives and multiplies, on which it depends primarily for survival, and where it reproduces itself in such a manner that it can be transmitted to a susceptible host.
Vector	An arthropod or other living carrier which transports an infectious agent from an infected organism or reservoir to a susceptible individual or immediate surroundings.
Vehicle	The mode of transmission for an infectious agent. This generally implies a passive and inanimate (i.e., non-vector) mode.

A chapter outlining the routine vaccination schedule of the Dominican Republic follows the diseases chapters.

Content

There are 357 generic infectious diseases in the world today. 208 of these are endemic, or potentially endemic, to the Dominican Republic. A number of other diseases are not relevant to the Dominican Republic and have not been included in this book.

In addition to endemic diseases, we have included all published data regarding imported diseases and infection among expatriates from the Dominican Republic.

Sources

Data are based on the GIDEON web application (www.gideononline.com) which relies on standard text books, peer-review journals, Health Ministry reports and ProMED, supplemented by an ongoing search of the medical literature.

The availability and quality of literature regarding specific infectious diseases vary from country to country. As such, you may find that many of the sections in this book are limited to a general discussion of the disease itself - with no data regarding the Dominican Republic.

This is a book about the geography and epidemiology of Infection. Comprehensive and up-to-date information regarding the causes, diagnosis and treatment of each disease is available in the [GIDEON web application](#). Many of the diseases are generic. For example, such designations as Pneumonia bacterial and Urinary tract infection include a number of individual diseases. These appear under the subheading, Synonyms, listed under each disease.

Exploring Outbreaks and Surveys

Outbreak and survey charts are designed to allow users to quickly scan and compare publications according to year, setting, number of cases / deaths, affected population and other parameters. Linked references are displayed where available.

Parallel charts in the [GIDEON web app](#) allow for sorting within columns. In the following example, data are displayed

alphabetically by outbreak setting or region.

Years	Region	Setting	Cases	Deaths	Source	Pathogen	Years	Region	Setting	Cases	Deaths	Source	Pathogen
1990	Alberta						2013*		airplane			eggs	Heidelberg
1999	Alberta		12		pet food	infantis	1966		bar mitzvah	34	fish		Java
2004	Alberta	restaurant	31			Heidelberg	1984	Ontario	day nursery	22			typhimurium
2010 to 2011	Alberta		91		food	enteritidis	1992*	Ontario	hospital				enteritidis
1960	British Columbia		65				1997*	Montreal	hotel				enteritidis PT 8
1985 to 1986	British Columbia		13		chocolate	nima	1982	Quebec	nursery			milk	typhimurium
1995 to 1996	British Columbia		133		sprouts	Newport	1983 to 1986	Halifax	nursing home	51			Newport
2000	British Columbia		47		baked goods	enteritidis	2011	New Brunswick	nursing home	7	1		
2000	British Columbia		62		eggs		1999	Edmonton	restaurant	27			typhimurium
2005*	British Columbia				baked goods		2001	multiple sites	restaurant	12		sprouts	enteritidis PT 11b
2008	British Columbia		64				2004	Alberta	restaurant	31			Heidelberg
2011	British Columbia		8			agbeni	2005	Ontario	restaurant	81			
							2016	Toronto	restaurant	43			
							2012	Ontario	school	46		catered food	
							2007	Ontario	university	85		food	typhimurium PT 108

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* Not endemic. Imported, expatriate or other context reported.

⁺ Country specific note exists for disease

Acanthocephalan infections

Agent	PARASITE - Archiacanthocephala. Moniliformida: <i>Moniliformis moniliformis</i> , Oligocanthonynchida: <i>Maracanthorhynchus hirudinaceus</i> .
Reservoir	Pig (<i>Maracanthorhynchus</i>), rat and fox (<i>Moniliformis</i>),
Vector	None
Vehicle	Insect ingestion
Incubation Period	Unknown - presumed 15 to 40 days
Diagnostic Tests	Identification of worm in stool.
Typical Adult Therapy	Infection is usually self-limited. Pyrantel pamoate has been used against <i>Moniliformis moniliformis</i> - 11 mg/kg PO - repeat once in 2 weeks
Typical Pediatric Therapy	Infection is usually self-limited. Pyrantel pamoate has been used against <i>Moniliformis moniliformis</i> - 11 mg/kg PO - repeat once in 2 weeks
Clinical Hints	- Most infections are characterized by asymptomatic passage of a worm - In some cases, only vague complaints such as 'perumbilical discomfort' and 'giddiness' have been described
Synonyms	Corynosoma, Macracanthorhynchus, Moniliform acanthocephalan, <i>Moniliformis moniliformis</i> . ICD9: 128.9 ICD10: B83.8

Actinomycosis

Agent	BACTERIUM. Actinomycetes, <i>Actinomyces</i> spp. Anaerobic gram-positive bacillus
Reservoir	Human (oral, fecal and vaginal flora)
Vector	None
Vehicle	Endogenous
Incubation Period	Unknown
Diagnostic Tests	Gram stain and bacteriological culture using strict anaerobic technique. Growth is apparent in 3-7 days.
Typical Adult Therapy	Ampicillin 50 mg/kg/day IV X 4 to 6 weeks - then Amoxicillin 1.5 g/d PO X 6 months. OR Penicillin G 10 to 20 million units/day X 4 to 6w; then Penicillin V X 6 to 12m. Alternatives: Doxycycline , Ceftriaxone , Erythromycin Excision/drainage
Typical Pediatric Therapy	Ampicillin 50 mg/kg/day IV X 4 to 6 weeks - then Amoxicillin 20 mg/kg/day PO X 6 months. Penicillin G 100,000 units/kg/day X 4 to 6w; then Penicillin V 25,000 units/day X 6 to 12m. Excision/drainage
Clinical Hints	- Mandibular osteomyelitis with fistulae (sulfur granules) in the setting of poor dental hygiene - Pelvic abscesses in a women with intra-uterine device - Fever, right lower quadrant mass and fistulae - Suppurative pleuropulmonary infection with fistulae
Synonyms	Actinomyces, Aktinomykose, Lumpy jaw. ICD9: 039. ICD10: A42

Adenovirus infection

Agent	VIRUS - DNA. Adenoviridae, Adenovirus Enteric strains are classified in genus Mastadenovirus
Reservoir	Human, Non-human primates
Vector	None
Vehicle	Droplet, Water, Respiratory or pharyngeal acquisition
Incubation Period	4d - 12d
Diagnostic Tests	Viral culture/serology or antigen assay. Direct fluorescence of secretions. Nucleic acid amplification.
Typical Adult Therapy	Enteric/secretion precautions. Cidofovir has been used in some cases. Symptomatic therapy
Typical Pediatric Therapy	As for adult
Vaccine	Adenovirus vaccine
Clinical Hints	- Generally, an uncomplicated illness lasting 3 to 5 days - Atypical pneumonia, upper respiratory infection, tracheitis, bronchiolitis - Keratoconjunctivitis with preauricular adenopathy - Gastroenteritis or hemorrhagic cystitis
Synonyms	Adenovirus gastroenteritis, Epidemic keratoconjunctivitis, Pharyngoconjunctival fever. ICD9: 047.9,077.1,077.2,008.62,480.0 ICD10: A08.2,B30.1,B34.0,J12.0

Aeromonas and marine Vibrio infx.

Agent	BACTERIUM. <i>Aeromonas hydrophila</i> , <i>Vibrio vulnificus</i> , et al Facultative gram-negative bacilli
Reservoir	Salt or brackish water, Fish
Vector	None
Vehicle	Water, Shellfish, Contact
Incubation Period	Range 2d - 7d
Diagnostic Tests	Culture. Notify laboratory if these organisms are suspected in stool.
Typical Adult Therapy	Fluoroquinolone or Sulfamethoxazole / Trimethoprim . Other antimicrobial agent as determined by susceptibility testing
Typical Pediatric Therapy	Sulfamethoxazole / Trimethoprim . Or other antimicrobial agent as determined by susceptibility testing
Clinical Hints	- Disease follows marine injury or ingestion of raw oysters / contaminated fresh or brackish water - Diarrhea, fever, vomiting or sepsis - Fecal leukocytes present - Severe or fatal in immunosuppressed or alcoholic patients
Synonyms	Aeromonas, Aeromonas hydrophila, Vibrio mimicus, Vibrio vulnificus. ICD9: 005.81,027.9 ICD10: A48.8

Amoeba - free living

Agent	PARASITE - Protozoa. Centramoebida, Acanthamoebidae: <i>Acanthamoeba</i> and <i>Balamuthia</i> Schizopyrenida, Vahlkampfidae: <i>Naegleria</i>
Reservoir	Water, Soil
Vector	None
Vehicle	Water (diving, swimming), Contact
Incubation Period	5d - 6d (range 2d - 14d) Granulomatous ? to 2m
Diagnostic Tests	Wet preparation. Specialized cultures. Serology available in reference centers.
Typical Adult Therapy	CNS <i>Naegleria</i> : Amphotericin B to 1 mg/kg/d IV + 1.5 mg intrathec. X 8 days; + Miconazole 350 mg/sq m/d IV + 10 mg intrathec. qod X 8d <i>Acanthamoeba</i> : Sulfonamides + Flucytosine Miltefosine some cases of <i>Acanthamoeba</i> / <i>Balamuthia</i>
Typical Pediatric Therapy	CNS <i>Naegleria</i> : Amphotericin B to 1 mg/kg/d IV + 1.5 mg intrathecal X 8 days; plus Miconazole 350 mg/sq m/d IV + 10 mg intrathecal qod X 8d <i>Acanthamoeba</i> : Sulfonamides + Flucytosine Miltefosine successful in some cases of <i>Acanth.</i> / <i>Balamuthia</i> enceph.
Clinical Hints	- Severe, progressive meningoencephalitis (<i>Naegleria</i> , <i>Acanthamoeba</i> or <i>Balamuthia</i>) after swimming or diving in fresh water - Keratitis (<i>Acanthamoeba</i>), associated with contaminated solutions used to clean contact lenses
Synonyms	Acanthamoben, Acanthamoeba, Allovahlkampfia, Amebic keratitis, Balamuthia, Balmuthia, Dictyostelium, Free-living ameba, Leptomyxid ameba, Naegleria, Paravahlkampfia, Primary amebic meningoencephalitis, Sappinia, Vahlkampfia. ICD9: 136.2 ICD10: B60.1,B60.2

Amoebiasis

Agent	PARASITE - Protozoa. Sarcomastigota, Entamoebidae: <i>Entamoeba histolytica</i> (must be distinguished from non-invasive, <i>Entamoeba dispar</i>)
Reservoir	Human
Vector	Fly (Musca) - occasionally
Vehicle	Food, Water, Sexual contact, Fly
Incubation Period	1w - 3w (range 3d - 90d)
Diagnostic Tests	Fresh stool/aspirate for microscopy. Stool antigen assay. Stool PCR. Note: serological tests usually negative.
Typical Adult Therapy	Metronidazole 750 mg PO TID X 10d Follow with: Paromomycin 500 mg PO TID X 7d OR Iodoquinol 650 mg PO TID X 20d
Typical Pediatric Therapy	Metronidazole 15 mg/kg TID X 10d Follow with: Paromomycin 10 mg/kg PO TID X 7d OR Iodoquinol 10 mg/kg PO TID X 20d
Clinical Hints	- Dysentery, abdominal pain, tenesmus. - Unlike shigellosis, hyperemia of the rectal mucosa and fecal pus are absent. - Liver abscess and dysentery rarely coexist in a given patient
Synonyms	Amebiasis, Amebiasis intestinal, Amebic colitis, Amebic dysentery, Amoebenruhr, Entamoeba bangladeshi, Entamoeba gingivalis, Entamoeba moshkovskii. ICD9: 006.0,006.1,006.2 ICD10: A06.0,A06.1,A06.2

Amoebiasis in the Dominican Republic

1,235 cases of amoebiasis were officially reported in 1963.

Prevalence surveys

Years	Region	Study Group	%	Notes
1991	Santo Domingo	children	19	19% of hospitalizations acute diarrhea among children ¹
1991		general population	34	34% of the rural population

Notable outbreaks

Years	Region	Cases	Source	Population	Notes
2002	Punta Cana	216	water	tourists	Presumptive amebiasis; outbreak among Spanish tourists in the Dominican Republic ²

References

- Arch Domin Pediatr 1991 May-Aug;27(2):43-7.
- Euro Surveill 2004 Mar ;9(3):21-3.

Amoebic abscess

Agent	PARASITE - Protozoa. Sarcomastigota, Entamoebidae: <i>Entamoeba histolytica</i> (must be distinguished from non-invasive, <i>Entamoeba dispar</i>)
Reservoir	Human
Vector	Fly (Musca) - occasionally
Vehicle	Food, Water, Sexual contact, Fly
Incubation Period	2w - 6m (rarely years; 95% within 6m)
Diagnostic Tests	Imaging. Serology. Nucleic acid amplification. Note: Amoebae are usually not present in stool at this stage.
Typical Adult Therapy	Metronidazole 750 mg TID X 10d OR Tinidazole 800 mg TID X 5d
Typical Pediatric Therapy	Metronidazole 15 mg/kg TID X 10d OR Tinidazole 15 to 20 mg/kg TID X 5d
Clinical Hints	- Fever, local pain and weight loss - Concurrent amebic colitis is usually not present. - Typically a single abscess in the right hepatic lobe (bacterial abscesses may be multiple)
Synonyms	Absceso amebiano, Amebic liver abscess. ICD9: 006.3,006.4,006.5,006.6,006.8 ICD10: A06.4,106.5,A06.7,106.8

Amoebic abscess in the Dominican Republic

Epidemiological data regarding Amebic abscess are included in the notes for Amebic colitis

Angiostrongyliasis

Agent	PARASITE - Nematoda. <i>Angiostrongylus (Parastromgylus) cantonensis</i>
Reservoir	Rat, Prawn, Frog
Vector	None
Vehicle	Snail, Slug, Prawn, Lettuce
Incubation Period	2w (range 5d - 35d)
Diagnostic Tests	Identification of parasite. Serological tests have limited reliability.
Typical Adult Therapy	Corticosteroids if severe cns disease Mebendazole 100 mg BID X 5d; OR Albendazole (20 mg/kg/day)
Typical Pediatric Therapy	Corticosteroids if severe cns disease. Mebendazole 100 mg BID X 5d (age >2); OR Albendazole (20 mg/kg/day)
Clinical Hints	- Follows ingestion of slugs, snails, prawns or frogs. - Eosinophilic meningitis or encephalitis - generally self-limited - Fever is typically absent or low grade - Cranial nerve involvement (II, VI, V and VII) is common
Synonyms	Alicata's disease, Angiostrongylose, Angiostrongylus cantonensis, Bundibugyo, Eosinophilic meningitis, Haemostromgylus ratti, Panstrongylasis, Parastromgylias, Parastromgylus cantonensis, Pulmonema cantonensis. ICD9: 128.8 ICD10: B83.2

Angiostrongyliasis in the Dominican Republic

Angiostrongylus cantonensis was first detected in this country in 1992 - in a human and in rats (*Rattus norvegicus*) in Santo Domingo. ¹

Cross-border events

Years	Acquired by**	Originated in**	Setting	Cases	Notes
2006	Germany	Dominican Republic	travel	1	²
2007*	Italy	Dominican Republic	travel	1	³

* indicates publication year (not necessarily year of event)

** Country or Nationality

References

1. *Trop Med Parasitol* 1992 Dec ;43(4):253-5.
2. *Dtsch Med Wochenschr* 2006 Jul 28;131(30):1656-9.
3. *J Travel Med* 2007 Nov-Dec;14(6):407-10.

Animal bite-associated infection

Agent	BACTERIUM. <i>Pasteurella multocida</i> , and other zoonotic bite pathogens
Reservoir	Cat, Dog, Marsupial, Other mammal, Rarely bird
Vector	None
Vehicle	Bite (cat in 60%, dog in 30%), No obvious source in 10%
Incubation Period	3h - 3d
Diagnostic Tests	Gram stain/culture. Hold specimen for 2 weeks to discount Capnocytophaga & other genera.
Typical Adult Therapy	Penicillin, a Tetracycline or Cefuroxime . Dosage and duration appropriate for nature and severity of infection
Typical Pediatric Therapy	Penicillin or Cefuroxime . Dosage and duration appropriate for nature and severity of infection
Clinical Hints	- Infection of cat- dog- or other bite wound; however, as many as 10% do not recall the bite - Symptoms appear within 3 to 72 hours - Systemic infection (meninges, bone, lungs, joints, etc) may occur
Synonyms	Bacteroides pyogenes, Bacteroides tectus, Bergeyella zoohelcum, Bisgaard's taxon 16, Capnocytophaga canimorsus, Capnocytophaga cynodegmi, CDC EF-4, CDC NO-1, Corynebacterium kutscheri, Corynebacterium canis, Corynebacterium freiburgense, Fusobacterium canifelinum, Halomonas venusta, Kingella potus, Moraxella canis, Mycobacterium vulneris, Neisseria animaloris, Neisseria canis, Neisseria weaveri, Neisseria zoodegmatis, Pasteurella caballi, Pasteurella canis, Pasteurella dagmatis, Pasteurella multocida, Pasteurella stomatis, Psychrobacter immobilis, Seal finger, Staphylococcus intermedius, Vibrio harveyi. ICD9: 027.2 ICD10: A28.0

Anisakiasis

Agent	PARASITE - Nematoda. Secernentea: <i>Anisakis simplex</i> and <i>Pseudoterranova decipiens</i>
Reservoir	Marine mammals Fish
Vector	None
Vehicle	Undercooked fish
Incubation Period	Hours - 14d
Diagnostic Tests	Endoscopic identification of larvae.
Typical Adult Therapy	Endoscopic removal of larvae; surgery for complications
Typical Pediatric Therapy	As for adult
Clinical Hints	Follows ingestion of undercooked fish (e.g., sushi), squid or octopus May present as - Generalized allergic reaction, or - Acute and chronic abdominal pain, often with "peritoneal signs" or hematemesis
Synonyms	Anasakis, Bolbosoma, Cod worm disease, Contracaecum, Eustrongylides, Herring worm disease, Hysterothylacium, Pseudoterranova, Whaleworm. ICD9: 127.1 ICD10: B81.0

Anthrax

Agent	BACTERIUM. <i>Bacillus anthracis</i> An aerobic gram positive bacillus
Reservoir	Soil, Goat, Cattle, Sheep, Water, Horse
Vector	Fly (rare)
Vehicle	Hair, Wool, Hides, Bone products, Air, Meat, Contact, Respiratory or pharyngeal acquisition
Incubation Period	1d-7d; 1-12 cutaneous, 1-7 GI; 1-43 pulmonary
Diagnostic Tests	Bacteriological culture. Alert laboratory that organism may be present. Serology and rapid tests by Ref. Centers.
Typical Adult Therapy	Isolation (secretions). <i>Ciprofloxacin</i> (or Penicillin if susceptible). If systemic infection, add <i>Meropenem</i> (or <i>Imipenem</i>) + <i>Linezolid</i> (or <i>Rifampin</i> or <i>Clindamycin</i>) Dosage/route/duration as per severity If inhalational anthrax, add Raxibacumab
Typical Pediatric Therapy	As for adult
Vaccine	Anthrax vaccine
Clinical Hints	Acquired from contact with large mammals or their products (meat, wool, hides, bone). Anthrax may present at dermal, pulmonary, gastrointestinal or other forms depending of site of inoculation. - Edematous skin ulcer covered by black eschar - satellite vesicles may be present - Fulminant gastroenteritis or pneumonia - Necrotizing stomatitis - Hemorrhagic meningitis
Synonyms	Antrace, Antrax, Antraz, Bacillus cereus biovar anthracis, Carbunclo, Carbunculo, La fievre charbonneuse, Malcharbon, Malignant pustule, Miltbrann, Miltvuur, Milzbrand, Mjaltbrand, Siberian plague, Siberian ulcer, Splenic fever, Wool-sorter's disease. ICD9: 022 ICD10: A22

Although Anthrax is not endemic to the Dominican Republic, imported, expatriate or other presentations of the disease have been associated with this country.

Anthrax in the Dominican Republic

Anthrax does not occur in this country.

Ascariasis

Agent	PARASITE - Nematoda. Secernentea: <i>Ascaris lumbricoides</i>
Reservoir	Human, Dog
Vector	None
Vehicle	Vegetables, Fly
Incubation Period	10d - 14d (range 7d - >200d)
Diagnostic Tests	Stool microscopy.
Typical Adult Therapy	Mebendazole 500 mg BID X 1 dose OR Albendazole 400 mg X 1 dose
Typical Pediatric Therapy	Albendazole 200 mg PO single dose OR Mebendazole 100 mg BID X 3 d (> age 2).
Clinical Hints	- Highest rates among children and in areas of crowding and poor sanitation - Acute illness characterized by cough, wheezing and eosinophilia - Adult worms are associated with abdominal pain (occasionally obstruction), pancreatic or biliary disease - Passage of a roundworm longer than 5 cm is virtually pathognomonic
Synonyms	Ascaris, Ascaris lumbricoides, Askariasis. ICD9: 127.0 ICD10: B77

Aspergillosis

Agent	FUNGUS. Ascomycota, Euascomycetes, Eurotiales: <i>Aspergillus</i> . A hyaline hyphomycete
Reservoir	Compost, Hay, Cereal, Soil
Vector	None
Vehicle	Air, Respiratory or pharyngeal acquisition
Incubation Period	3d - 21d
Diagnostic Tests	Fungal culture. Biopsy. Nasal culture or serologic testing may be useful in select cases.
Typical Adult Therapy	Voriconazole 6 mg/kg IV Q12h, day 1; follow with 4 mg/kg IV OR Amphotericin B - if invasive, rapidly increase to max dose 0.6 mg/kg/d and to total 2.5g. OR Itraconazole
Typical Pediatric Therapy	Voriconazole 3 to 9 mg/kg IV Q12h OR Amphotericin B - if invasive, rapidly increase to max dose 0.6 mg/kg/d X 6w. OR Itraconazole
Clinical Hints	- Pulmonary "fungus ball" or adult-onset asthma - Pulmonary consolidation or infected "pulmonary infarct" in the setting of immune suppression (e.g., AIDS, leukemia, etc) - May progress to widespread hematogenous dissemination if not treated promptly
Synonyms	Aspergillose, Aspergillus. ICD9: 117.3 ICD10: B44

Bacillary angiomatosis

Agent	BACTERIUM. <i>Bartonella henselae</i> or <i>Bartonella quintana</i> . Rickettsia-like bacteria
Reservoir	Human, Tick, Cat
Vector	Cat flea, Tick (Ixodid)
Vehicle	None
Incubation Period	Unknown
Diagnostic Tests	Histology with special stains. Specialized culture techniques. Serology. Nucleic acid amplification.
Typical Adult Therapy	Clarithromycin 500 mg BID X 3 months Alternatives Azithromycin 250 mg QD Ciprofloxacin 500 mg BID OR Doxycycline 100 mg BID Erythromycin 500 mg po QID
Typical Pediatric Therapy	Clarithromycin 7.5 mg/kg PO BID X 8 months. OR Gentamicin 2 mg/kg IMq12h
Clinical Hints	- Virtually all cases occur in the setting of AIDS or other immune deficiency - Hemangiomatous papules and nodules of skin, spleen, liver (peliosis hepatitis), bone or other tissues - Rare instances are reported following tick bite in immune-competent individuals
Synonyms	Bacillary peliosis, Peliosis hepatitis. ICD9: 757.32,083.8 ICD10: K76.4,A44.0

Bacillus cereus food poisoning

Agent	BACTERIUM. <i>Bacillus cereus</i> (toxin). An aerobic gram-positive bacillus
Reservoir	Soil, Processed & dried foods
Vector	None
Vehicle	Food
Incubation Period	2h - 9h (range 1h - 24h)
Diagnostic Tests	No practical test available. Isolation of organism from suspect food.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Usually follows ingestion of rice or other vegetables - Vomiting within 1 to 6 hours and/or diarrhea within 6 to 24 hours - Fecal leukocytes are not seen
Synonyms	Bacillus cytotoxicus. ICD9: 005.89 ICD10: A05.4

Bacterial vaginosis

Agent	BACTERIUM. <i>Gardnerella vaginalis</i> (facultative gram-negative bacillus), <i>Mobiluncus curtisi</i> , <i>Mobiluncus mulieris</i> , <i>Prevotella</i> , et al
Reservoir	Human
Vector	None
Vehicle	Sexual contact, Normal flora in 14% (girls) to 70% (women)
Incubation Period	Unknown
Diagnostic Tests	Identification of "clue cells" or positive KOH test in vaginal discharge. Culture.
Typical Adult Therapy	Metronidazole 500 mg BID X 7d OR Tinidazole 2 g PO daily X 3d OR Secnidazole 2 g PO X 1 dose OR Clindamycin 300 mg BID X 7d + intravaginal Clindamycin or Metronidazole ? Also treat sexual partner
Typical Pediatric Therapy	Metronidazole 7.5 mg/kg BID X 7d
Clinical Hints	- Thin vaginal discharge - "fishy" odor when mixed with KOH - Mild to moderate pruritis - Urethritis may be present in sexual partner
Synonyms	<i>Gardnerella</i> , <i>Gardnerella vaginalis</i> , <i>Mobiluncus</i> . ICD9: 041.89,616,10,099.8 ICD10: N76.1

Balantidiasis

Agent	PARASITE - Protozoa. Ciliate (Ciliophora), Litostomatea: <i>Balantidium coli</i>
Reservoir	Pig, Non-human primate, Rodent
Vector	None
Vehicle	Water, Food
Incubation Period	1d - 7d (range 1d - 60d)
Diagnostic Tests	Microscopy of stool or colonic aspirates.
Typical Adult Therapy	Tetracycline 500 mg QID X 10d. OR Metronidazole 750 mg TID X 5d. OR Iodoquinol 650 mg TID X 20d
Typical Pediatric Therapy	Age >= 8 years: Tetracycline 10 mg/kg QID (max 2g/d) X 10d. Age <8 yrs, Metronidazole 15 mg/kg TID X 5d; or Iodoquinol 13 mg/kg TID X 20d
Clinical Hints	- The disease is most common in pig-raising areas - Dysentery, often with vomiting - Mimics intestinal amebiasis - Symptoms may persist for one to four weeks, and may recur
Synonyms	Balantidiose, Balantidiosis, <i>Balantidium coli</i> , Balantidosis, Balindosis, Ciliary dysentery. ICD9: 007.0 ICD10: A07.0

Bartonellosis - cat borne

Agent	BACTERIUM. <i>Afipia felis</i> , <i>Bartonella henselae</i> , <i>Bartonella clarridgeiae</i> , <i>Bartonella grahamii</i> , et al. A facultative gram-negative coccobacillus
Reservoir	Cat, Possibly tick
Vector	Cat flea (<i>Ctenocephalides</i>)
Vehicle	Cat scratch, Plant matter (thorn, etc)
Incubation Period	3d - 14d
Diagnostic Tests	Visualization of organisms on Warthin Starry stain. Culture. Serology. Nucleic acid amplification.
Typical Adult Therapy	Aspiration of nodes as necessary. Azithromycin 500 mg day 1, then 250 daily X 4 days Alternatives: Clarithromycin , Ciprofloxacin , Sulfamethoxazole / Trimethoprim
Typical Pediatric Therapy	Aspiration of nodes as necessary. Azithromycin 10 mg/kg day 1, then 5 mg/kg daily X 4 days
Clinical Hints	- Tender suppurative regional adenopathy following a cat scratch (usually kitten) - Fever present in 25% - Systemic infection (liver, brain, endocardium, bone, etc) occasionally encountered - Most cases resolve within 6 weeks.
Synonyms	Afipia felis, <i>Bartonella clarridgeiae</i> , <i>Bartonella grahamii</i> , <i>Bartonella henselae</i> , <i>Bartonella koehlerae</i> , Cat scratch disease, Debre's syndrome, Foshay-Mollaret cat-scratch fever, Katszenkratz-Krankheit, Petzetakis' syndrome, SENLAT. ICD9: 078.3 ICD10: A28.1

Bartonellosis - other systemic

Agent	BACTERIUM. <i>Bartonella quintana</i> , <i>B. koehlerae</i> , <i>B. elizabethae</i> , <i>B. tamiae</i> , <i>B. washoensis</i> , etc A fastidious gram-negative coccobacillus
Reservoir	Human, Louse, Rat Cat Dog Sheep
Vector	Louse (<i>Pediculus</i>) Flea (<i>Ctenocephalides</i> , <i>Pulex</i>), Mite (<i>Dermanyssus</i>)
Vehicle	Wound or eye contact with secretions/louse feces
Incubation Period	9d - 25d (range 4d - 35d)
Diagnostic Tests	Serology. Culture. Nucleic acid amplification.
Typical Adult Therapy	Doxycycline 100 mg PO BID X 3 to 5 days (if endocarditis, add Gentamicin 3 mg/kg daily X 28 days) Alternatives: Clarithromycin , Azithromycin , Gentamicin , Fluoroquinolone (Levofloxacin , Trovaflloxacin , Pefloxacin , Sparfloxacin or Moxifloxacin)
Typical Pediatric Therapy	Erythromycin 10 mg/kg PO QID X 3 to 5 days. OR Gentamicin 2 mg/kg IM q12h. Alternatives: Clarithromycin , Azithromycin
Clinical Hints	- Often associated with poor hygiene and crowding - Headache, myalgias, shin pain, macular rash and splenomegaly - Endocarditis and bacteremia in some cases - Relapse is common
Synonyms	Bartonella alsatica, Bartonella bovis, Bartonella capreoli, Bartonella doshiae, Bartonella elizabethae, Bartonella melophagi, Bartonella quintana, Bartonella rochalimae, Bartonella schoenbuchensis, Bartonella tamiae, Bartonella taylorii, Bartonella tribocorum, Bartonella vinsonii, Bartonella vinsonii berkhoffii, Bartonella volans, Bartonella washoensis, <i>Candidatus Bartonella mayotimonensis</i> , <i>Candidatus Bartonella merieuxii</i> , <i>Candidatus Bartonella rochalimae</i> , Five day fever, His-Werner disease, Meuse fever, Quintan fever, Quintana fever, Shank fever, Shin fever, Shinbone fever, Trench fever, Volhynian fever. ICD9: 083.1 ICD10: A44.0,A44.8,A79.0

Blastocystis hominis infection

Agent	PARASITE - Protozoa. Chromista, Bigyra, Blastocystea: <i>Blastocystis hominis</i> . (taxonomic status remains uncertain)
Reservoir	Human
Vector	None
Vehicle	Fecal-oral, Water
Incubation Period	Unknown
Diagnostic Tests	Stool microscopy. Nucleic acid amplification.
Typical Adult Therapy	Nitazoxanide 500 mg BID X 3 d. OR Metronidazole 750 mg TID X 10d. OR Iodoquinol 650 mg TID X 20 d. OR Sulfamethoxazole / Trimethoprim
Typical Pediatric Therapy	Nitazoxanide - Age 1 to 3 years: 5 ml (100 mg) PO Q12h X 3 days - Age 4 to 11 years: 10 mg (200 mg) PO Q12h X 3 days; OR Metronidazole 15 mg/kg/d X 10d. Sulfamethoxazole / Trimethoprim
Clinical Hints	The precise role of this organism in disease is controversial - Diarrhea and flatulence, usually without fever - The illness is similar to giardiasis - Increased risk among immune-suppressed patients
Synonyms	Apoi, Blastocystiose, <i>Blastocystis hominis</i> , Zierdt-Garavelli disease. ICD9: 007.8 ICD10: A07.8

Borna virus encephalitis

Agent	VIRUS - RNA Mononegavirales Bornavirus
Reservoir	Squirrel, Horse, Sheep
Vector	None
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Metagenomic analysis of brain tissue and cerebrospinal fluid Culture on specialized cell lines Serology
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- May follow animal (horse, squirrel) contact - Most infections are subclinical - Manifested in some cases by mood disorders or possibly schizophrenia - Overt and fatal encephalitis has been reported, with fever, gait disturbance and ocular palsy
Synonyms	Borna disease, Heated head disease, Sad horse disease, Staggering disease of cats, Variegated squirrel 1 bornavirus, VSBV-1. ICD9: 323.9 ICD10: A83.9

Botulism

Agent	BACTERIUM. <i>Clostridium botulinum</i> . An anaerobic gram-positive bacillus
Reservoir	Soil, Animal, Fish
Vector	None
Vehicle	Food, Soil (contamination of wound or injected drug)
Incubation Period	1d - 2d
Diagnostic Tests	Electrophysiologic (EMG) pattern. Isolation of organism from food (occ. from infant stomach). Mouse toxin assay
Typical Adult Therapy	Heptavalent (types A-G) or trivalent (types A, B, E) antitoxin (following test dose) 10 ml in 100 ml saline over 30 min Additional 10 ml at 2 and 4 hours if necessary. Respiratory support
Typical Pediatric Therapy	As for adult
Vaccine	Botulism antitoxin
Clinical Hints	- Clinical manifestations similar to those of atropine poisoning - Dysarthria, diplopia, dilated pupils, dry mouth, constipation, flaccid paralysis - Onset approximately 36 hrs after ingestion of poorly-preserved food - May follow contaminated injection (ie, illicit drug) or other wound - Infant botulism associated with infant formula containing honey contaminated by bacterial spores
Synonyms	Botulisme, Botulismo, Botulismus, Kerner's disease. ICD9: 005.1 ICD10: A05.1

Brain abscess

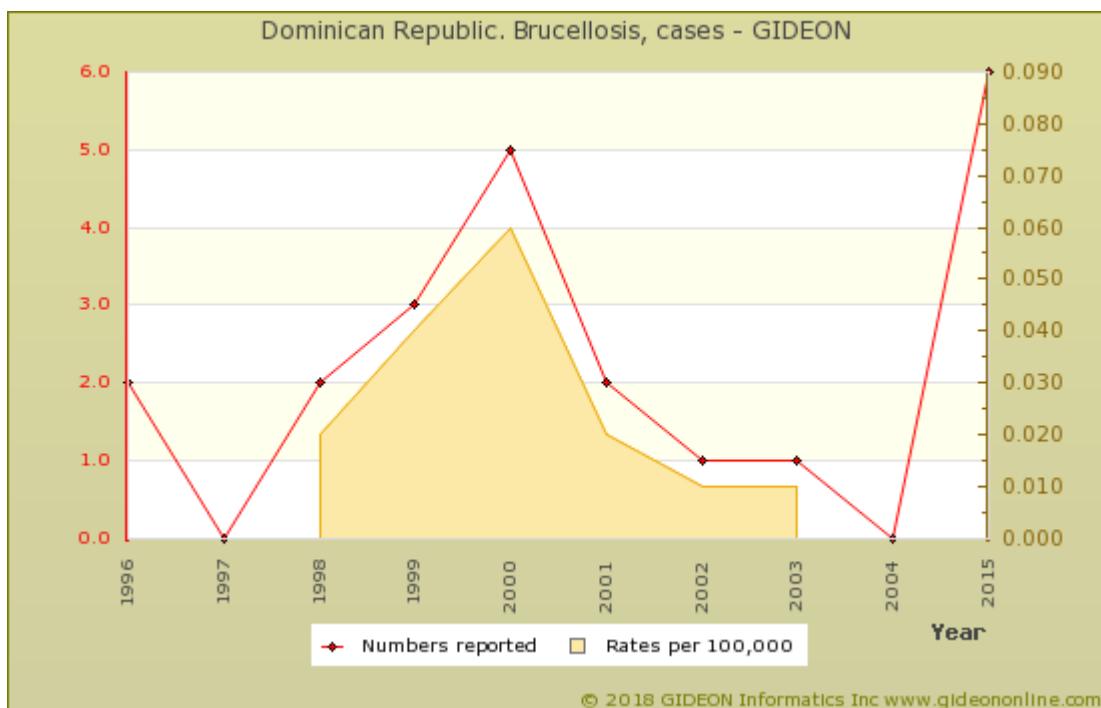
Agent	BACTERIUM OR FUNGUS. Mixed oral anaerobes / streptococci, <i>Staphylococcus aureus</i> (from endocarditis), etc.
Reservoir	Human
Vector	None
Vehicle	None
Incubation Period	Variable
Diagnostic Tests	Imaging techniques (CT, scan, etc).
Typical Adult Therapy	Antibiotic(s) appropriate to likely pathogens + drainage Typical empiric therapy: Intravenous Ceftriaxone 2 gm + Metronidazole 15 mg/kg, Q12h
Typical Pediatric Therapy	Typical empiric therapy: Intravenous Ceftriaxone 50 mg/kg + Metronidazole 15 mg/kg IV, Q12h
Clinical Hints	- Headache, vomiting and focal neurological signs - Often associated with chronic sinusitis or otitis media, pleural or heart valve infection - Patients are often afebrile
Synonyms	Ascesso cerebrale, Cerebral abscess. ICD9: 324.0 ICD10: G06.0

Brucellosis

Agent	BACTERIUM. <i>Brucella abortus</i> , <i>Brucella melitensis</i> , <i>Brucella suis</i> , <i>Brucella canis</i> An aerobic gram-negative bacillus
Reservoir	Pig, Cattle, Sheep, Goat, Dog, Coyote, Caribou
Vector	None
Vehicle	Food, Air, Dairy products, Animal excretions, Breastfeeding
Incubation Period	10d - 14d (range 5d - 60d)
Diagnostic Tests	Culture of blood or bone marrow. Serology. Note: Alert laboratory to possibility of Brucella.
Typical Adult Therapy	Doxycycline 100 mg BID + Rifampin 600 mg BID X 6 weeks. Alternatives Tetracycline + Gentamicin
Typical Pediatric Therapy	Rifampin 20 mg/kg/day (maximum 600 mg) plus: >age 8 years: Doxycycline 2 mg/kg BID PO X 6w age < 8 years Sulfamethoxazole / Trimethoprim 4/20 mg/kg BID X 4 to 6w Add Gentamicin if severe
Clinical Hints	- Prolonged fever, hepatosplenomegaly, lymphadenopathy - Arthritis, osteomyelitis or chronic multisystem infection - Follows ingestion of unpasteurized dairy products, contact with farm animals or meat processing
Synonyms	Bang's disease, Bangsche Krankheit, Brucella, Brucellemia, Brucelliasis, Brucellose, Brucellosen, Brucellosi, Brucelose, Brucellosis, Cyprus fever, Febris melitensis, Febris sudoralis, Febris undulans, Fievre caprine, Gibraltar fever, Goat fever, Malta fever, Maltafieber, Melitococciosis, Neapolitan fever, Rock fever, Typhomalarial fever, Undulant fever. ICD9: 023 ICD10: A23

Brucellosis in the Dominican Republic

Human disease in this country is due to *Brucella abortus*.



Graph: Dominican Republic. Brucellosis, cases

Campylobacteriosis

Agent	BACTERIUM. <i>Campylobacter jejuni</i> subsp <i>jejuni</i> , et al A microaerophilic gram-negative bacillus
Reservoir	Human, Mammal, Bird
Vector	None
Vehicle	Water, Food
Incubation Period	2d - 4d (range 1d - 10d)
Diagnostic Tests	Stool (rarely blood, CSF) culture. Nucleic acid amplification. Alert laboratory when these organisms are suspected.
Typical Adult Therapy	Stool precautions. Azithromycin 500 mg QD X 3 days Alternatives Erythromycin , Fluoroquinolone (Ciprofloxacin , Levofloxacin , Trovafloxacin , Pefloxacin , Sparfloxacin or Moxifloxacin), Gentamicin
Typical Pediatric Therapy	Stool precautions. Azithromycin 10 mg/kg QD X 3 days Alternatives - Erythromycin , Gentamicin
Clinical Hints	- Febrile diarrhea or dysentery - Vomiting or bloody stool often noted - Severe abdominal pain may mimic appendicitis - Disease is most common among children and lasts for one-to-four days
Synonyms	Campylobacter. ICD9: 008.43 ICD10: A04.5

Candidiasis

Agent	FUNGUS - Yeast. Ascomycota, Hemiascomycetes, Saccharomycetales. <i>Candida albicans</i> , and other species.
Reservoir	Human
Vector	None
Vehicle	Contact, Catheter
Incubation Period	Variable
Diagnostic Tests	Culture. Serology and assays for cell-specific antigens are performed in some centers,
Typical Adult Therapy	Topical, oral, systemic antifungal agent depending on clinical presentation and species (in Drugs module, scroll through upper left box)
Typical Pediatric Therapy	As for adult
Clinical Hints	- Dermal erythema with satellite pustules - "Cheesy" mucosal discharge - Candidemia in the setting of intravenous catheter or endocarditis - Severe, widespread or intractable disease may suggest underlying diabetes, AIDS or other form of immune suppression
Synonyms	Candida, Candida-Mykosen, Candidiase, Candidiasi, Candidose, Monilia, Moniliasis, Salmonella, Thrush. ICD9: 112 ICD10: B37

Candidiasis in the Dominican Republic

An estimated 158,134 Dominican women suffer from recurrent vulvovaginal candidiasis (2015 publication). ¹

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Chancroid

Agent	BACTERIUM. <i>Haemophilus ducreyi</i> . A facultative gram-negative bacillus
Reservoir	Human
Vector	None
Vehicle	Sexual contact
Incubation Period	3d - 10d (2d - 21d)
Diagnostic Tests	Culture (inform laboratory when this diagnosis is suspected). Fluorescent staining under development
Typical Adult Therapy	Azithromycin 1.0 g PO X 1 dose. OR Ceftriaxone 250 mg IM X 1 dose. OR Ciprofloxacin 500 mg PO BID X 3 days OR Erythromycin 500 mg PO TID X 7d.
Typical Pediatric Therapy	Azithromycin 12 mg/kg PO X 1 dose OR Erythromycin 10 mg/kg PO TID X 7d. OR Ceftriaxone 10 mg/kg IM X 1
Clinical Hints	- Soft, painful and tender chancre on erythematous base - Regional lymphadenopathy - generally unilateral and painful - Onset three-to-ten days following sexual exposure
Synonyms	Blot sjanker, Chancre mou, Chancro blando, Haemophilus ducreyi, Nkumunye, Soft chancre, Ulcera mole, Ulcus molle, Weeke sjanker, Weicher Schanker. ICD9: 099.0 ICD10: A57

Chancroid in the Dominican Republic

Prevalence surveys

Years	Study Group	%	Notes
	patients - STD	23	23% of genital ulcer disease

Rates per 100,000: 3.4 in 1995.

Chikungunya

Agent	VIRUS - RNA. Togaviridae, Alphavirus: Chikungunya virus. Related Semliki Forest and Me Tri viruses are found in Africa & Asia
Reservoir	Non-human primate
Vector	Mosquito (<i>Aedes</i> spp.; <i>Ae. furcifer-taylori</i> group in Africa)
Vehicle	None
Incubation Period	2d - 12d
Diagnostic Tests	Viral culture (blood). Serology. Nucleic acid amplification. Biosafety level 3.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Abrupt onset of fever, leukopenia, myalgia and prominent bilateral joint pain - Maculopapular rash appears on 2nd to 5th days in greater than 50% of cases - Fever resolves within 7 days, but joint pain may persist for months
Synonyms	Buggy Creek, Getah, Kidenga pepo, Knuckle fever, Me Tri, Semliki Forest. ICD9: 062.8,066.3 ICD10: A92.1

Chikungunya in the Dominican Republic



Graph: Dominican Republic. Chikungunya, cases

2014 - Two cases of imported (from Haiti and the Dominican Republic) Chikungunya were reported in Panama.¹ Imported cases from the Dominican Republic were reported among travelers from Suriname, the Bahamas^{2 3}, Brazil, Chile⁴,

Colombia, Costa Rica [5](#), Bolivia [6](#), Germany [7](#), Greece [8](#) [9](#), Italy [10](#), Nicaragua, Paraguay [11](#), United States [12](#), Uruguay [13](#) and Venezuela.

2015 - 67 cases were reported to July. [16](#) [17](#) [18](#) [19](#)

Notable outbreaks

Years	Region	Cases	Deaths	Notes
2014	Multiple locations	539,099	6	20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45

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Chlamydia infections, misc.

Agent	BACTERIUM. Chlamydiaceae, Chlamydiae , <i>Chlamydia trachomatis</i> ; <i>Simkania negevensis</i> ; <i>Waddlia chondrophila</i>
Reservoir	Human
Vector	None
Vehicle	Sexual contact
Incubation Period	5d - 10d
Diagnostic Tests	Microscopy and immunomicroscopy of secretions. Serology. Tissue culture. Nucleic acid amplification.
Typical Adult Therapy	Azithromycin 1g as single dose OR Doxycycline 100 mg BID X 7d. OR Levofloxacin 500 mg daily X 7 days OR Ofloxacin 300 mg BID X 7 days
Typical Pediatric Therapy	Weight <45 kg: Erythromycin 12.5 mg/kg QID X 14d Weight >=45 kg, but age <8 years: Azithromycin 1 g as single dose Age >= 8 years: Azithromycin 1 g as single dose OR Doxycycline 100 mg BID X 7 d
Clinical Hints	- Thin, scant penile discharge - Cervicitis, with overt pelvic inflammatory disease in some cases - Conjunctivitis or neonatal pneumonia - Concurrent gonorrhea may be present
Synonyms	Bedsonia, Chlamydia felis, Chlamydia gallinacea, Chlamydia suis, Chlamydia trachomatis, Chlamydien-Urethritis, Chlamydien-Zervizitis, Chlamydophila, Inclusion blenorhea, Non-gonococcal urethritis, Nonspecific urethritis, Parachlamydia, Parachlamydia acanthamoebiae, Prachlamydia, Protochlamydia, Protochlamydia naegleriophila, Rhabdochlamydia, Simkania negevensis, Waddlia chondrophila. ICD9: 099.41,099.5 ICD10: A56,A55

Chlamydophila pneumoniae infection

Agent	BACTERIUM. Chlamydiaceae, Chlamydiae , <i>Chlamydophila (Chlamydia) pneumoniae</i>
Reservoir	Human
Vector	None
Vehicle	Droplet, Respiratory or pharyngeal acquisition
Incubation Period	7d - 28d
Diagnostic Tests	Direct fluorescence of sputum. Serology and culture in specialized laboratories. Nucleic acid amplification.
Typical Adult Therapy	Respiratory isolation. Azithromycin 500 mg day 1, then 0.25 g daily X 4 days OR Levofloxacin 750 mg po BID X 7d. OR Alternatives: Doxycycline 100 mg BID X 7d. Erythromycin 500 mg QID X 10d. Clarithromycin 0.5 g BID X 7d
Typical Pediatric Therapy	Respiratory isolation Azithromycin 10 mg/kg PO day 1; 5 mg/kg PO days 2 to 5
Clinical Hints	- Atypical pneumonia, often associated with pharyngitis and myalgia - Consider this diagnosis when <i>Mycoplasma</i> , <i>Legionella</i> and influenza are discounted
Synonyms	Chlamydia pneumoniae, Chlamydia TWAR, Chlamydophila pneumoniae, TWAR. ICD9: 078.88 ICD10: J16.0

Cholecystitis and cholangitis

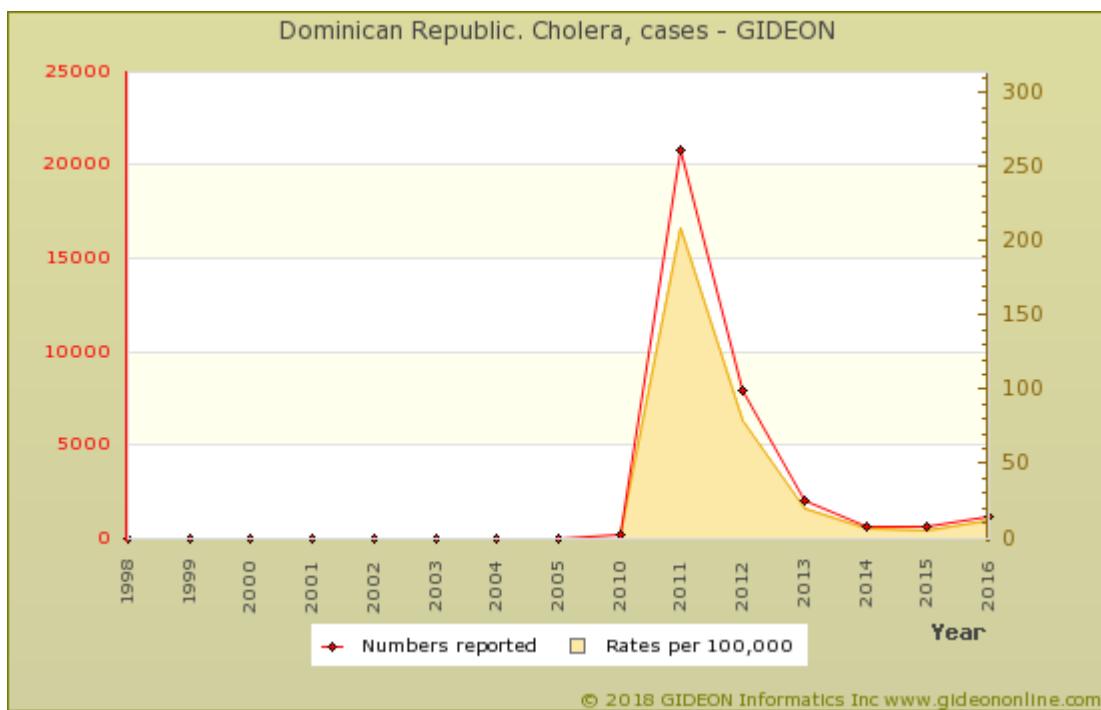
Agent	BACTERIUM. <i>Escherichia coli</i> , <i>Klebsiella pneumoniae</i> , enterococci, et al.
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Roentgenograms/imaging (cholecystogram, ultrasound, CT, etc).
Typical Adult Therapy	Antibiotics and surgical intervention as required
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fever, chills and right upper quadrant abdominal pain; - Often "female, fat and forty" - May be associated with gallstones or pancreatitis, or present as "fever of unknown origin"
Synonyms	Acute cholecystitis, Angiocholite, Ascending cholangitis, Cholangitis, Cholecystite, Cholecystitis, Cholezystitis, Colangite, Colangitis, Colecistite, Gall bladder. ICD9: 575.0,576.1 ICD10: K81,K83.0

Cholera

Agent	BACTERIUM. <i>Vibrio cholerae</i> A facultative gram-negative bacillus
Reservoir	Human
Vector	None
Vehicle	Water, Fecal-oral, Seafood (oyster, ceviche), Vegetables, Fly
Incubation Period	1d - 5d (range 9h - 6d)
Diagnostic Tests	Stool culture. Advise laboratory when this organism is suspected.
Typical Adult Therapy	Stool precautions. Doxycycline 100 mg BID X 5d, or Fluoroquinolone (Levofloxacin , Trovafloxacin , Pefloxacin , Sparfloxacin or Moxifloxacin), or Azithromycin Fluids (g/l): NaCl 3.5, NaHCO ₃ 2.5, KCl 1.5, glucose 20
Typical Pediatric Therapy	Stool precautions. Age >=8 years: Doxycycline 2 mg/kg BID X 5d. Age <8 years: Sulfamethoxazole / Trimethoprim Fluids (g/l): NaCl 3.5, NaHCO ₃ 2.5, KCl 1.5, glucose 20
Vaccines	Cholera - injectable vaccine Cholera - oral vaccine
Clinical Hints	- Massive, painless diarrhea and dehydration - Occasionally vomiting - Apathy or altered consciousness are common - Rapid progression to acidosis, electrolyte imbalance and shock - Fever is uncommon
Synonyms	Colera, Kolera. ICD9: 001 ICD10: A00

Cholera in the Dominican Republic

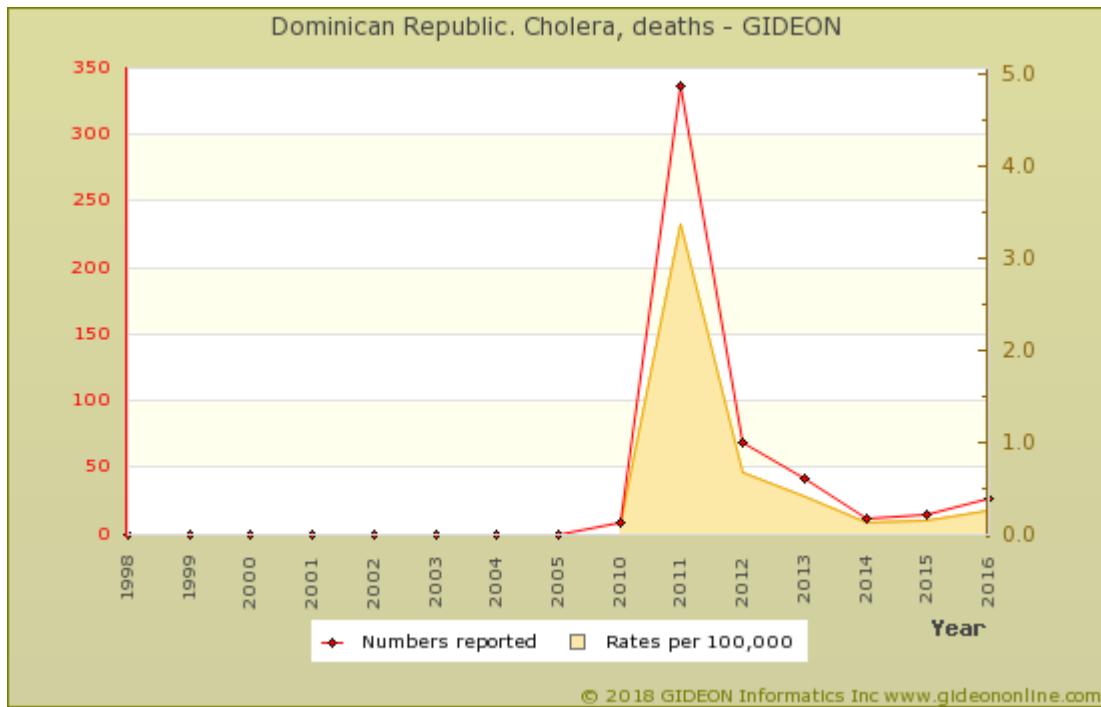
Cholera was reported in the Dominican Republic during 1865 to 1872. ¹



Graph: Dominican Republic. Cholera, cases

Notes:

Individual years:

2017 - 110 cases (4 fatal) were reported during January 1 to November 18. [2](#) [3](#)

Graph: Dominican Republic. Cholera, deaths

Cross-border events*Outbreaks among tourists and similar groups*

Years	Acquired by **	Originated in **	Setting	Cases	Notes
2011	Venezuela	Dominican Republic	travel	450	An outbreak was reported among Venezuelans returning from the Dominican Republic during a cholera outbreak 4

** Country or Nationality

In 1992, non-O1 *Vibrio cholerae* enterocolitis was reported in Canadian tourists returning from the Dominican Republic. [5](#)

Notable outbreaks

Years	Region	Setting	Cases	Deaths	Population	Notes
2010 - 2015	Nationwide		33,160	490		Outbreak (33,160 cases, 490 fatal) resulted from spread from Haiti. Dominican and Haitian nationals were affected. 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109
2012	Multiple locations		7,919	68		110 111 112 113 114 115 116 117 118 119 120 121 122
2013	Multiple locations		1,954	42		Outbreak included 211 cases in San Cristobal and 184 cases (12 fatal) in a prison in La Altagracia 123 124 125 126 127 128 129 130 131 132 133 134 135
2014	Multiple locations		603	11		136 137 138 139 140 141 142 143 144 145 146 147
2015	Multiple locations		546	15		148 149 150 151 152 153 154 155 156 157 158 159 160 161
2016	Santo Domingo	prison or correctional facility	75	4	prisoners	162
2016	Multiple locations		1,069	18		Cases to September 163 164 165 166 167 168 169 170

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Chromomycosis

Agent	FUNGUS. Ascomycota, Euascomycetes, Chaetothyriales. Dematiaceous molds: <i>Phialophora</i> , <i>Cladiophialophora</i> , <i>Fonsecaea</i> , <i>Rhinocladiella</i>
Reservoir	Wood, Soil, Vegetation
Vector	None
Vehicle	Minor trauma
Incubation Period	14d - 90d
Diagnostic Tests	Biopsy and fungal culture.
Typical Adult Therapy	<i>Itraconazole</i> 100 mg PO QID X (up to) 18 m. OR (for late disease) <i>Flucytosine</i> 25 mg/kg QID X 4m. OR <i>Posaconazole</i> 400 mg PO BID <i>Terbinafine</i> has been used in some cases. Local heat; excision as necessary
Typical Pediatric Therapy	<i>Itraconazole</i> 1 mg/kg PO BID X (up to) 18 m. OR <i>Ketoconazole</i> (if age >2) 5 mg/kg/d X 3 to 6m. Local heat; excision as necessary
Clinical Hints	- Violaceous, verrucous, slowly-growing papule(s) or nodules - Most commonly on lower extremities - Usually follows direct contact with plant matter in tropical regions
Synonyms	Chromoblastomycosis, Chromomykose, Phoma insulana, Veronaea, Verrucous dermatitis. ICD9: 117.2 ICD10: B43.0

Chromomycosis in the Dominican Republic

Several cases of chromoblastomycosis had been reported in the Dominican Republic as of 2015. ¹

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Chronic meningococcemia

Agent	BACTERIUM. <i>Neisseria meningitidis</i> An aerobic gram-negative coccus
Reservoir	Human
Vector	None
Vehicle	Air, Infected secretions
Incubation Period	Unknown
Diagnostic Tests	Blood culture. Test patient for complement component deficiency.
Typical Adult Therapy	Intravenous Penicillin G 20 million units daily X 7 days
Typical Pediatric Therapy	Intravenous Penicillin G 200,000 units daily X 7 days
Clinical Hints	- Recurrent episodes of low-grade fever, rash, arthralgia and arthritis - May persist for months - Rash is distal and prominent near joints and may be maculopapular, petechial or pustular - In some cases, associated with complement component-deficiency
Synonyms	Meningococcemia, chronic. ICD9: 036.2 ICD10: A39.3

Clostridial food poisoning

Agent	BACTERIUM. <i>Clostridium perfringens</i> An anaerobic gram-positive bacillus
Reservoir	Soil, Human, Pig, Cattle, Fish, Poultry
Vector	None
Vehicle	Food
Incubation Period	8h - 14h (range 5h - 24h)
Diagnostic Tests	Laboratory diagnosis is usually not practical. Attempt culture of food for <i>C. perfringens</i> .
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Abdominal pain and watery diarrhea - Usually no fever or vomiting - Onset 8 to 14 hours after ingestion of meat, fish or gravy - Fecal leukocytes not seen - Most cases resolve within 24 hours
Synonyms	

Clostridial myonecrosis

Agent	BACTERIUM. <i>Clostridium perfringens</i> An anaerobic gram-positive bacillus
Reservoir	Soil, Human
Vector	None
Vehicle	Soil, Trauma
Incubation Period	6h - 3d
Diagnostic Tests	Gram stain of exudate. Wound and blood cultures. Presence of gas in tissue (not specific).
Typical Adult Therapy	Prompt, aggressive debridement. Penicillin G 3 million units IV Q3h + Clindamycin 900 mg IV Q8h. Hyperbaric oxygen
Typical Pediatric Therapy	Prompt, aggressive debridement. Penicillin G 50,000 units/kg IV Q3h + Clindamycin 10 mg/kg IV Q6h. Hyperbaric oxygen
Vaccine	Gas gangrene antitoxin
Clinical Hints	- Rapidly progressive tender and foul-smelling infection of muscle - Local gas present - crepitus or visible on X-ray - Hypotension, intravascular hemolysis and obtundation
Synonyms	Anaerobic myonecrosis, Clostridial gangrene, Gas gangrene. ICD9: 040.0 ICD10: A48.0

Clostridium difficile colitis

Agent	BACTERIUM. <i>Clostridium difficile</i> An anaerobic gram-positive bacillus
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Assay of stool for C. difficile toxin.
Typical Adult Therapy	Metronidazole 500 mg PO TID X 10d. OR Vancomycin 125 mg (oral preparation) QID X 10d OR Fidaxomicin 200 mg PO BID X 10d Fecal transplantation (PO or by enema) has been effective in some cases.
Typical Pediatric Therapy	Vancomycin 2 mg/kg (oral preparation) QID X 10d
Clinical Hints	- Fever, leukocytosis and abdominal pain - Mucoid or bloody diarrhea during or following antibiotic therapy - Fecal leucocytes are seen - Suspect this diagnosis even when mild diarrhea follows antibiotic intake
Synonyms	Klebsiella oxytoca colitis, Pseudomembranous colitis. ICD9: 008.45 ICD10: A04.7

Common cold

Agent	VIRUS - RNA. Picornaviridae. Rhinoviruses, Coronavirus, et al.
Reservoir	Human
Vector	None
Vehicle	Droplet, Contact, Respiratory or pharyngeal acquisition
Incubation Period	1d - 3d
Diagnostic Tests	Viral culture and serology are available, but not practical.
Typical Adult Therapy	Supportive; Pleconaril under investigation
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Nasal obstruction or discharge, cough and sore throat are common- Fever above 38 C is common in children, but unusual in adults- Illness typically persists for one week, occasionally two
Synonyms	Acute coryza, Raffreddore. ICD9: 079,460 ICD10: J00

Conjunctivitis - inclusion

Agent	BACTERIUM. <i>Chlamydiae</i> , <i>Chlamydia trachomatis</i>
Reservoir	Human
Vector	None
Vehicle	Infected secretions, Sexual contact, Water (swimming pools)
Incubation Period	5d - 12d
Diagnostic Tests	Demonstration of chlamydiae on direct fluorescence or culture of exudate.
Typical Adult Therapy	Secretion precautions. Topical Erythromycin . Erythromycin 250 mg PO QID. X 14 days OR Doxycycline 100 mg PO BID X 14 days
Typical Pediatric Therapy	Secretion precautions. Topical Erythromycin . Azithromycin 1 g PO as single dose. Alternative If age >8 years, Doxycycline 100 mg PO BID X 7 days.
Clinical Hints	- Ocular foreign body sensation, photophobia and discharge - Illness can persist for months, to as long as 2 years
Synonyms	Inclusion conjunctivitis, Paratrachoma. ICD9: 077.0 ICD10: P39.1,A74.0

Conjunctivitis - viral

Agent	VIRUS. Picornavirus, Adenovirus
Reservoir	Human
Vector	None
Vehicle	Contact
Incubation Period	1d - 3d
Diagnostic Tests	Viral isolation is available but rarely practical.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Watery discharge, generalized conjunctival injection and mild pruritus - May be associated with an upper respiratory infection
Synonyms	Apollo conjunctivitis, Apollo eye, Congiuntivite virale, Hemorrhagic conjunctivitis, Viral conjunctivitis. ICD9: 077.1,077.2,077.3,077.4,077.8,372.0 ICD10: B30,B30.3,H10

Conjunctivitis - viral in the Dominican Republic

Notable outbreaks

Years	Region	Cases	Clinical	Notes
1993*			conjunctivitis - acute hemorrhagic	1
2008	Nationwide	45,000		2
2017		66,626		Outbreak of presumed viral conjunctivitis. Case count to May 27 3

* indicates publication year (not necessarily year of outbreak)

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Cryptococcosis

Agent	FUNGUS - Yeast. Basidiomycota, Hymenomycetes, Sporidiales: <i>Cryptococcus neoformans</i> and other species
Reservoir	Pigeon, Soil
Vector	None
Vehicle	Air, Respiratory or pharyngeal acquisition
Incubation Period	Variable
Diagnostic Tests	Fungal culture and stains. Latex test for fungal antigen in CSF and serum. Nucleic acid amplification.
Typical Adult Therapy	Amphotericin B 0.3 mg/kg/d X 6w (+/- Flucytosine); then 0.8 mg/kg qod X 8w. OR Fluconazole 200 mg/d
Typical Pediatric Therapy	Amphotericin B 0.3 mg/kg/d X 6w (+/- Flucytosine); then 0.8 mg/kg qod X 8w. OR Fluconazole 3 mg/kg/d
Clinical Hints	- Chronic lymphocytic meningitis or pneumonia in an immune-suppressed patient - Meningitis may be subclinical, or "wax and wane" - Nuchal rigidity is absent or minimal; - Bone, skin, adrenals, liver, prostate and other sites may be infected hematogenously
Synonyms	Busse-Buschke disease, <i>Cryptococcus</i> , European blastomycosis, Torulosis. ICD9: 117.5,321.0 ICD10: B45

Cryptosporidiosis

Agent	PARASITE - Protozoa. Apicomplexa, Eimeriida: <i>Cryptosporidium hominis</i> and <i>C. parvum</i> (rarely <i>C. muris</i> , <i>C. felis</i> , <i>C. meleagridis</i> , et al).
Reservoir	Mammal (over 150 species)
Vector	None
Vehicle	Water, Feces, Oysters, Fly
Incubation Period	5d - 10d (range 2d - 14d)
Diagnostic Tests	Stool/duodenal aspirate for acid-fast, direct fluorescence staining, or antigen assay. Nucleic acid amplification
Typical Adult Therapy	Stool precautions. Nitazoxanide 500 mg PO BID X 3 days
Typical Pediatric Therapy	Stool precautions. Nitazoxanide: 1 to 3 years: 100 mg PO BID X 3 days 4 to 11 years: 200 mg PO BID X 3 days >12 years: 500 mg PO BID X 3 days
Clinical Hints	- Watery diarrhea, vomiting, abdominal pain - Self-limited disease in healthy subjects - Immunosuppressed (e.g., AIDS) patients experience chronic, wasting illness (may be associated with pulmonary disease)
Synonyms	Cryptosporidium, Cryptosporidium andersoni, Cryptosporidium chipmunk genotype, Cryptosporidium cuniculus, Cryptosporidium fayeri, Cryptosporidium felis, Cryptosporidium hedgehog genotype, Cryptosporidium hominis, Cryptosporidium meleagridis, Cryptosporidium parvum, Cryptosporidium pestis, Cryptosporidium suis, Cryptosporidium tyzzeri, Cryptosporidium ubiquitum, Cryptosporidium viatorum, Kryptosporidiose. ICD9: 007.4 ICD10: A07.2

Cryptosporidiosis in the Dominican Republic

Prevalence surveys

Years	Region	Study Group	%	Notes
1991	Santo Domingo	children	17	17% of hospitalizations for acute diarrhea among children ¹

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Cutaneous larva migrans

Agent	PARASITE - Nematoda. Secernentea: <i>Ancylostoma braziliense</i> , <i>A. caninum</i> , <i>Bunostomum phlebotomum</i> , <i>Strongyloides myopotami</i>
Reservoir	Cat, Dog, Cattle
Vector	None
Vehicle	Soil, Contact
Incubation Period	2d - 3d (range 1d - 30d)
Diagnostic Tests	Biopsy is usually not helpful.
Typical Adult Therapy	Albendazole 200 mg BID X 3d OR Ivermectin 200 micrograms/kg as single dose. OR Thiabendazole topical, and oral 25 mg/kg BID X 5d (max 3g).
Typical Pediatric Therapy	Albendazole 2.5 mg/kg BID X 3d OR Ivermectin 200 micrograms/kg once OR Thiabendazole topical, and oral 25 mg/kg BID X 5d (max 3g).
Clinical Hints	- Erythematous, serpiginous, intensely pruritic and advancing lesion(s) or bullae - Usually involves the feet - Follows contact with moist sand or beach - May recur or persist for months.
Synonyms	Creeping eruption, Pelodera, Plumber's itch. ICD9: 126.2,126.8,126.9 ICD10: B76.9

Cyclosporiasis

Agent	PARASITE - Protozoa. Apicomplexa, Eimeriida: <i>Cyclospora cayetanensis</i>
Reservoir	Human, Non-human primate
Vector	None
Vehicle	Water, Vegetables
Incubation Period	1d - 11d
Diagnostic Tests	Identification of organism in stool smear. Cold acid fast stains and ultraviolet microscopy may be helpful.
Typical Adult Therapy	Sulfamethoxazole / Trimethoprim 800/160 mg BID X 7d Ciprofloxacin 500 mg PO BID X 7 d (followed by 200 mg TIW X 2 w) has been used in sulfa-allergic patients
Typical Pediatric Therapy	Sulfamethoxazole / Trimethoprim 10/2 mg/kg BID X 7d
Clinical Hints	<ul style="list-style-type: none">- Most cases follow ingestion of contaminated water in underdeveloped countries- Large outbreaks have been associated with ingestion of contaminated fruit- Watery diarrhea (average 6 stools daily)- Abdominal pain, nausea, anorexia and fatigue- May persist for up to 6 weeks (longer in AIDS patients)
Synonyms	Cryptosporidium muris, Cyanobacterium-like agent, Cyclospora. ICD9: 007.5 ICD10: A07.8

Cysticercosis

Agent	PARASITE - Platyhelminthes, Cestoda. Cyclophyllidea, Taeniidae: <i>Taenia solium</i>
Reservoir	Pig, Human
Vector	None
Vehicle	Soil (contaminated by pigs), Fecal-oral, Fly
Incubation Period	3m - 3y
Diagnostic Tests	Serology (blood or CSF) and identification of parasite in biopsy material.
Typical Adult Therapy	<p>Albendazole 400 mg PO BID X 30d. OR Praziquantel 30 mg/kg TID X 14d (15 to 30d for neurocysticercosis). Combination of Albendazole + Praziquantel may be superior for neurocysticercosis. Surgery as indicated</p> <p>Add corticosteroids if brain involved.</p>
Typical Pediatric Therapy	<p>Albendazole 15 mg/kg PO BID X 30d. OR Praziquantel 30 mg/kg TID X 14d (15 to 30d for neurocysticercosis). Combination of Albendazole + Praziquantel may be superior for neurocysticercosis. Surgery as indicated</p> <p>Add corticosteroids if brain involved.</p>
Clinical Hints	- Cerebral, ocular or subcutaneous mass - Usually no eosinophilia - Calcifications noted on X-ray examination - Associated with regions where pork is eaten - 25% to 50% of patients have concurrent tapeworm infestation
Synonyms	Taenia crassiceps, Taenia martis. ICD9: 123.1 ICD10: B69

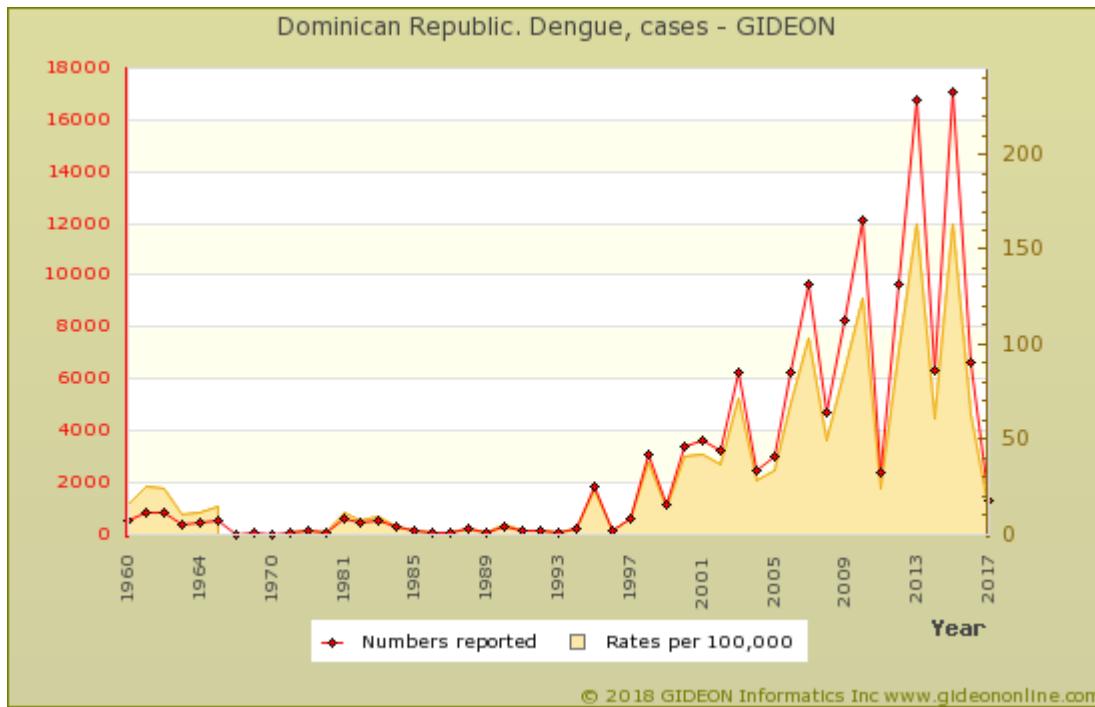
Cytomegalovirus infection

Agent	VIRUS - DNA. Herpesviridae, Betaherpesvirinae: Human herpesvirus 5 (Cytomegalovirus)
Reservoir	Human
Vector	None
Vehicle	Droplet (respiratory), Urine, Dairy products, Tears, Stool, Sexual, contact (rare), Transplacental, Breastfeeding
Incubation Period	3w - 5w (range 2w - 12w)
Diagnostic Tests	Viral culture (blood, CSF, urine, tissue). Serology. Direct viral microscopy. Nucleic acid amplification
Typical Adult Therapy	(Most cases self-limited). Ganciclovir 5 mg/kg q12h IV X 2 to 3w. OR Foscarnet 90 mg/kg Q12h IV OR Cidofovir 5 mg/kg IV weekly
Typical Pediatric Therapy	(Most cases self-limited) Ganciclovir 5 mg/kg q12h IV X 2 to 3w
Vaccine	Cytomegalovirus immunoglobulin
Clinical Hints	- Heterophile-negative "mononucleosis" - Mild pharyngitis, without exudate - Variable degree of lymphadenopathy and splenomegaly - Retinitis in AIDS patients - Pneumonia in setting of immune suppression - Congenital infection characterized by multisystem disease in newborns
Synonyms	Cytomegalovirus, Zytomegalie. ICD9: 078.5 ICD10: B25

Dengue

Agent	VIRUS - RNA. Flaviviridae, Flavivirus: Dengue virus
Reservoir	Human, Mosquito, Monkey (in Malaysia and Africa)
Vector	Mosquito - <i>Stegomyia (Aedes) aegypti</i> , <i>S. albopictus</i> , <i>S. polynesiensis</i> , <i>S. scutellaris</i>
Vehicle	Blood, Breastfeeding
Incubation Period	5d - 8d (range 2d - 15d)
Diagnostic Tests	Viral isolation (blood). Serology. Nucleic acid amplification. Biosafety level 2.
Typical Adult Therapy	Supportive; IV fluids to maintain blood pressure and reverse hemoconcentration
Typical Pediatric Therapy	As for adult
Vaccine	Dengue vaccine
Clinical Hints	- Headache, myalgia, arthralgia - Relative bradycardia, leukopenia and macular rash - Severe dengue (DHF or dengue-shock syndrome) defined by thrombocytopenia, hemoconcentration and hypotension
Synonyms	Bouquet fever, Break-bone fever, Dandy fever, Date fever, Dengue Fieber, Duengero, Giraffe fever, Petechial fever, Polka fever. ICD9: 061 ICD10: A90,A91

Dengue in the Dominican Republic



Graph: Dominican Republic. Dengue, cases

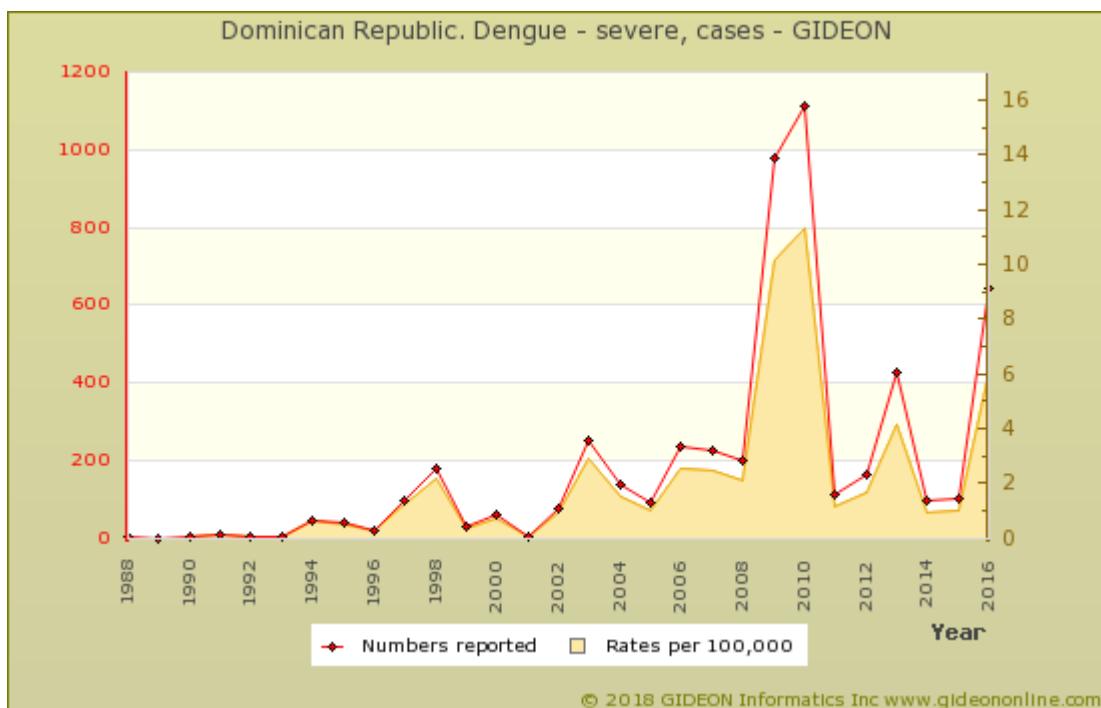
Notes:

Individual years:

1993 - All confirmed

1995 - 249 confirmed

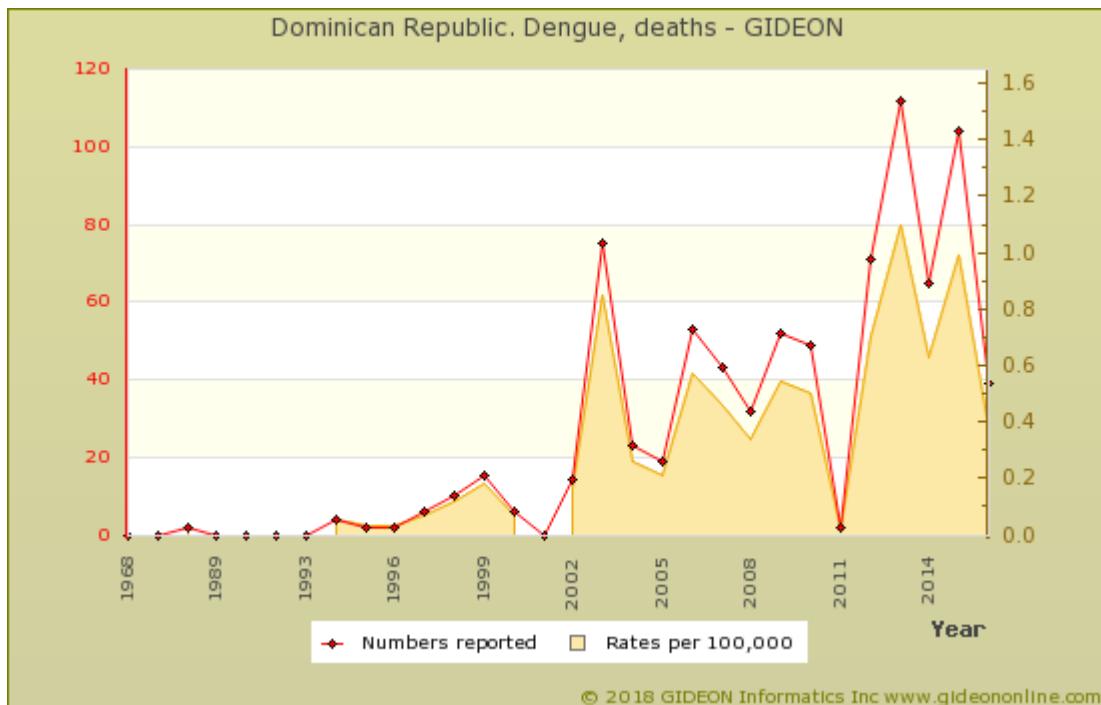
1996 - All confirmed.

2017 - 931 cases (1 fatal) were reported during January to October. [1](#) [2](#) [3](#)

Graph: Dominican Republic. Dengue - severe, cases

Notes:

1. Formerly reported as Dengue hemorrhagic fever (DHF)
2. Dengue hemorrhagic fever (DHF) was first reported this country in 1988.
3. A total of 174 cases of DHF (14 fatal) were reported during 1988 to 1996.



Graph: Dominican Republic. Dengue, deaths

Seroprevalence surveys

Years	Region	Study Group	%	Notes
2004*	Santo Domingo	general population	56-98	98% of adults and 56% of children below age 10 4

* indicates publication year (not necessarily year of survey)

As of 2003, *Aedes albopictus* was present in ten American countries: Brazil, the Cayman Islands, the Dominican Republic, El Salvador, Guatemala, Mexico, Nicaragua, Panama, Trinidad and the United States.

Notable outbreaks

Years	Cases	Deaths	Notes
2009	4,998	44	5 6 7 8
2010	8,587	41	9 10 11 12 13 14 15 16 17 18 19
2012	9,191	68	20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42
2013	13,084	98	43 44 45 46 47 48 49 50 51 52
2014	6,035		53 54 55 56 57 58
2015	16,871	103	59 60 61 62 63 64 65 66 67 68 69 70 71 72 73
2016	6,347	32	Cases to November 74 75 76 77 78 79 80 81 82 83

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Dermatophytosis

Agent	FUNGUS. Ascomycota, Euascomyces, Onygenales: <i>Epidermophyton</i> , <i>Microsporum</i> , <i>Trichophyton</i> , <i>Trichosporon</i> spp., <i>Arthroderma</i> , et al
Reservoir	Human, Dog, Cat, Rabbit, Marsupial, Other mammal
Vector	None
Vehicle	Contaminated soil/flooring, Animal Contact
Incubation Period	2w - 38w
Diagnostic Tests	Fungal culture and microscopy of skin, hair or nails. Nucleic acid amplification.
Typical Adult Therapy	Skin - topical Clotrimazole, Miconazole , etc. Hair/nails - Terbinafine , Griseofulvin , Itraconazole or Fluconazole PO
Typical Pediatric Therapy	As for adult
Clinical Hints	- Erythematous, circinate, scaling or dyschromic lesions of skin, hair or nails - Pruritus, secondary infection or regional lymphadenopathy may be present
Synonyms	Arthroderma, Dermatomicose, Dermatomycose, Dermatomykose, Dermatomykosen, Emericella, Favus, Granuloma trichophyticum, Gruby's disease, Kodamaea, Leukonychia trichophytica, Microsporum, Nattrassia, Onychocola, Onychomycosis, Pityriasis versicolor, Ringworm, Saint Aignan's disease, Scopulariopsis, Scytalidium, Tinea, Tinea barbae, Tinea capitis, Tinea corporis, Tinea cruris, Tinea favosa, Tinea imbricata, Tinea manum, Tinea pedis, Tinea unguinum, Tokelau ringworm, Triadelphia pulvinata, Trichomycosis, Trichophytosis, Trichophytosis gladiatorium. ICD9: 110,111 ICD10: B35,B36

Dientamoeba fragilis infection

Agent	PARASITE - Protozoa. Metamonada, Parabasala, Trichomonadea. Flagellate: <i>Dientamoeba fragilis</i>
Reservoir	Human, Gorilla, Pig
Vector	None
Vehicle	Fecal-oral (ingestion of pinworm ova)
Incubation Period	8d - 25d
Diagnostic Tests	Identification of trophozoites in stool. Nucleic acid amplification. Alert laboratory if this diagnosis is suspected.
Typical Adult Therapy	Stool precautions. <i>Iodoquinol</i> 650 mg PO TID X 20d. OR <i>Tetracycline</i> 500 mg QID X 10d. OR <i>Paromomycin</i> 10 mg/kg TID X 7d OR <i>Metronidazole</i> 750 mg PO TID X 10d
Typical Pediatric Therapy	Stool precautions. <i>Iodoquinol</i> 13 mg/kg PO TID X 20d. OR (age >8) <i>Tetracycline</i> 10 mg/kg QID X 10d OR <i>Paromomycin</i> 10 mg/kg TID X 7d OR <i>Metronidazole</i> 15 mg/kg PO TID X 10d
Clinical Hints	- Abdominal pain with watery or mucous diarrhea - Eosinophilia may be present - Concurrent enterobiasis (pinworm) is common - Infestation may persist for more than one year
Synonyms	

Dientamoeba fragilis infection in the Dominican Republic

Prevalence surveys

Years	Region	Study Group	%	Notes
1991	Santo Domingo	children	2	2% of hospitalizations acute diarrhea among children ages 3 to 35 months ¹

References

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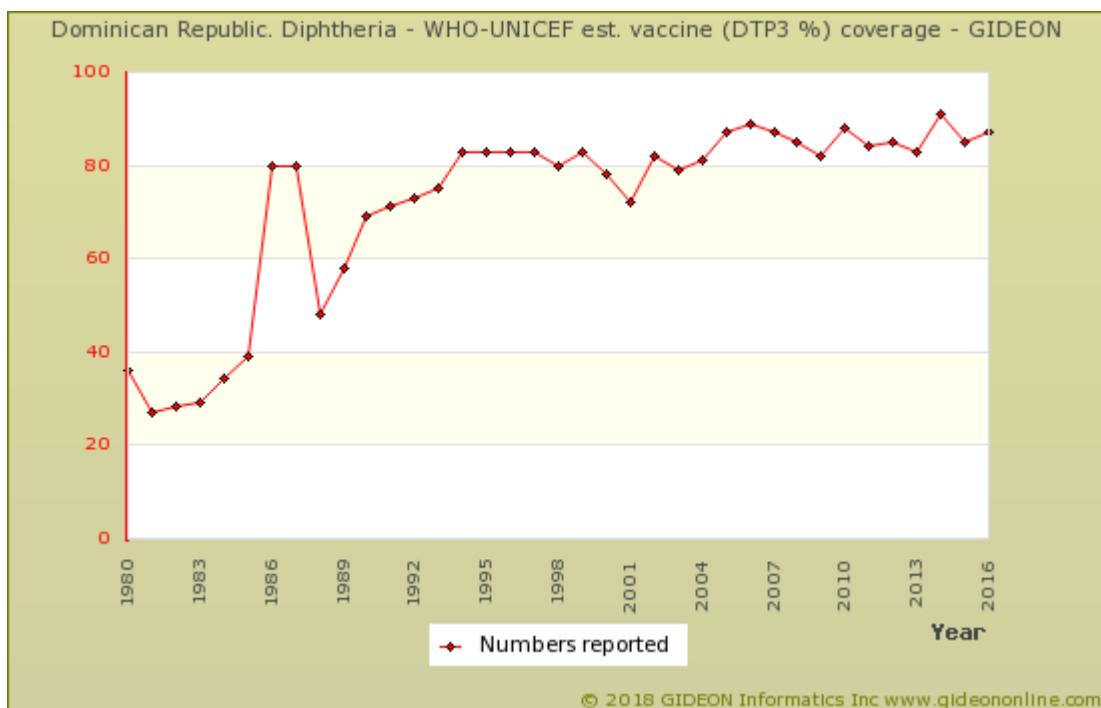
Diphtheria

Agent	BACTERIUM. <i>Corynebacterium diphtheriae</i> A facultative gram-positive bacillus
Reservoir	Human
Vector	None
Vehicle	Droplet, Contact, Dairy products, Clothing
Incubation Period	2d - 5d (range 1d - 10d)
Diagnostic Tests	Culture on special media. Advise laboratory when this diagnosis is suspected.
Typical Adult Therapy	Respiratory isolation. Equine antitoxin 20,000 to 80,000 units IM. (first perform scratch test) <i>Erythromycin</i> 500 mg QID (or Penicillin preparation) X 14d
Typical Pediatric Therapy	Respiratory isolation. Equine antitoxin 1,000 units/kg IM. (first perform scratch test) <i>Erythromycin</i> 10 mg/kg QID (or penicillin preparation) X 14d
Vaccines	Diphtheria antitoxin Diphtheria vaccine DTP vaccine DT vaccine DTaP vaccine Td vaccine
Clinical Hints	- Pharyngeal membrane with cervical edema and lymphadenopathy - "Punched out" skin ulcers with membrane - Myocarditis or neuropathy (foot/wrist drop) may appear weeks following initial infection
Synonyms	<i>Corynebacterium diphtheriae</i> , Difteri, Difteria, Difterie, Difterite, Diphterie. ICD9: 032 ICD10: A36

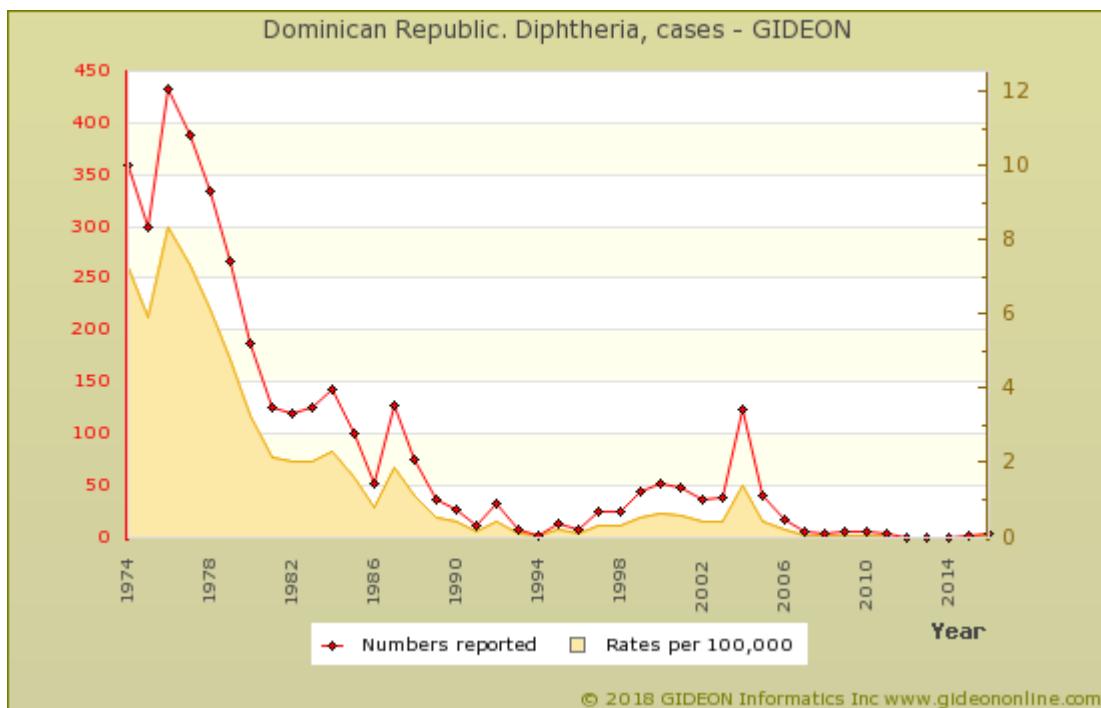
Diphtheria in the Dominican Republic

Vaccine Schedule:

BCG - birth
 DTwP - 2,4,6,18 months; 5, 10 years
 DTwPHibHepB - 2,4,6 months
 HepB - birth
 IPV - 2 months
 MMR - 12 months
 MR - >=2 years
 OPV - 2,4,6,18 months; 5 years
 Pneumo conj - 2,4,12 months
 Rotavirus - 2,4 months
 Td - 1st contact; +4-6 weeks; +6 months; +1, +1 year; every 10 years



Graph: Dominican Republic. Diphtheria - WHO-UNICEF est. vaccine (DTP3 %) coverage



Graph: Dominican Republic. Diphtheria, cases

Notes:

Notable outbreaks

Years	Cases	Deaths	Notes
2004 - 2005	145	26	1

References

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Diphyllobothriasis

Agent	PARASITE - Platyhelminthes, Cestoda. Pseudophyllidea, Diphyllobothriidae: <i>Diphyllobothrium latum</i> , et al
Reservoir	Human, Dog, Bear, Fish-eating mammal
Vector	None
Vehicle	Fresh-water fish - notably (for <i>D. latum</i>) perch, burbot and pike
Incubation Period	4w - 6w (range 2w - 2y)
Diagnostic Tests	Identification of ova or proglottids in feces.
Typical Adult Therapy	Praziquantel 10 mg/kg PO as single dose OR Niclosamide 2 g PO once
Typical Pediatric Therapy	Praziquantel 10 mg/kg PO as single dose OR Niclosamide 50 mg/kg PO once
Clinical Hints	- Abdominal pain, diarrhea and flatulence - Vitamin B12 deficiency is noted in 0.02% of patients - Rare instances of intestinal obstruction have been described - Worm may survive for decades in the human intestine
Synonyms	Adenocephalus pacificus, Bandwurmer [Diphyllobothrium], Bothriocephalus acheilognathi, Bothriocephalus latus, Broad fish tapeworm, Dibothriocephalus infection, Diphyllobothrium cordatum, Diphyllobothrium dalliae, Diphyllobothrium dendriticum, Diphyllobothrium klebanovskii, Diphyllobothrium latum, Diphyllobothrium nihonkaiense, Diphyllobothrium stummacephalum, Diphyllobothrium ursi, Diplogonoporiasis, Fish tapeworm. ICD9: 123.4 ICD10: B70.0

Dipylidiasis

Agent	PARASITE - Platyhelminthes, Cestoda. Cyclophyllidea, Dipylidiidae: <i>Dipylidium caninum</i>
Reservoir	Dog, Cat
Vector	None
Vehicle	Ingested flea (<i>Ctenocephalides</i> spp.)
Incubation Period	21d - 28d
Diagnostic Tests	Identification of proglottids in feces.
Typical Adult Therapy	Praziquantel 10 mg/kg PO as single dose OR Niclosamide 2 g PO once
Typical Pediatric Therapy	Praziquantel 10 mg/kg PO as single dose OR Niclosamide 50 mg/kg PO once
Clinical Hints	- Diarrhea, abdominal distention and restlessness (in children) - Eosinophilia present in some cases - Proglottids may migrate out of the anus
Synonyms	Cucumber tapeworm, <i>Dipylidium caninum</i> , Dog tapeworm, Double-pored dog tapeworm. ICD9: 123.8 ICD10: B71.1

Dirofilariasis

Agent	PARASITE - Nematoda. Secernentea: <i>Dirofilaria (Nochtiella) immitis</i> (pulmonary); <i>D. tenuis</i> & <i>D. repens</i> (subcutaneous infection) & <i>D. ursi</i>
Reservoir	Mammal, Dog, Wild carnivore (<i>D. tenuis</i> in raccoons; <i>D. ursi</i> in bears)
Vector	Mosquito
Vehicle	None
Incubation Period	60d - 90d
Diagnostic Tests	Identification of parasite in tissue. Serology. Nucleic acid amplification.
Typical Adult Therapy	Not available; excision is often diagnostic and curative
Typical Pediatric Therapy	As for adult
Clinical Hints	- Most patients are asymptomatic - Cough and chest pain in some cases - Solitary pulmonary coin lesion seen on imaging - Multiple tender subcutaneous nodules may be present - Eosinophilia is usually absent
Synonyms	Candidatus <i>Dirofilaria hongkongensis</i> , <i>Dirofilariosis</i> , <i>Dirofiliaria</i> , <i>Dog heartworm</i> , <i>Filaria conjunctivae</i> , <i>Loaina</i> . ICD9: 125.6 ICD10: B74.8

Dirofilariasis in the Dominican Republic

Prevalence surveys

Years	Region	Study Group	%	Notes
2001	Samana	dogs	18.2	18.2% of dogs on the Samana Peninsula ¹

References

1. [Vet Parasitol 2005 Nov 05;133\(4\):323-7.](#)

Eastern equine encephalitis

Agent	VIRUS - RNA. Togaviridae, Alphavirus: Eastern equine encephalitis virus
Reservoir	Wild bird, Horse, Cattle, Pig
Vector	Mosquito (<i>Aedes, Culiseta</i>)
Vehicle	None
Incubation Period	7d - 10d (range 5d - 15d)
Diagnostic Tests	Viral culture (brain tissue, CSF, serum). Serology. Nucleic acid amplification. Biosafety level 2.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Vaccine	Eastern equine encephalitis vaccine
Clinical Hints	- Most common during summer in temperate areas. - Headache, fever, seizures, coma and leukocytosis - Neurological sequelae in 40% - Case-fatality rates may approach 70%
Synonyms	EEE, Madariaga virus. ICD9: 062.2 ICD10: A83.2

Eastern equine encephalitis in the Dominican Republic

Notable outbreaks

1948 to 1949 - An outbreak of Eastern equine encephalitis was reported. ¹

Years	Notes
1948 - 1949	Outbreak reported - additional details unavailable. ²

References

1. [Bol Oficina Sanit Panam 1950 May ;29\(5\):493-516.](#)

Endocarditis - infectious

Agent	BACTERIUM OR FUNGUS. viridans streptococci, <i>Staphylococcus aureus</i> , enterococci, <i>Candida albicans</i> , et al.
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Blood culture, clinical findings, ultrasonography of heart valves.
Typical Adult Therapy	Bactericidal antibiotic appropriate to species
Typical Pediatric Therapy	As for adult
Clinical Hints	- Consider in any patient with prolonged and unexplained fever, - Multisystem disease and a preexisting cardiac valvular lesion may be present - Skin lesions, hematuria, neurological symptoms, single or multiple abscesses or bone, brain, lung (etc)
Synonyms	Bacterial endocarditis, Endocardite, Endocarditis, Endokarditis, Fungal endocarditis, Infectious endocarditis, S.B.E.. ICD9: 421 ICD10: I33

Enterobiasis

Agent	PARASITE - Nematoda. Secernentea: <i>Enterobius vermicularis</i>
Reservoir	Human
Vector	None
Vehicle	Fecal-oral, Air, Clothing, Sexual contact
Incubation Period	14d - 42d
Diagnostic Tests	Apply scotch tape to anal verge in a.m. & paste onto glass slide for microscopy.
Typical Adult Therapy	Albendazole 400 mg PO as single dose - repeat in 2w. OR Mebendazole 100 mg PO as single dose - repeat in 2w. OR Pyrantel pamoate 11 mg/kg (max 1g) PO as single dose; or
Typical Pediatric Therapy	Mebendazole 100 mg PO as single dose (>age 2) - repeat in 2w. OR Pyrantel pamoate 11 mg/kg (max 1g) PO X 1
Clinical Hints	- Nocturnal anal pruritus - Occasionally presents with vaginitis or abdominal pain - Eosinophilia is rarely, if ever, encountered
Synonyms	Enterobio, Enterobius vermicularis, Oxyuriasis, Oxyuris, Pinworm, Seatworm. ICD9: 127.4 ICD10: B80

Enterovirus infection

Agent	VIRUS - RNA. Picornaviridae: Coxsackievirus, ECHO virus, Enterovirus, Parechovirus
Reservoir	Human
Vector	None
Vehicle	Droplet, Fecal-oral, Breastfeeding, Respiratory or pharyngeal acquisition
Incubation Period	2d-7d
Diagnostic Tests	Viral culture (stool, pharynx, CSF). Serology. Nucleic acid amplification.
Typical Adult Therapy	Supportive. Pleconaril 200 to 400 mg PO TID X 7d has been used for severe infections
Typical Pediatric Therapy	Supportive. Pleconaril 5 mg/kg PO BID has been used for severe infections
Clinical Hints	- Summer-to-autumn sore throat - Specific forms present with conjunctivitis, chest pain, macular or vesicular rash, meningitis, myopericarditis, etc
Synonyms	Boston exanthem [Caxsackie A 16], Coxsackie, Coxsackievirus, ECHO, Echovirus, Enteroviruses, Hand, foot and mouth disease, Hand-foot-and-mouth disease, Herpangina [Coxsackievirus A], HEV 68, HPeVs, Human Enterovirus 68, Human Parechovirus, Ljungan virus, Myocarditis, enteroviral, Parechovirus, Pericarditis, enteroviral. ICD9: 049,079.2,008.67,074.0,074.8,074.3,070.4,078.89 ICD10: A88.0,A87.0,B08.4,B08.5,B08.8,B30.3,B34.1

Enterovirus infection in the Dominican Republic

Cross-border events

Multi-country epidemics and individual case-importations are not included

Years	Acquired by **	Originated in **	Setting	Cases	Notes
2010	Canada	Dominican Republic	travel	23	Outbreak of enteroviral meningitis was reported among Canadian high school students following travel to the Dominican Republic. 1

** Country or Nationality

Notable outbreaks

Years	Setting	Cases	Clinical	Population	Notes
1993*			conjunctivitis - acute hemorrhagic		2
2010	high school	23	meningitis	travelers	Outbreak among Canadian high school students following travel to the Dominican Republic. 3

* indicates publication year (not necessarily year of outbreak)

References

1. ProMED <promedmail.org> archive: 20100515.1595
2. Eye (Lond) 1993 ;7 (Pt 3):479-80.
3. ProMED <promedmail.org> archive: 20100515.1595

Epidural abscess

Agent	BACTERIUM. <i>Staphylococcus aureus</i> , facultative gram negative bacilli, etc
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Imaging (CT scan, MRI). Gram-stain and culture of blood or pus.
Typical Adult Therapy	Intravenous antibiotic(s) appropriate to identified or suspected pathogens. Drainage as indicated
Typical Pediatric Therapy	Intravenous antibiotic(s) appropriate to identified or suspected pathogen. Drainage as indicated
Clinical Hints	- Frontal bone abscess; or spinal cord compression with signs of infection - Often in setting of injecting drug abuse or preexisting staphylococcal infection
Synonyms	

Erysipelas or cellulitis

Agent	BACTERIUM. Erysipelas: <i>Streptococcus pyogenes</i> Cellulitis: <i>Staphylococcus aureus</i> , <i>Streptococcus pyogenes</i> , occasionally others
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	1d - 7d
Diagnostic Tests	Clinical diagnosis is usually sufficient. Aspiration of lesion for smear and culture may be helpful in some cases.
Typical Adult Therapy	Antibiotic directed at likely pathogens (Group A Streptococcus and Staphylococcus aureus)
Typical Pediatric Therapy	As for adult
Clinical Hints	- Erysipelas is well-circumscribed, tender, edematous (peau d'orange), warm and painful - Cellulitis is less painful, flat and without a distinct border
Synonyms	Cellulite, Cellulitis, Celulite, Celulitis, Erisipela, Erysipelas, St. Anthony's fire (erysipelas), St. Francis' fire (erysipelas), Zellulitis. ICD9: 035,681,682 ICD10: A46,L03

Erysipeloid

Agent	BACTERIUM. <i>Erysipelothrix rhusiopathiae</i> A facultative gram-positive bacillus
Reservoir	Mammal, Bird, Fish
Vector	None
Vehicle	Contact with meat (mammal, poultry or fish)
Incubation Period	1d - 4d
Diagnostic Tests	Culture.
Typical Adult Therapy	Oral therapy for 10 days: Penicillin V , Ampicillin , third-generation cephalosporin, Fluoroquinolone (Levofloxacin , Trovafloxacin , Pefloxacin , Sparfloxacin or Moxifloxacin), Erythromycin , Clindamycin or Tetracycline are generally adequate
Typical Pediatric Therapy	Oral therapy for 10 days: Penicillin V , Ampicillin , third-generation cephalosporin or Erythromycin , Clindamycin are generally adequate
Clinical Hints	- Typically follows contact with raw animal or fish products - Annular erythema or "target lesion" on hand - Fever is present in only 10% of cases. - Local pain and swelling, without discharge
Synonyms	Erysipelothrix rhusiopathiae, Rutlauf. ICD9: 027.1 ICD10: A26

Erythrasma

Agent	BACTERIUM. <i>Corynebacterium minutissimum</i> A facultative gram-positive bacillus
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Unknown
Diagnostic Tests	Coral fluorescence of skin lesion under Wood's lamp. Culture (alert lab regarding diagnosis).
Typical Adult Therapy	Erythromycin 250 mg PO QID X 14d. Topical Clindamycin 2% and topical Fusidic acid have also been used
Typical Pediatric Therapy	Erythromycin 10 mg/kg PO QID X 14d. Topical Clindamycin 2% and topical Fusidic acid have also been used
Clinical Hints	- Common in obese or diabetic males - Pruritic, scaling, slowly-progressive red-brown patch - Usually affects the groin - occasionally in toe webs - Coral fluorescence under Wood's light.
Synonyms	Corynebacterium minutissimum, Eritrasma. ICD9: 039.0 ICD10: L08.1

Escherichia coli diarrhea

Agent	BACTERIUM. <i>Escherichia coli</i> A facultative gram-negative bacillus
Reservoir	Human, Mammal
Vector	None
Vehicle	Food, Water, Fecal-oral
Incubation Period	1d - 3d (range 12h - 10d)
Diagnostic Tests	Stool culture. Request characterization of E. coli isolates.
Typical Adult Therapy	Supportive therapy. If EHEC, avoid anti-motility drugs and antimicrobial agents. Plasma exchange may be effective in HUS Note that antimicrobial agents may increase risk for hemolytic-uremic syndrome when used in cases of E. coli O157:H7 infection
Typical Pediatric Therapy	Supportive therapy. If EHEC, avoid anti-motility drugs and antimicrobial agents. Plasma exchange may be effective in HUS Note that antimicrobial agents may increase risk for hemolytic-uremic syndrome when used in cases of E. coli O157:H7 infection
Clinical Hints	- Watery diarrhea or dysentery - Common among travelers and infants - Hemorrhagic colitis and hemolytic uremic syndrome with type O157, and occasionally other strains
Synonyms	DAEC (Diffusely Adherent E. coli), E. coli diarrhea, EAEC (Enteroadherent E. coli), EAggEC (Enteropathogenic E. coli), EHEC (Enterohemorrhagic E. coli), EIEC (Enteroinvasive E. coli), EPEC (Enteropathogenic E. coli), Escherichia albertii, ETEC (Enterotoxic E. coli), Hamolytisch-uramisches Syndrom, Hemolytic Uremic Syndrome, HUS. ICD9: 008.0 ICD10: A04.0,A04.1,A04.2,A04.3,A04.4

Fascioliasis

Agent	PARASITE - Platyhelminthes, Trematoda. Echinostomatida, Fasciolidae: <i>Fasciola hepatica</i> or <i>Fasciola gigantica</i>
Reservoir	Sheep, Cattle, Snail (<i>Lymnaea</i> , <i>Galba</i> , <i>Fossaria</i>)
Vector	None
Vehicle	Food, Aquatic plants, Watercress (<i>Nasturtium officinale</i>)
Incubation Period	2w - 3m
Diagnostic Tests	Identification of ova in stool or duodenal aspirates (adult parasite in tissue). Serology. PCR. CT scan.
Typical Adult Therapy	Triclabendazole 10 mg/kg PO X 2 doses. OR Bithionol 50 mg/kg every other day X 10 doses OR Nitazoxanide 500 mg PO BID X 7d
Typical Pediatric Therapy	Triclabendazole 10 mg/kg PO X 2 doses. OR Bithionol 50 mg/kg every other day X 10 doses OR Nitazoxanide : Age 1 to 3y 100 mg BID X 7 d Age 4 to 11y 200 mg BID X 7d
Clinical Hints	- Fever, hepatomegaly, cholangitis, jaundice and eosinophilia - Urticaria occasionally observed during the acute illness - Parasite may survive more than 10 years in the biliary tract
Synonyms	Eurytrema, <i>Fasciola gigantica</i> , <i>Fasciola hepatica</i> , Hepatic distomiasis, Lederegelbefall, Sheep liver fluke. ICD9: 121.3 ICD10: B663.

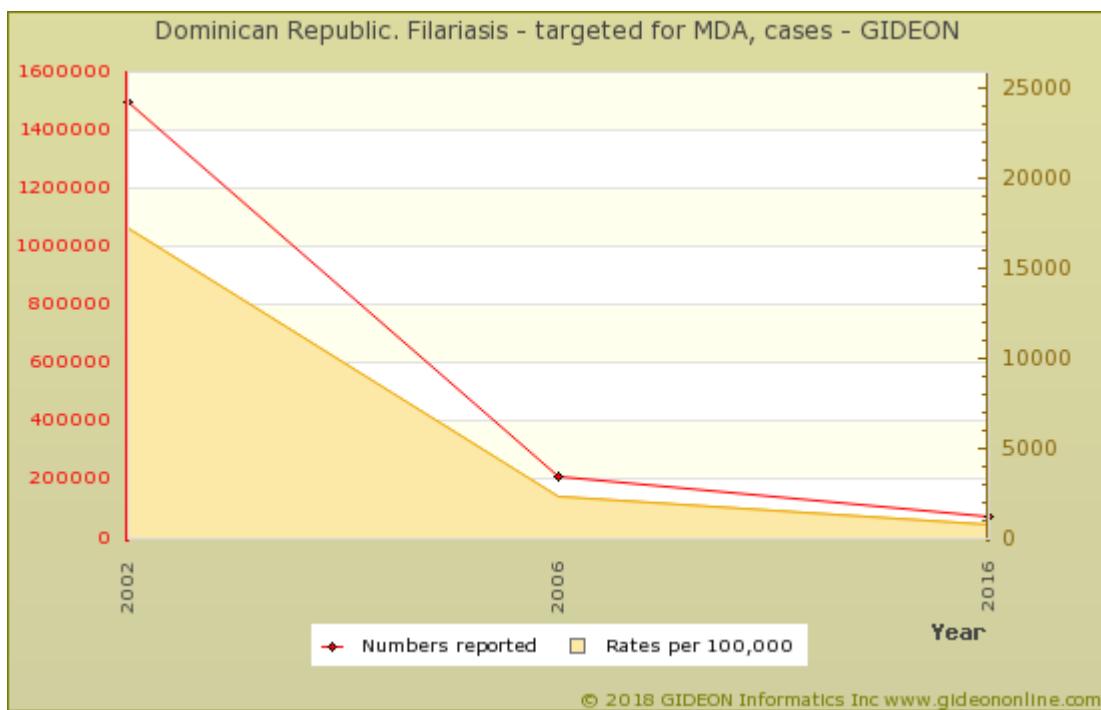
Filariasis - Bancroftian

Agent	PARASITE - Nematoda. Secernentea: <i>Wuchereria bancrofti</i>
Reservoir	Human
Vector	Mosquito (<i>Anopheles</i> , <i>Aedes</i> , <i>Culex</i>)
Vehicle	None
Incubation Period	5m - 18m (range 1m - 2y)
Diagnostic Tests	Identification of microfilariae in nocturnal blood specimen. Nucleic acid amplification. Serology may be helpful.
Typical Adult Therapy	Diethylcarbamazine : 50 mg day 1 50 mg TID day 2 100 mg TID day 3 Then 2 mg/kg TID X 18 days. OR Ivermectin 200ug/kg PO as single dose. Doxycycline 200 mg daily X 8 w is also effective.
Typical Pediatric Therapy	As for adult
Clinical Hints	- Lymphangitis, lymphadenitis and eosinophilia - Epididymitis, orchitis, hydrocoele or progressive edema are common - Chyluria occasionally encountered - Episodes of fever and lymphangitis may recur over several years
Synonyms	Bancroftian filariasis, Rosetta leg, <i>Wuchereria bancrofti</i> . ICD9: 125.0 ICD10: B74.0

Filariasis - Bancroftian in the Dominican Republic

Time and Place

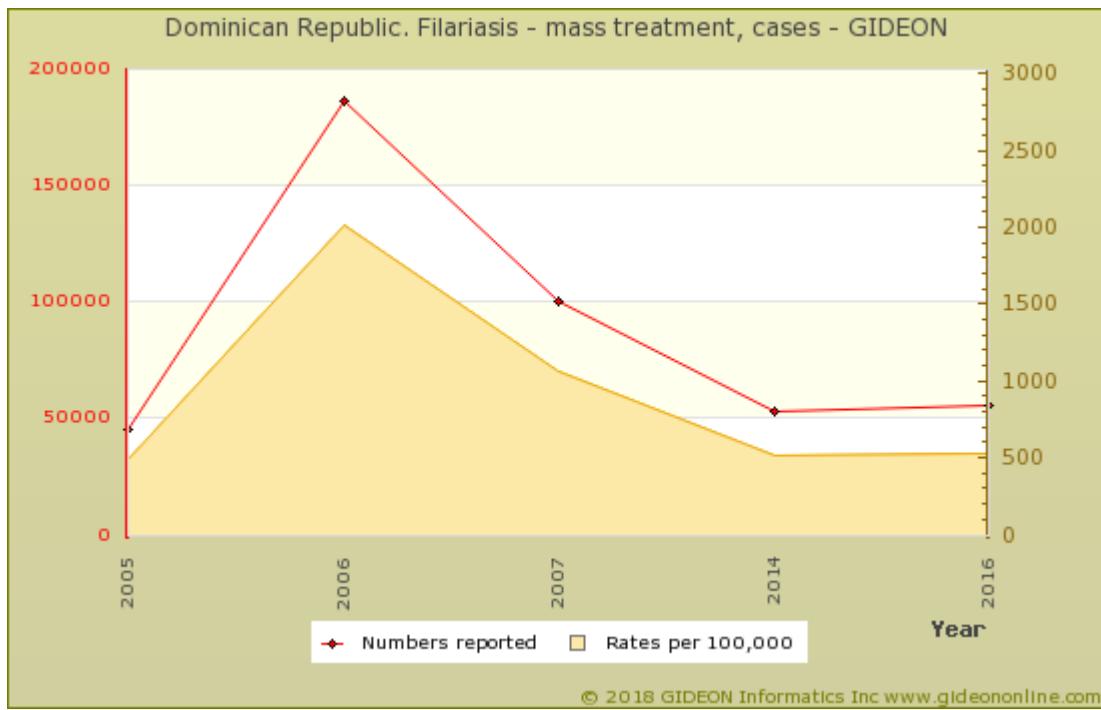
- Bancroftian filariasis is most common in residential areas west of the Ozama River (mainly La Cienaga) and may rarely be acquired in Santo Domingo. ¹
- Nine of the country's 13 municipalities are considered endemic areas.
- The nationwide disease prevalence is estimated at 1.55%.
- Seven to 26% of the population are infested in some areas.



Graph: Dominican Republic. Filariasis - targeted for MDA, cases

Notes:

1. Number of persons targeted for mass treatment.



Graph: Dominican Republic. Filariasis - mass treatment, cases

Notes:

1. Additional references: 2005 ² 2006 ³ 2007 ⁴

Prevalence surveys

Years	Region	Study Group	%
2002	Pueblo Nuevo	general population	4.4

Years	Region	Study Group	%
2006		general population	0

Vectors:

- The principal vector is *Culex pipiens*. ⁵

References

1. J Parasitol 1987 Aug ;73(4):839-40.
2. Wkly Epidemiol Rec 2006 Jun 02;81(22):221-32.
3. Wkly Epidemiol Rec 2007 Oct 19;82(42):361-80.
4. Wkly Epidemiol Rec 2008 Sep 12;83(37):333-41.
5. Bull World Health Organ 1957 ;16(3):581-92.

Fungal infection - invasive

Agent	FUNGUS. Various (major syndromes such as Candidiasis, Blastomycosis, etc are discussed separately in this module)
Reservoir	Human
Vector	None
Vehicle	Endogenous, Respiratory or pharyngeal acquisition
Incubation Period	Variable
Diagnostic Tests	Culture of blood, urine, biopsy material. Serum antigen or antibody assay in some cases.
Typical Adult Therapy	Antifungal agent(s) directed at known or likely pathogen
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fungal etiology should be suspected in any patient with evidence of severe local or multisystem infection - Commonly encountered in the setting of immune suppression
Synonyms	Acremonium, Acrophialophora, Adiaspiromycosis, Allescheriasis, Alternaria, Arthrographis kalrae, Athopsis, Aureobasidium, Bipolaris, Blastobotrys proliferans, Chaetomium, Chrysosporium, Cladophialophora, Cladosporium, Curvularia, Cyphellophora, Dactylaria, Debaryomyces, Dreschslera, Emergomyces, Emmonsia, Exophiala, Exserohilum, Fonsecaea, Fungal meningitis, Fungal sepsis, Fusarium, Geosmithia, Geosmithia argillacea, Geotrichosis, Graphium, Hansenula, Haplomycosis, Hendersonula, Humicola, Hyalophycomycosis, Kluyveromyces, Lasiodiplodia, Lasiodiplodia, Lecythophora, Magnusiomyces, Malassezia furfur, Monascus, Monosporiosis, Mycocentrospora, Neocosmospora vasinfecta, Neosartorya hiratsukae, Neosartorya udagawae, Ochroconis, Oidiiodendron, Paecilomyces, Paraconiothyrium, Pestalotiopsis, Phaeoacremonium, Phaeohyphomycosis, Phialemoniopsis, Phialophora, Phoma, Pichia, Pseudallescheria, Pseudallescheriasis, Pseudochaetosphaeronema martinelli, Purpureocillium, Pyrenophaeta, Ramichloridium, Rhinocladiella, Rhytidhysteron, Saccharomyces, Saprochaete, Sarcopodium, Sarocladium, Scedosporium, Septicemia - fungal, Taeniolella, Thielavia, Trichoderma, Truncatella, Ulocladium, Veronacea, Verruconis, Wallemia. ICD9: 117.6,117.8,117.9,118 ICD10: B43.1,B43.2,B43.8,B48.2,B48.3,B48.7,B48.8

Gastroenteritis - viral

Agent	VIRUS - RNA Calicivirus (Norwalk, Hawaii, Sapporo, Snow Mountain, Norovirus); Torovirus; or Astrovirus
Reservoir	Human
Vector	None
Vehicle	Food, Water, Shellfish, Vegetables
Incubation Period	Norwalk 1d - 2d; Astrovirus 3d - 4d
Diagnostic Tests	Demonstration of virus (electron microscopy or stool antigen analysis). Serology. Nucleic acid amplification.
Typical Adult Therapy	Stool precautions; supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Vomiting (less common with Astrovirus) and abdominal pain - Loose, watery diarrhea lasting 1 to 3 days - Fecal leucocytes not present - Fever in 50% - Headache or myalgia in some cases
Synonyms	Aichi, Astroviridae, Astrovirus, Bufavirus, Calicivirus gastroenteritis, Chiba, Cosavirus, Cyclovirus, Diarrhea, Gastroenterite virale, Hawaii agent gastroenteritis, Klassevirus, Mexico virus, Mini-reovirus, Minireovirus, Norovirus gastroenteritis, Norwalk agent gastroenteritis, Norwalk-like, Parkville virus gastroenteritis, Picobirnavirus, Recovirus, Roskilde disease, Saffold Cardiovirus, Salivirus, Salivirus, Sapovirus, Sapporo, Sapporo-like, Snow Mountain, SRSV gastroenteritis, STL polyomavirus, STLPyV, Toronto virus, Torovirus, Tusavirus, Vinterkraksjuka, Viral gastroenteritis, Winter vomiting disease. ICD9: 008.8,008.69,008.62,008.63,008.64,008.65,008.66,008.67 ICD10: A08.1,A08.2,A08.3,A08.4

Gastroenteritis - viral in the Dominican Republic

Cross-border events

Does not include individual case reports

Years	Originated in **	Setting	Cases	Notes
2005	Dominican Republic	travel	20	Outbreak (20 Americans and several Canadians) of Norovirus gastroenteritis.

** Country or Nationality

Notable outbreaks

Years	Region	Setting	Cases	Pathogen	Population	Notes
2005	Multiple locations		773	Norovirus		Outbreaks in Punta Cana and Puerto Plata. 1
2005	Punta Cana			Norovirus	tourists	
2007	Foreign Country	airplane	75	Norovirus	tourists	35 cases were reported aboard an airplane traveling from the Dominican Republic to Scotland, and 40 aboard an aircraft traveling to England. 2 3
2007	Puerto Plata	hotel	800	Norovirus	tourists	4 5

References

1. [Emerg Infect Dis 2009 Nov ;15\(11\):1877-8.](#)
2. [ProMED <promedmail.org> archive: 20070811.2620](#)

3. ProMED <promedmail.org> archive: 20070817.2694
4. Clin Microbiol Infect 2011 Jun ;17(6):952-4.
5. ProMED <promedmail.org> archive: 20070814.2652

Gianotti-Crosti syndrome

Agent	UNKNOWN
Reservoir	Unknown
Vector	None
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Clinical features and skin biopsy findings.
Typical Adult Therapy	None
Typical Pediatric Therapy	None
Clinical Hints	<ul style="list-style-type: none">- History of recent viral illness or vaccination- Generalized skin eruption involving the extremities, face and buttocks- Lymphadenopathy of the axillae and inguinal region- Anicteric hepatitis may occur- Illness resolves in 15 to 42 days- Rare outbreaks have been reported
Synonyms	Acrodermatitis papulosa infantilis, Papular acrodermititis of childhood, Papulovesicular acrolocated syndrome. ICD9: 693.0 ICD10: L27.8

Giardiasis

Agent	PARASITE - Protozoa. Sarcomastigophora, Metamonada, Trepomonadea. Flagellate: <i>Giardia lamblia</i> (<i>G. intestinalis</i> , <i>G. duodenalis</i>)
Reservoir	Human, Beaver, Muskrat, Dog, Cat, Carnivores, Sheep, Goat, Horse, Cattle
Vector	None
Vehicle	Food, Water, Fecal-oral, Fly
Incubation Period	1w - 3w (range 3d - 6w)
Diagnostic Tests	String test (gelatin capsule containing string). Stool microscopy or antigen assay. Nucleic acid amplification.
Typical Adult Therapy	Tinidazole 2 g PO X1. OR Nitazoxanide 500 mg PO BID X 3d Alternatives: Metronidazole 250 mg PO TID X 5d. OR Furazolidone 100 mg PO QID X 7d. OR Paromomycin 10 mg/kg PO TID X 7d OR Quinacrine 100 mg PO TID X 5d
Typical Pediatric Therapy	Tinidazole 50 mg PO X 1 (maximum 2g). OR Nitazoxanide : Age 1 to 3y 100 mg BID X 7 d Age 4 to 11y 200 mg BID X 7d Alternatives: Metronidazole 5 mg/kg PO TID X 5d. OR Furazolidone 1.5 mg/kg QID X 7d
Clinical Hints	- Foul smelling, bulky diarrhea - Nausea and flatulence - Upper abdominal pain is common - Illness may "wax and wane" - Weight loss and low-grade fever are common - Severe or intractable infection may suggest underlying IgA deficiency
Synonyms	Beaver fever, Giardia duodenalis, Giardia intestinalis, Giardia lamblia, Lambliasis. ICD9: 007.1 ICD10: A07.1

Giardiasis in the Dominican Republic

Prevalence surveys

Years	Region	Study Group	%	Notes
1991 - 1991	Santo Domingo	children	26	Giardiasis accounts for 26% of hospitalizations acute diarrhea among children Santo Domingo ¹
1994	Santo Domingo	children	13	13% of school children in the capital region

References

1. Arch Domin Pediatr 1991 May-Aug;27(2):43-7.

Gonococcal infection

Agent	BACTERIUM. <i>Neisseria gonorrhoeae</i> An aerobic gram-negative coccus
Reservoir	Human
Vector	None
Vehicle	Sexual, contact, Childbirth, Exudates, Respiratory or pharyngeal acquisition
Incubation Period	2d - 7d
Diagnostic Tests	Smear (male), culture. Consult laboratory for proper acquisition & transport. Nucleic acid amplification.
Typical Adult Therapy	Ceftriaxone 250 mg IM X 1. PLUS Azithromycin 1 g PO as single dose.
Typical Pediatric Therapy	Weight <=45 kg: Ceftriaxone 25 - 50 mg/kg IM or IV X 1 (max. 125 mg IM) Weight >45 kg: as for adult. PLUS Azithromycin
Clinical Hints	- Onset 2 to 7 days after sexual exposure - Copious urethral discharge (male) or cervicitis - Pelvic inflammatory disease - Systemic disease associated with fever, painful pustules and suppurative arthritis (primarily encountered in postmenstrual females)
Synonyms	Blennorragie, Blenorragia, Gonococcemia, Gonore, Gonorre, Gonorea, Gonorrhea, Gonorrhée, Gonorrhœo, Gonorrhœe, Infección gonocócica, Infeccoes gonococicas, Neisseria gonorrhœae. ICD9: 098 ICD10: A54

Gonococcal infection in the Dominican Republic

Rates per 100,000: 34.5 in 1995.

Granuloma inguinale

Agent	BACTERIUM. <i>Klebsiella granulomatis</i> (formerly <i>Calymmatobacterium granulomatis</i>) A gram-negative bacillus
Reservoir	Human
Vector	None
Vehicle	Sexual, contact, Direct contact
Incubation Period	7d - 30d (range 3d - 1 year)
Diagnostic Tests	Identification of organism in stained smears. Culture in specialized laboratories (HEp-2 cells).
Typical Adult Therapy	Azithromycin 1 g weekly X 3 w. Alternatives: Doxycycline 100 mg BID PO X 3w. Sulfamethoxazole / Trimethoprim 800/160 mg BID X 3w Erythromycin 500 mg QID X 3w.
Typical Pediatric Therapy	Azithromycin 10 mg / kg po day 1; then 250 mg / kg daily days 2 to 5 Alternatives: Sulfamethoxazole / Trimethoprim , Erythromycin or Doxycycline
Clinical Hints	- Slowly expanding, ulcerating skin nodule with friable base - Usually painless - May be complicated by edema or secondary infection - Rarely spreads to bone or joints
Synonyms	Calymmatobacterium granulomatis, Donovanosis, Granuloma genitoinguinale, Granuloma inguinale tropicum, Granuloma venereum, Sixth venereal disease. ICD9: 099.2 ICD10: A58

Hepatitis A

Agent	VIRUS - RNA. Picornaviridae, Hepatovirus: Hepatitis A virus
Reservoir	Human, Non-human primate
Vector	None
Vehicle	Fecal-oral, Food, Water, Milk, Fly, Breastfeeding
Incubation Period	21d - 30d (range 14d - 60d)
Diagnostic Tests	Serology. Nucleic acid amplification.
Typical Adult Therapy	Stool precautions; supportive
Typical Pediatric Therapy	As for adult
Vaccines	Hepatitis A vaccine Hepatitis A + Hepatitis B vaccine Immune globulin
Clinical Hints	- Vomiting, anorexia, dark urine, light stools and jaundice - Rash and arthritis occasionally encountered - Fulminant disease, encephalopathy and fatal infections are rare - Case-fatality rate 0.15% to 2.7%, depending on age
Synonyms	Botkin's disease, Epatite A, HAV, Hepatite per virus A, Infectious hepatitis. ICD9: 070.0 ICD10: B15.0, B15.9

Hepatitis A in the Dominican Republic

Virtually 100% of blood donors are seropositive.

Cross-border events

Does not include individual case reports

Years	Acquired by **	Originated in **	Setting	Cases	Notes
1994 to 1995	Germany	Dominican Republic	imported goods	49	An outbreak (49 cases) in Germany was ascribed to baked goods contaminated by an index patient who had arrived from the Dominican Republic. ¹

** Country or Nationality

Seroprevalence surveys

Years	Study Group	%	Notes
2000 *	children	80	80% of children ages 6 to 10 years (2000 publication) ²
1996 - 1997	general population	89	89% of the general population (1996 to 1997) ³

* indicates publication year (not necessarily year of survey)

Notable outbreaks

Years	Region	Cases	Source	Notes
1994 - 1995	Foreign Country	49	baked goods	Outbreak in Germany ascribed to baked goods contaminated by an index patient who had arrived from the Dominican Republic ⁴

References

-
1. [Gesundheitswesen 1996 Jun ;58\(6\):339-40.](#)
 2. [Vaccine 2000 Feb 18;18 Suppl 1:S57-60.](#)
 3. [Am J Trop Med Hyg 1999 Nov ;61\(5\):825-9.](#)
 4. [Gesundheitswesen 1996 Jun ;58\(6\):339-40.](#)

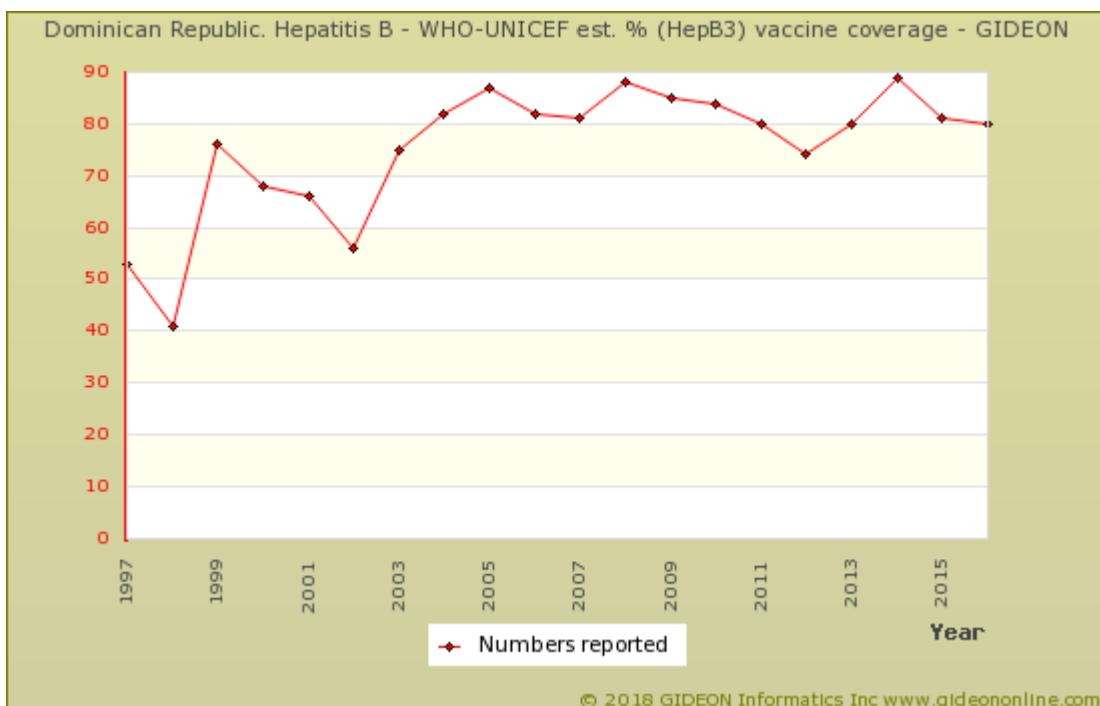
Hepatitis B

Agent	VIRUS - DNA. Hepadnaviridae, Orthohepadnavirus: Hepatitis B virus
Reservoir	Human Non-human primate
Vector	None
Vehicle	Blood, Infected secretions, Sexual contact, Transplacental
Incubation Period	2m - 3m (range 1m - 13m)
Diagnostic Tests	Serology. Nucleic acid amplification.
Typical Adult Therapy	Needle precautions. For chronic infection: Peginterferon alfa-2a or Peginterferon alfa-2b OR Entecavir OR Tenofovir
Typical Pediatric Therapy	As for adult
Vaccines	Hepatitis A + Hepatitis B vaccine Hepatitis B + Haemoph. influenzae vaccine Hepatitis B immune globulin Hepatitis B vaccine
Clinical Hints	- Vomiting and jaundice - Rash or arthritis occasionally noted - Fulminant and fatal infections are encountered - Risk group (drug abuse, blood products, sexual transmission) - Hepatic cirrhosis or hepatoma may follow years after acute illness
Synonyms	Epatite B, HBV, Hepatite per virus B, Serum hepatitis. ICD9: 070.1 ICD10: B16.2,B16.9, B16.1

Hepatitis B in the Dominican Republic

Vaccine Schedule:

BCG - birth
 DTWP - 2,4,6,18 months; 5, 10 years
 DTwPHibHepB - 2,4,6 months
 HepB - birth
 IPV - 2 months
 MMR - 12 months
 MR - >=2 years
 OPV - 2,4,6,18 months; 5 years
 Pneumo conj - 2,4,12 months
 Rotavirus - 2,4 months
 Td - 1st contact; +4-6 weeks; +6 months; +1, +1 year; every 10 years



Graph: Dominican Republic. Hepatitis B - WHO-UNICEF est. % (HepB3) vaccine coverage

HBsAg-positivity surveys

Years	Region	Study Group	%	Notes
		adults	3.2	3.2% of healthy adults.
2000 - 2001		blood donors	1.2-4.1	4.1% of blood donors in 1996, and 1.20% during 2000 to 2001
2013*	Santo Domingo	MSM	0.6-3.5	0.6% to 3.5% of gay, transsexuals and men who have sex with men (Santo Domingo, Barahona, La Altagracia and Santiago, 2013 publication) ¹
2006*	Foreign Country	sex workers	1.6	1.6% of Dominican and Colombian CSW in Italy (Catania, Sicily, 2006 publication) ²
2013	La Romana	women	0	0% of MSM and transgender women (La Romana Province, 2013) ³

* indicates publication year (not necessarily year of survey)

Anti-HBc antibody is present in 21.4% of the population (1996 to 1997), with highest rates above age 16 (suggestive of sexual transmission). ⁴

References

- 1. Int J STD AIDS 2013 Apr ;24(4):313-21.
- 2. J Immigr Minor Health 2006 Oct ;8(4):319-23.
- 3. BMJ Open 2015 Apr 29;5(4):e007747.
- 4. Rev Panam Salud Publica 1999 Dec ;6(6):378-83.

Hepatitis C

Agent	VIRUS - RNA. Flaviviridae, Hepacivirus: Hepatitis C virus
Reservoir	Human
Vector	None
Vehicle	Blood, Sexual contact, Transplacental
Incubation Period	5w - 10w (range 3w - 16w)
Diagnostic Tests	Serology. Nucleic acid amplification.
Typical Adult Therapy	Needle precautions. For chronic infection: Ledipasvir / Sofusuvir OR Ombitasvir-Paritaprevir-Ritonavir + Dasabuvir + Ribavirin OR Sofusuvir + Simeprevir + Ribavirin (Regimen / Duration dependent on viral genotype)
Typical Pediatric Therapy	Agents recommended for adult disease are not currently licensed for use in children Peginterferon alfa-2b 3 MU/m ² SC x1 weekly AND Ribavirin 15mg/kg
Clinical Hints	- Vomiting and jaundice - May be history of transfusion or injection within preceding 1 to 4 months - Chronic hepatitis and fulminant infections are encountered - Hepatic cirrhosis or hepatoma may follow years after acute illness
Synonyms	Epatite C, HCV, Hepatite per virus C, Non-A, non-B parenteral hepatitis. ICD9: 070.2,070.3,070.44,070.51,070.54,070.7 ICD10: B17.1

Hepatitis C in the Dominican Republic

The nationwide carriage rate in 1997 was estimated at 2.40%.

Seroprevalence surveys

Years	Region	Study Group	%	Notes
2000 - 2001		blood donors	0.64	0.64% of blood donors (2000 to 2001)
2013	La Romana	MSM	0	0% of MSM and transgender women (La Romana Province, 2013) ¹
2013*	Multiple locations	MSM	0.8-6.9	0.8% to 6.9% of gay, transsexuals and men who have sex with men (Santo Domingo, Barahona, La Altagracia and Santiago, 2013 publication) ²
2006*	Sicily	sex workers	0	0% of Dominican and Colombian CSW in Italy (Catania, Sicily, 2006 publication) ³

* indicates publication year (not necessarily year of survey)

References

1. BMJ Open 2015 Apr 29;5(4):e007747.
2. Int J STD AIDS 2013 Apr ;24(4):313-21.
3. J Immigr Minor Health 2006 Oct ;8(4):319-23.

Hepatitis D

Agent	VIRUS - RNA. Deltavirus: Hepatitis D virus - a 'satellite' virus which is encountered as infection with a co-virus (Hepatitis B)
Reservoir	Human
Vector	None
Vehicle	Infected secretions, Blood, Sexual contact
Incubation Period	4w - 8w (range 2w - 20w)
Diagnostic Tests	Serology. Nucleic acid amplification.
Typical Adult Therapy	Needle precautions; supportive <i>Interferon alfa 2-a</i> has been used.
Typical Pediatric Therapy	As for adult
Clinical Hints	- Vomiting and jaundice - Biphasic course often noted - Occurs as a coinfection or superinfection of hepatitis B - May be chronic or fulminant - Hepatitis D coinfection worsens prognosis of Hepatitis B
Synonyms	Epatite D, Hepatitis delta. ICD9: 070.41,070.52 ICD10: B17.0

Hepatitis D in the Dominican Republic

Seroprevalence surveys

Years	Study Group	%	Notes
	HBsAg-positives	6.7	6.7% of hepatitis B carriers

Hepatitis E

Agent	VIRUS - RNA. Hepeviridae: Hepatitis E virus
Reservoir	Human, Rodent, Pig, Rabbit
Vector	None
Vehicle	Fecal-oral, Water, Shellfish, Blood, Meat
Incubation Period	30d - 40d (range 10d - 70d)
Diagnostic Tests	Identification of virus by immune electron microscopy (stool). Serology. Nucleic acid amplification.
Typical Adult Therapy	Stool precautions; supportive Ribavirin has been used successfully in high-risk patients.
Typical Pediatric Therapy	As for adult
Vaccine	Hepatitis E vaccine
Clinical Hints	- Clinically similar to hepatitis A - Chronic residua are rare - Severe or fatal if acquired during pregnancy (10% to 24% case-fatality rate).
Synonyms	Epatite E, Non-A, non-B enteric hepatitis. ICD9: 070.43,070.53 ICD10: B17.2

Hepatitis E in the Dominican Republic

Seroprevalence surveys

Years	Study Group	%	Notes
	general population	4.5-19	19% of persons below age 15, and 4.5% above age 16

Herpes B infection

Agent	VIRUS - DNA. Herpesviridae, Alphaherpesviridae, Simplexvirus: Cercopithecine herpesvirus 1 (Herpes B virus)
Reservoir	Monkey (<i>Macaca species</i> and <i>Cynomolgus</i>)
Vector	None
Vehicle	Contact or bite, Respiratory or pharyngeal acquisition
Incubation Period	10d - 20d (range 2d - 60d)
Diagnostic Tests	Viral culture (skin exudates). Nucleic acid amplification. Biosafety level 4.
Typical Adult Therapy	Therapy: Acyclovir 12 mg/kg IV q8h. OR Ganciclovir 5 mg/kg IV q12h. Follow with prolonged Acyclovir 800 mg PO 5X daily. Postexposure prophylaxis: Valacyclovir 1g PO q8h X 14 days. OR Acyclovir 800 mg PO X 5 X 14 days
Typical Pediatric Therapy	Acyclovir or Ganciclovir as for adult.
Clinical Hints	- Skin vesicles, lymphadenopathy, myalgia, singultus, major neurological signs - Usually onset within one month of contact with monkey - Case-fatality rates exceed 80% - Permanent neurological residua are common
Synonyms	Cercopithecine herpesvirus 1, Herpes B, Herpesvirus simiae, Macacine herpesvirus 1, McHV-1. ICD9: 078.89 ICD10: B00.4

Herpes simplex encephalitis

Agent	VIRUS - DNA. Herpesviridae, Alphaherpesvirinae, Simplexvirus: Human herpesvirus (usually type I)
Reservoir	Human
Vector	None
Vehicle	Infected secretions, Sexual contact
Incubation Period	Unknown
Diagnostic Tests	Viral culture CSF usually negative. CT brain. Compare CSF/blood antibody levels. Nucleic acid amplification.
Typical Adult Therapy	Acyclovir 10 mg/kg IV Q8h
Typical Pediatric Therapy	Acyclovir 10 mg/kg IV Q8h
Clinical Hints	- Rapidly-progressive severe encephalitis - Exanthem not evident in most cases - Often unilateral, with temporal and parietal lobe predominance - Permanent residua and high case-fatality rate in untreated cases
Synonyms	

Herpes simplex infection

Agent	VIRUS - DNA. Herpesviridae, Alphaherpesvirinae, Simplexvirus: Human herpesvirus I and II
Reservoir	Human
Vector	None
Vehicle	Infected secretions, Sexual contact, Breastfeeding, Respiratory or pharyngeal acquisition
Incubation Period	1d - 14d
Diagnostic Tests	Viral culture or microscopy of lesions. Serology. Nucleic acid amplification.
Typical Adult Therapy	Famciclovir 250 mg PO TID X 7d. OR Valacyclovir 1 g PO BID X 7d OR Acyclovir 400 mg PO X 3 per day X 7d Dosage and duration may vary for first vs. recurrent vs. suppressive regimens.
Typical Pediatric Therapy	Acyclovir 10 mg/kg PO QID X 7 d
Clinical Hints	- Recurring localized crops of painful vesicles on a red base - Regional adenopathy often present - May follow a prodrome of neuropathy or hyperesthesia
Synonyms	Herpes gladiatorum, Herpes rugbiorum, Herpes simplex, Scrum pox. ICD9: 054.0,054.1,054.2,054.4,054.5,054.6,054.7,054.8,054.9 ICD10: A60,B00

Herpes simplex infection in the Dominican Republic

Prevalence surveys

Years	Study Group	%	Notes
2002*	patients - STD	43	43% of genital ulcer disease among men ¹

* indicates publication year (not necessarily year of survey)

Seroprevalence surveys

Years	Region	Study Group	%	Notes
2013	La Romana	MSM	38	38% of MSM and transgender women (HSV-2, La Romana Province, 2013) ²

References

1. *Sex Transm Dis* 2002 Oct ;29(10):559-67.
2. *BMJ Open* 2015 Apr 29;5(4):e007747.

Herpes zoster

Agent	VIRUS - DNA. Herpesviridae, Alphaherpesvirinae: Varicella-zoster virus
Reservoir	Human
Vector	None
Vehicle	Air, Direct contact
Incubation Period	Unknown
Diagnostic Tests	Viral culture (vesicles). Serology. Nucleic acid amplification.
Typical Adult Therapy	Acyclovir 800 mg PO X 5 daily X 7 to 10d. OR Famciclovir 500 PO TID. OR Valacyclovir 1 g PO TID
Typical Pediatric Therapy	Acyclovir 20 mg/kg PO QID X 7 to 10d
Vaccine	Herpes zoster vaccine
Clinical Hints	- Patients usually above age 50 - Unilateral dermatomal pain, tenderness and paresthesia - Rash appears after 3 to 5 days - macular, erythematous lesions which evolve into vesicles - Trunk and chest wall most commonly involved; but eyes, extremities and other areas also affected - Recurrence is common
Synonyms	Fuocodi Saint'Antonio, Shingles, Zona, Zoster. ICD9: 053 ICD10: B02

Histoplasmosis

Agent	FUNGUS. Ascomycota, Euascomycetes, Onygenales: <i>Histoplasma capsulatum</i> var. <i>capsulatum</i> A dimorphic fungus
Reservoir	Soil, Caves, Chicken roosts, Bat
Vector	None
Vehicle	Air, Respiratory or pharyngeal acquisition
Incubation Period	10d - 14d (range 5d - 25d)
Diagnostic Tests	Fungal culture. Serologic tests less helpful. Antigen tests currently under study. Nucleic acid amplification.
Typical Adult Therapy	Itraconazole 200 mg daily X 9m For severe or immunocompromised patients: Liposomal Amphotericin B 3 to 5 mg/kg/d X 2w, followed by Itraconazole as above
Typical Pediatric Therapy	Itraconazole 2 mg/kg daily X 9 m. For severe or immunocompromised patients: Liposomal Amphotericin B 3 to 5 mg/kg/d X 2w, followed by Itraconazole as above
Clinical Hints	- Fever, cough, myalgia - Pulmonary infiltrates and calcifying hilar lymphadenopathy - Chronic multisystem infection is often encountered
Synonyms	Darling's disease, <i>Histoplasma capsulatum</i> , Histoplasmose, Ohio River Valley Fever, Ohio Valley disease, Reticuloendothelial cytomycosis. ICD9: 115.0 ICD10: B39.0,B39.1,B39.2,B39.3,B39.4

Histoplasmosis in the Dominican Republic

Cross-border events

Years	Acquired by **	Originated in **	Setting	Cases	Notes
1986*	United States	Dominican Republic	immigrant / expatriate	1	Disseminated histoplasmosis was reported in an immigrant to the United States from the Dominican Republic. 1

* indicates publication year (not necessarily year of event)

** Country or Nationality

Four cases of histoplasmosis had been reported in the Dominican Republic as of 2015. [2](#)

Notable outbreaks

Years	Region	Cases	Deaths	Source	Notes
2015	Santiago	30	3	bats	Outbreak among tunnel cleaners in Santiago associated with accumulation of bat guano 3 4 5 6

References

- 1. Am J Med 1986 Dec ;81(6):974-8.
- 2. J Infect Public Health 2016 Jan-Feb;9(1):7-12.
- 3. Clin Infect Dis 2017 Dec 02;
- 4. ProMED <promedmail.org> archive: 20150918.3654521
- 5. ProMED <promedmail.org> archive: 20150924.3668692
- 6. ProMED <promedmail.org> archive: 20171208.5491922

HIV infection - initial illness

Agent	VIRUS - RNA. Retroviridae, Lentivirinae: Human Immunodeficiency Virus
Reservoir	Human
Vector	None
Vehicle	Blood, Semen, Sexual contact, Transplacental, Breastfeeding
Incubation Period	1w - 6w
Diagnostic Tests	HIV antibody (ELISA, Western blot). HIV or HIV antigen assays. Nucleic acid amplification.
Typical Adult Therapy	Antiretroviral therapy - most experts will initiate treatment even if no symptoms + normal CD4 count.
Typical Pediatric Therapy	Antiretroviral therapy - most experts will initiate treatment even if no symptoms + normal CD4 count.
Clinical Hints	- Most common among "high risk" patients (illicit drug use, commercial sex work, men who have sex with men, etc) - Fever, diarrhea, sore throat and a mononucleosis-like illness - Symptoms subside within two weeks; but may persist for as long as ten weeks
Synonyms	HIV, HIV infection, HTLV-III infection. ICD9: 042 ICD10: B20,B21,B22,B23,B24

HIV infection - initial illness in the Dominican Republic

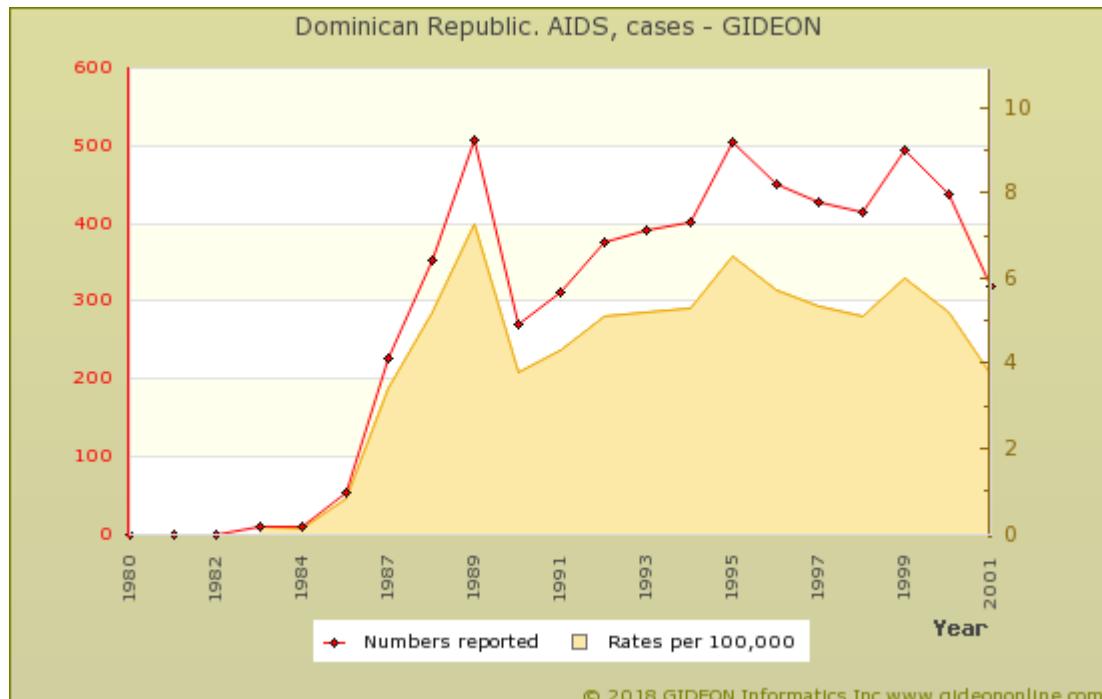
Data and background information regarding HIV infection are included in the note for **HIV/AIDS**

HIV/AIDS

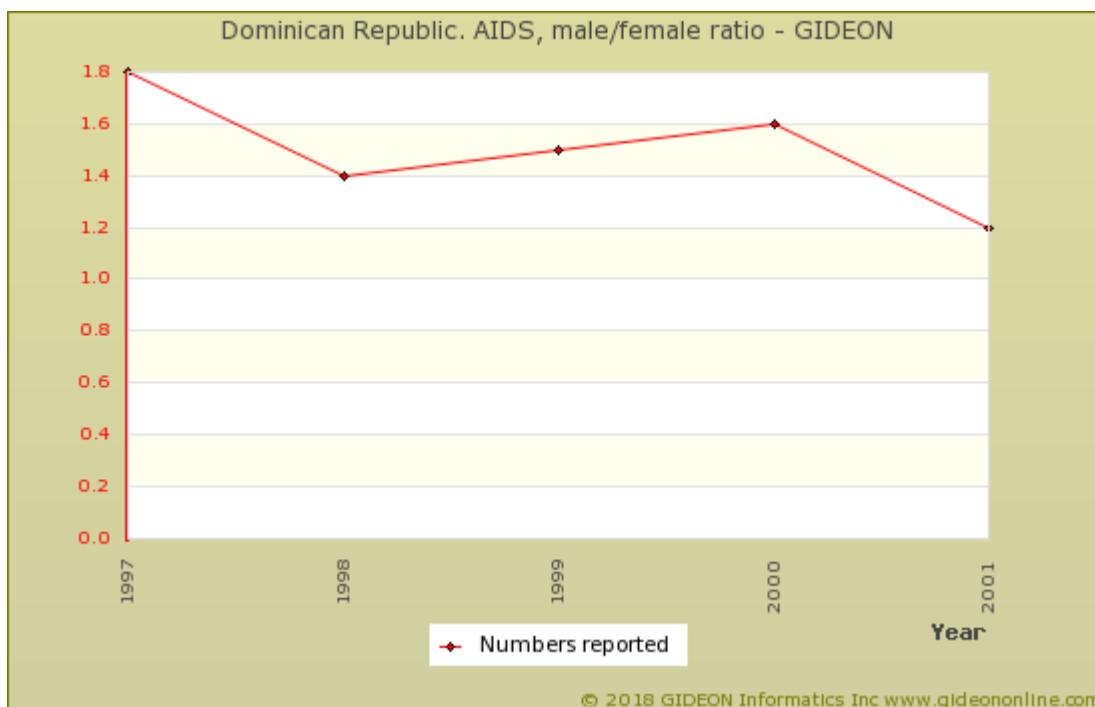
Agent	VIRUS - RNA. Retroviridae, Lentivirinae: Human Immunodeficiency Virus, HIV
Reservoir	Human
Vector	None
Vehicle	Blood, Semen, Sexual, Transplacental, Breastfeeding
Incubation Period	2m - 10y (50% within 10y)
Diagnostic Tests	HIV antibody (ELISA, Western blot). Nucleic acid amplification. Tests for HIV antigen & viral load as indicated.
Typical Adult Therapy	Nucleoside/-nucleotide reverse transcriptase inhibitor + A Non-nucleoside reverse transcriptase inhibitor OR a Protease Inhibitor OR a Strand-transfer integrase inhibitor
Typical Pediatric Therapy	Regimens vary - in general: 2 Non-nucleoside reverse transcriptase inhibitors + Ritonavir / Lopinavir OR Nevirapine OR Atazanavir
Clinical Hints	- Most often associated with drug abuse, blood products, men who have sex with men, hemophilia - Severe and multiple episodes of infection (herpes simplex, moniliasis, candidiasis, etc) - Chronic cough, diarrhea, weight loss, lymphadenopathy, retinitis, encephalitis or Kaposi's sarcoma
Synonyms	AIDS, ARC, Gay cancer, GRID, HIV-1, HIV-2, HIV-AIDS, SIDA, Slim disease. ICD9: 042 ICD10: B20,B21,B22,B23,B24

HIV/AIDS in the Dominican Republic

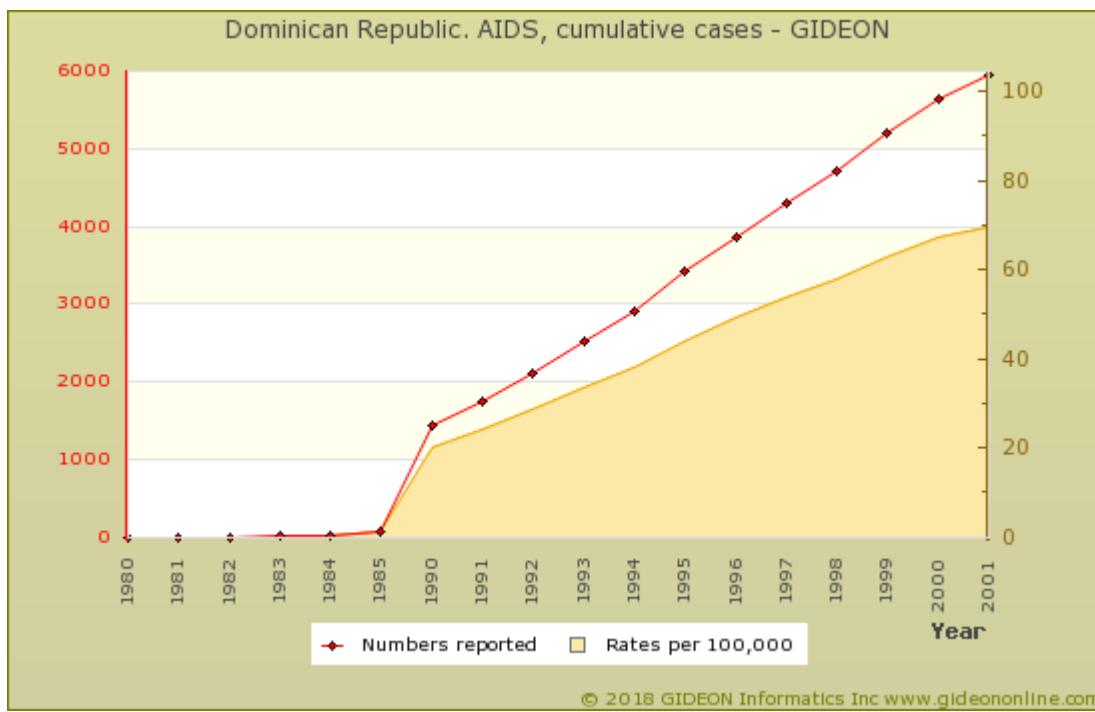
The first cases of AIDS were reported in 1983.



Graph: Dominican Republic. AIDS, cases



Graph: Dominican Republic. AIDS, male/female ratio



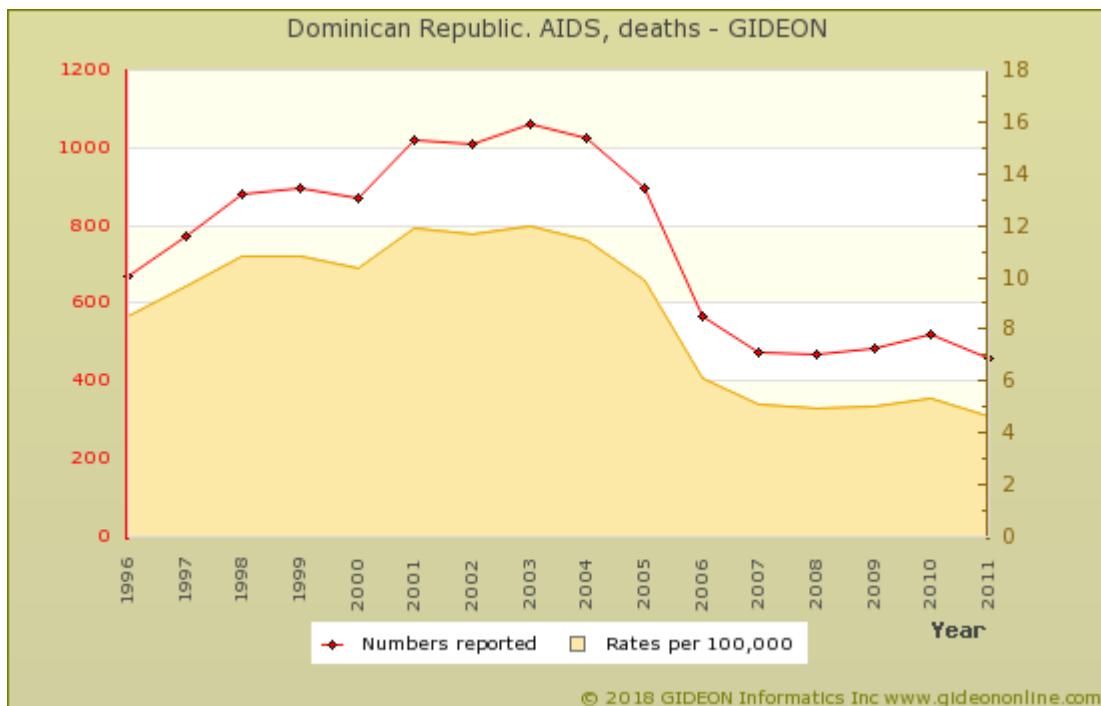
Graph: Dominican Republic. AIDS, cumulative cases

Notes:

1. 1,202 cases of AIDS were reported during 1983 to 1989. ¹
2. The true number of cases to December 1997 is estimated at 11,000.

Demography and risk factors:

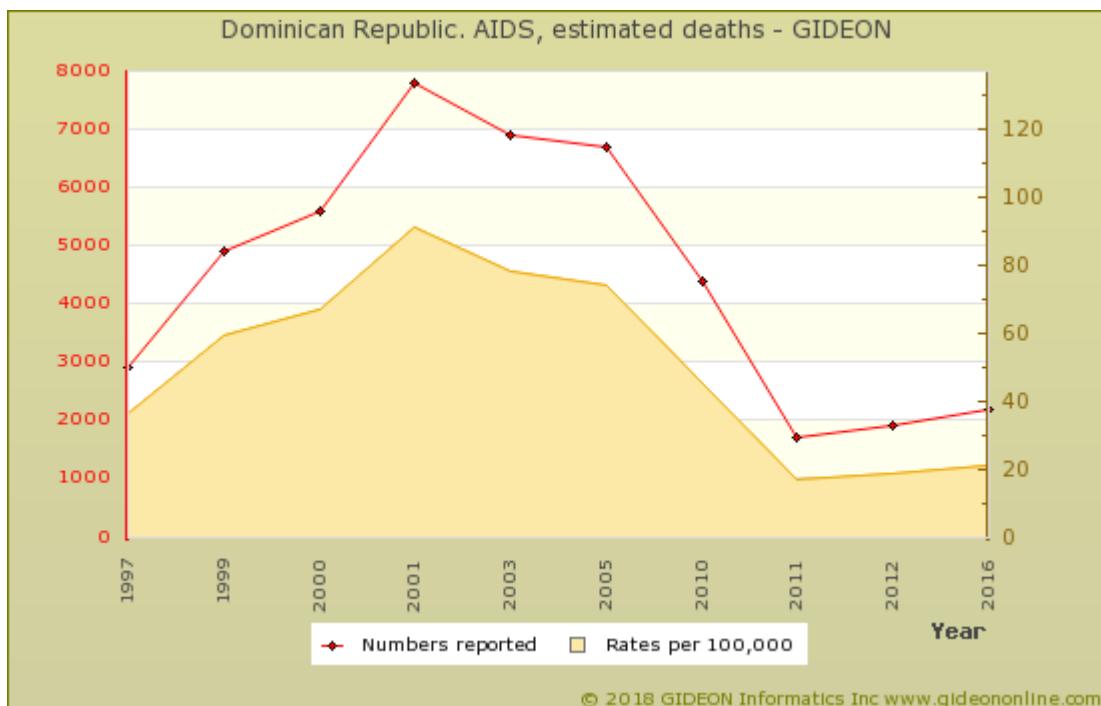
- Cases reported during 1983 to 1989: m/f = 2.2/1; 53% heterosexual ²
- Cases reported during 1995 to 1998: 95% ages 15 to 49; 62% males; 82% heterosexual; 6% men who have sex with men; 5% IDU; 4% transfusion or hemophilia-related; 4% mother to infant.
- Cases during 1997 to 2000: 87% ages 15 to 49; 61% males; 84% heterosexual; 5% men who have sex with men; 5% IDU; 2% transfusion/hemophilia; 3% mother to infant.



Graph: Dominican Republic. AIDS, deaths

Notes:

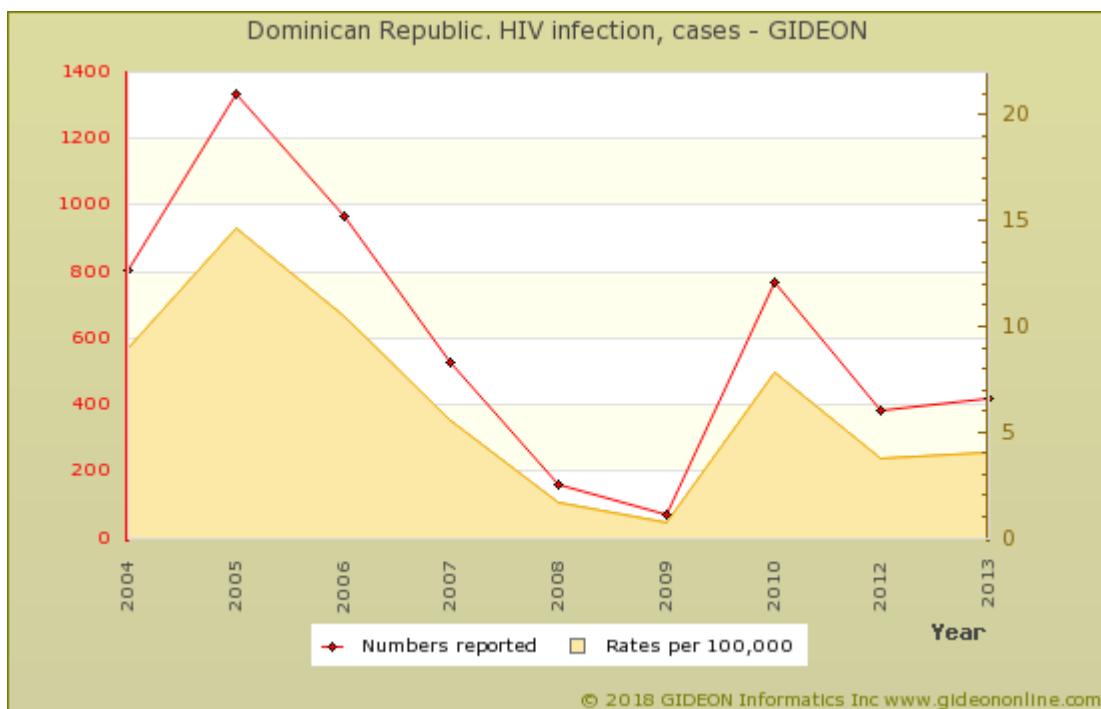
1. 6,256 AIDS deaths were officially reported to December 2001.



Graph: Dominican Republic. AIDS, estimated deaths

Notes:

1. The true number of AIDS deaths to December 1997 was estimated at 9,300.
2. 7,900 AIDS orphans were estimated to December 1999; 33,000 in 2001.



Graph: Dominican Republic. HIV infection, cases

Notes:

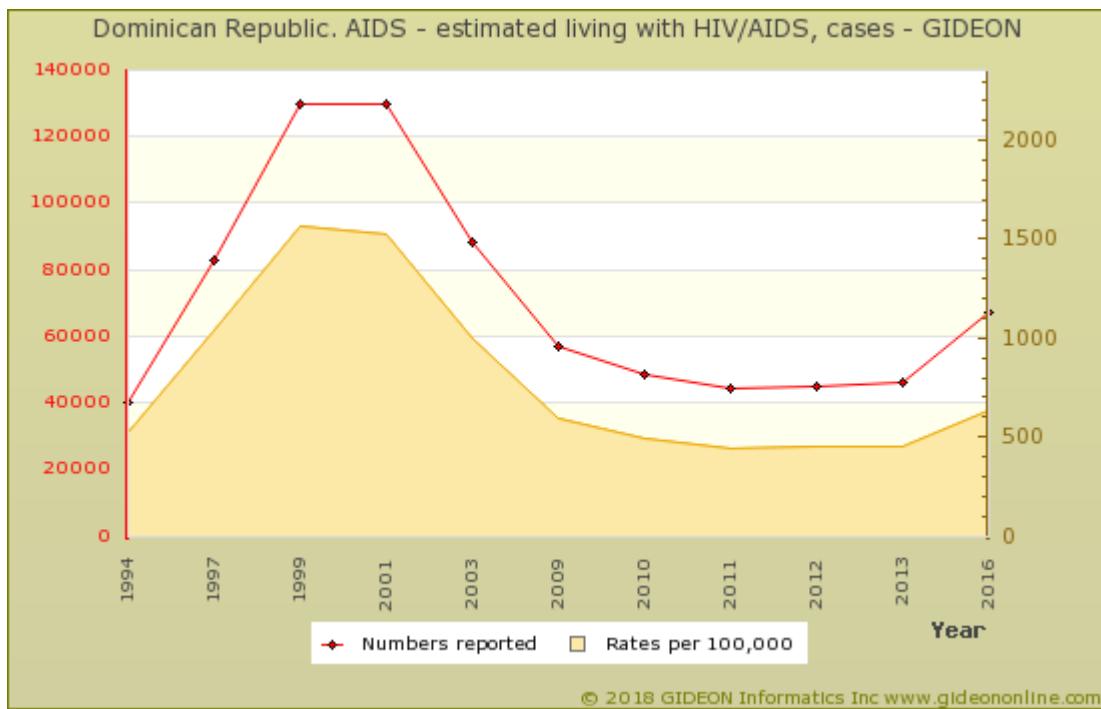
1. Reported as "HIV/AIDS"

Seroprevalence surveys

Years	Region	Study Group	%	Notes
2002		adults	1.2	
2000 - 2001		blood donors	0.42	
2002 - 2006	La Romana	children	2.6	2.6% of umbilical cord blood samples
1996*		MSM	11-13.8	³
2008	Santo Domingo	MSM	10.7	
2013	La Romana	MSM	5	5% of MSM and transgender women ⁴
2013*	Multiple locations	MSM	5.1-7.6	5.1% to 7.6% of gay, transsexuals and men who have sex with men (Santo Domingo, Barahona, La Altagracia and Santiago ⁵)
1989	Santo Domingo	patients - STD	3	⁶
1989		patients - STD	4	
1998		patients - STD	3.3	3.3% of urban STD patients
1995		pregnant women	2	
1998		pregnant women	2.1	2.1% of rural pregnant women
1998		pregnant women	1.4	1.4% of urban pregnant women

Years	Region	Study Group	%	Notes
2002 - 2006	La Romana	pregnant women	2.6	7
2003	Santo Domingo	pregnant women	1	1% of rural pregnant women
1992		prisoners	8.5	
1995		sex workers	5.6	
2000		sex workers	4	
2004		sex workers	3.6	
2006*	Foreign Country	sex workers	0	0% of Dominican and Colombian CSW in Italy 8
2008	Santo Domingo	sex workers	4.8	
2008*		sex workers	3.9	9
1998*		workers	5.7	5.7% of female sugar cane workers 10
2003		workers	4.9	4.9% of sugar cane plantation workers

* indicates publication year (not necessarily year of survey)



Graph: Dominican Republic. AIDS - estimated living with HIV/AIDS, cases

Notes:

1. 1.89% of adults ages 15 to 49 were seropositive in December 1997; 2.5% in December 2001; 1.7% in 2003; 1.1% in 2005.

Associated Infections:

STD

38% of MSM and transgender women were seropositive toward HSV-2 and 13% for syphilis (La Romana Province, 2013) [11](#)

Tuberculosis

Tuberculosis is found in 15.6% of AIDS patients (1994 to 1996).

- 5.8% of children below age 59 months with tuberculosis are HIV-positive. ¹²

References

1. [J Acquir Immune Defic Syndr 1991 ;4\(12\):1173-8.](#)
2. [J Acquir Immune Defic Syndr 1991 ;4\(12\):1173-8.](#)
3. [AIDS 1996 Feb ;10\(2\):201-6.](#)
4. [BMJ Open 2015 Apr 29;5\(4\):e007747.](#)
5. [Int J STD AIDS 2013 Apr ;24\(4\):313-21.](#)
6. [J Acquir Immune Defic Syndr 1993 Mar ;6\(3\):313-8.](#)
7. [Rev Panam Salud Publica 2009 Oct ;26\(4\):315-23.](#)
8. [J Immigr Minor Health 2006 Oct ;8\(4\):319-23.](#)
9. [AIDS Res Hum Retroviruses 2007 Dec ;23\(12\):1475-80.](#)
10. [AIDS 1998 Oct 01;12\(14\):1879-87.](#)
11. [BMJ Open 2015 Apr 29;5\(4\):e007747.](#)
12. [J Acquir Immune Defic Syndr Hum Retrovirol 1996 Oct 01;13\(2\):155-9.](#)

Hookworm

Agent	PARASITE - Nematoda. Secernentea: <i>Necator americanus</i> , <i>Ancylostoma duodenale</i> , <i>A. ceylonicum</i> (in Kolkata and the Philippines)
Reservoir	Human, Non-human primates
Vector	None
Vehicle	Soil, Contact
Incubation Period	7d - 2y
Diagnostic Tests	Examination of stool for ova.
Typical Adult Therapy	Albendazole 400 mg X 1 dose. OR Mebendazole 100 mg BID X 3d. OR Pyrantel pamoate 11 mg/kg (max 3g) X 3d
Typical Pediatric Therapy	Albendazole 200 mg PO single dose OR Mebendazole 100 mg BID X 3 d (> age 2).
Clinical Hints	- Pruritic papules, usually on feet - Later cough and wheezing - Abdominal pain and progressive iron-deficiency anemia - Eosinophilia is common - Dyspnea and peripheral edema in heavy infections
Synonyms	Anchilostoma, Ancylostoma ceylanicum, Ancylostoma duodenale, Ancylostomiasis, Anquilostomiasis, Cyclodontostomum, Eosinophilis enteritis, Hakenwurmer-Befall, Miner's anemia, Necator americanus, Necator gorillae, Necatoriasis, Uncinariasis. ICD9: 126.0,126.1 ICD10: B76.0,B76.1,B76.8

HTLV Infections

Agent	VIRUS - RNA Retroviridae. Deltaretrovirus Human T-lymphotrophic virus I to IV (disease limited to I and II)
Reservoir	Human Non-human primate
Vector	None
Vehicle	Blood, Needles, Semen, Sexualcontact, Transplacental, Breastfeeding, Meat (bush-meat)
Incubation Period	Variable
Diagnostic Tests	Serology Nucleic acid amplification
Typical Adult Therapy	Specific therapy not available. Advanced symptomatic disease has been treated with combinations of Zidovudine and Interferon, Cyclosporine, or anti-neoplastic agents
Typical Pediatric Therapy	As of adult
Clinical Hints	- Overt disease is evident in only 1% to 5% of infections - Increased susceptibility to pyoderma, sepsis, bronchiectasis - Keratoconjunctivitis sicca or uveitis - Late development of tropical spastic paraparesis or T-cell leukemia/lymphoma
Synonyms	Adult T-cell leukemia / lymphoma, HTLV-1, HTLV-1/2, HTLV-2, HTLV-4, HTLV-I, HTLV-I/II, HTLV-II, HTLV-IV, Human T-cell lymphotropic virus, Human T-lymphotropic virus, Primate T-lymphotropic virus, PTLV-1, Tropical spastic paraparesis. ICD9: 204.0,208.9 ICD10: C83,C88,G04.1

HTLV Infections in the Dominican Republic

HTLV-was first detected in Dominican blood donors in 1987. ¹

Seroprevalence surveys

Years	Region	Study Group	%	Notes
1989	Santo Domingo	patients - STD	2.8	2.8% of STD clinic patients in Santo Domingo (1989) ²
1992*		various	1-78	1% to 2% of low-risk populations, 2% to 5% of high-risk populations, and 78% of patients with tropical spastic paraparesis (1992 publication) ³

* indicates publication year (not necessarily year of survey)

References

1. [AIDS Res Hum Retroviruses](#) 1992 Feb ;8(2):221-6.
2. [J Acquir Immune Defic Syndr](#) 1993 Mar ;6(3):313-8.
3. [AIDS Res Hum Retroviruses](#) 1992 Feb ;8(2):221-6.

Human herpesvirus 6 infection

Agent	VIRUS - DNA. Herpesviridae, Betaherpesvirinae, Roseolovirus: Herpesvirus 6 (Herpesvirus 7 is also implicated)
Reservoir	Human
Vector	None
Vehicle	Droplet, Contact, Respiratory or pharyngeal acquisition
Incubation Period	10d - 15d
Diagnostic Tests	Viral isolation and serologic tests rarely indicated. Nucleic acid amplification has been used
Typical Adult Therapy	Supportive Gancyclovir has been used in unusual and severe cases.
Typical Pediatric Therapy	As for adult
Clinical Hints	- High fever followed by sudden defervescence and fleeting rash - Most patients are below the age of 2 years - Note that only 10% to 20% of Herpesvirus 6 infections are associated with a rash
Synonyms	Dreitagefieber, Exanthem criticum, Exanthem subitum, Herpesvirus 6, HHV-6, Pseudorubella, Roseola, Roseola infantilis, Roseola subitum, Sixth disease, Zahorsky's disease. ICD9: 057.8 ICD10: B08.2

Human Pegivirus infection

Agent	VIRUS - RNA. Flaviviridae, Pegivirus GB virus C (Hepatitis G virus)
Reservoir	Human
Vector	None
Vehicle	Blood, Vertical transmission, Sexual contact suspected
Incubation Period	Unknown
Diagnostic Tests	Serology. Nucleic acid amplification.
Typical Adult Therapy	Supportive. Alpha interferon has been shown to ? transiently eliminate the carrier state
Typical Pediatric Therapy	As for adult
Clinical Hints	- Acute or chronic hepatitis acquired from blood (needles, etc) - Clinically milder than hepatitis C - Most cases limited elevation of hepatic enzyme levels, without jaundice - Viremia has been documented for as long as 10 years
Synonyms	Epatite G, GB virus C, GBV-C, Hepatitis G, Hepatitis GB, HPgV, HPgV-2. ICD9: 070.59 ICD10: B17.8

Hymenolepis diminuta infection

Agent	PARASITE - Platyhelminthes, Cestoda. Cyclophyllidea, Hymenolepididae: <i>Hymenolepis diminuta</i>
Reservoir	Rodent, Various insects
Vector	None
Vehicle	Arthropod ingestion
Incubation Period	2w - 4w
Diagnostic Tests	Identification of ova in stool
Typical Adult Therapy	Praziquantel 25 mg/kg as single dose. OR Niclosamide 2g, then 1g/d X 6d
Typical Pediatric Therapy	Praziquantel 25 mg/kg as single dose. OR Niclosamide 1g, then 0.5g/d X 6d (1.5g, then 1g for weight >34kg)
Clinical Hints	- Nausea, abdominal pain and diarrhea - Eosinophilia may be present - Primarily a disease of children, in rodent-infested areas - Infestation resolves spontaneously within 2 months
Synonyms	Hymenolepis diminuta, Mathevotaenia, Rat tapeworm. ICD9: 123.6 ICD10: B71.0

Hymenolepis nana infection

Agent	PARASITE - Platyhelminthes, Cestoda. Cyclophyllidea, Hymenolepididae: <i>Hymenolepis (Rodentolepis) nana</i>
Reservoir	Human, Rodent (hamster)
Vector	None
Vehicle	Food, Water, Fecal-oral
Incubation Period	2w - 4w
Diagnostic Tests	Identification of ova in stool
Typical Adult Therapy	Praziquantel 25 mg/kg once. OR Nitazoxanide 500 mg daily for 3 days OR Niclosamide 2g/d X 1, then 1g/d X 6d
Typical Pediatric Therapy	Praziquantel 25 mg/kg once. OR Nitazoxanide 100 mg (age 1 to 3 years) to 200 mg (age 4 to 11 years) BID X 3d OR Niclosamide 1g/d X 1, then 0.5g/d X 6d (1.5g, then 1g for weight >34kg)
Clinical Hints	- Nausea, abdominal pain, diarrhea, irritability and weight loss - Eosinophilia may be present - Continued infestation maintained by autoinfection (worm reproduces within the intestinal lumen)
Synonyms	Dwarf tapeworm, <i>Hymenolepis nana</i> , <i>Rodentolepis microstoma</i> , <i>Rodentolepis nana</i> , <i>Rodentolepsiasis</i> , <i>Vampirolepis nana</i> . ICD9: 123.6 ICD10: B71.0

Infection of wound, puncture, IV line, etc

Agent	BACTERIUM. <i>Staphylococcus aureus</i> , streptococci, facultative or aerobic gram negative bacilli, anaerobes, et al
Reservoir	Human, Soil, Water, Air (spores), Various animals and plants
Vector	None
Vehicle	Trauma, Water, Medications, Bandages, Autoinoculation
Incubation Period	Variable
Diagnostic Tests	Smear and culture of catheter, material from wound.
Typical Adult Therapy	Drainage, remove catheter, debridement and antibiotics appropriate to infecting species
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Source (ie, venous line, postoperative, marine, animal bite) may suggest species- Onset within 24 hrs = group A <i>Streptococcus</i> or <i>Cl. perfringens</i>- Onset within 2 to 7 days = <i>S. aureus</i>- Onset after more than 7 days = gram negative bacilli- Foul odor = mixed infection or anaerobic bacteria
Synonyms	Intravenous catheter infection, Line infection, Surgical wound infection, Wound infection. ICD9: 686.9,451 ICD10: T79.3,I80.0, Y95

Infectious mononucleosis or EBV infection

Agent	VIRUS - DNA. Herpesviridae. Gammaherpesvirinae, Lymphocryptovirus: Human herpesvirus 4 (Epstein Barr virus)
Reservoir	Human
Vector	None
Vehicle	Saliva, Blood transfusion, Breastfeeding, Respiratory or pharyngeal acquisition
Incubation Period	28d - 42d
Diagnostic Tests	Serology. Nucleic acid amplification.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Exudative pharyngitis - Symmetrical cervical lymphadenopathy, splenomegaly and hepatic dysfunction - Atypical lymphocytes and positive serology appear after 10 to 14 days - Acute illness resolves in 2 to 3 weeks, but malaise and weakness may persist for months
Synonyms	EBV, EBV, Epstein-Barr, Febbre ghiandolare, Filatov's disease, Glandular fever, Infectious mononucleosis, Monocytic angina, Mononucleose, Mononucleosi, Mononucleosis - infectious, Mononukleose, Pfeiffer's disease. ICD9: 075 ICD10: B27.0

Infectious mononucleosis or EBV infection in the Dominican Republic

GIDEON does not follow routine country reports on human Influenza, since the scope and nature of these data are often diffuse, sporadic or inconsistent. See the "Worldwide" note for material regarding pandemic influenza, influenza vaccine, avian influenza in humans and other relevant subjects.

Avian influenza H5H2 was reported among birds in 2007. ¹

References

1. ProMED <promedmail.org> archive: 20080105.0059

Influenza

Agent	VIRUS - RNA. Orthomyxoviridae, Orthomyxovirus: Influenza virus
Reservoir	Human, Ferret, Bird, Pig
Vector	None
Vehicle	Droplet, Respiratory or pharyngeal acquisition
Incubation Period	1d - 3d
Diagnostic Tests	Viral culture (respiratory secretions). Serology. Nucleic acid amplification techniques are available.
Typical Adult Therapy	Respiratory precautions. Influenza A or B: Oseltamivir 75 mg PO BID X 5d OR Zanamivir 10 mg BID X 5 days
Typical Pediatric Therapy	Respiratory precautions. Influenza A or B: Oseltamivir 2 mg/kg (max 75 mg) PO BID X 5d OR Zanamivir (age > 5 years) 10 mg BID X 5 days
Vaccines	Influenza - inactivated vaccine Influenza - live vaccine
Clinical Hints	- Myalgia, headache, cough and fever - Pharyngitis and conjunctivitis often present - Usually encountered in the setting of an outbreak - Leucocytosis, chest pain and lobar infiltrate herald bacterial (pneumococcal or staphylococcal) pneumonia
Synonyms	Asian flu, Aviaire influenza, Avian flu, Avian influenza, Bird flu, Epidemic catarrh, Grippe, H10N8, H1N1, H2N2, H3N2, H5N1, H7N9, Hong Kong flu, LPAI, Spanish influenza, Swine flu, Swine influenza. ICD9: 487 ICD10: J09,J10,J11

Influenza in the Dominican Republic

GIDEON does not follow routine country reports on human Influenza, since the scope and nature of these data are often diffuse, sporadic or inconsistent. See the "Worldwide" note for material regarding pandemic influenza, influenza vaccine, avian influenza in humans and other relevant subjects.

2017 - Avian Influenza H5N2 was reported in poultry. [1](#) [2](#)

Notable outbreaks

Years	Cases	Deaths	Pathogen	Notes
2009 - 2010	464	22	H1N1	An outbreak was reported. For comprehensive analyses of the H1N1 pdm09 pandemic see the Worldwide note.

References

1. ProMED <promedmail.org> archive: 20171027.5407154
2. ProMED <promedmail.org> archive: 20171101.5419275

Intestinal spirochetosis

Agent	BACTERIUM. <i>Brachyspira pilosicoli</i> and <i>B. aalborgi</i> Anaerobic gram-negative spirochetes
Reservoir	Human, Fowl, Pig
Vector	None
Vehicle	Endogenous
Incubation Period	Unknown
Diagnostic Tests	Spirochetes resemble "brush border" on bowel biopsy; identification of Brachyspira by PCR
Typical Adult Therapy	Metronidazole appears to be effective in some cases.
Typical Pediatric Therapy	As for adult.
Clinical Hints	- Chronic diarrhea and abdominal pain in the absence of other identifiable etiology
Synonyms	Human intestinal spirochetosis. ICD9: 009.1 ICD10: A04.8

Intra-abdominal abscess

Agent	BACTERIUM. Mixed anaerobic / aerobic, staphylococci, <i>Neisseria gonorrhoeae</i> , <i>Chlamydia trachomatis</i> , etc
Reservoir	Human
Vector	None
Vehicle	None
Incubation Period	Variable
Diagnostic Tests	Various imaging techniques (CT, Gallium scan, ultrasound, etc).
Typical Adult Therapy	Percutaneous or open drainage + antibiotics directed at known or suspected pathogen(s)
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fever, chills and localizing pain (e.g., chest pain in subphrenic abscess) - Setting of prior surgery, biliary or colonic disease, appendicitis, vaginal discharge (PID) - FUO, subdiaphragmatic gas or limited diaphragmatic motion may be present
Synonyms	Abscess - Abdominal, Acute appendicitis, Appendicitis, Intraabdominal abscess, Intraperitoneal abscess, P.I.D., Pancreatic abscess, Pelvic abscess, Pelvic inflammatory disease, Pylephlebitis, Subhepatic abscess, Subphrenic abscess, Suppurative pancreatitis, Tuboovarian abscess. ICD9: 614,577.0 ICD10: K35,N73,K75.1,K85

Intracranial venous thrombosis

Agent	BACTERIUM. Oral anaerobes, streptococci, et al
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Culture (blood, CSF if indicated). Ophthalmoscopy. Roentgenographic studies of skull & sinuses.
Typical Adult Therapy	Antibiotic(s) directed at known or suspected pathogens
Typical Pediatric Therapy	As for adult
Clinical Hints	- Headache, seizures and fever - Cranial nerve dysfunction may be present - Usually occurs in the setting of ongoing facial, otic or sinus infection
Synonyms	Cavernous sinus thrombosis, Cerebral sinus thrombosis, Cortical vein thrombosis, Internal cerebral vein thrombosis, Straight sinus thrombosis, Superior sinus thrombosis, Transverse sinus thrombosis. ICD9: 325 ICD10: G08

Isosporiasis

Agent	PARASITE - Protozoa. Apicomplexa, Eimeriida: <i>Isospora (Cystoisospora) belli</i>
Reservoir	Human
Vector	None
Vehicle	Food, Liquids, Fecal-oral, Sexual (homosexual) contact
Incubation Period	7d - 10d
Diagnostic Tests	Microscopy of stool or duodenal contents. Advise laboratory when this organism is suspected.
Typical Adult Therapy	Sulfamethoxazole / Trimethoprim 800/160 mg BID X 10 days - Then BID X 3 weeks (may be indefinite in AIDS patient) Increase dosage / duration in immune-suppressed patients Pyrimethamine 50 to 75 mg per day + leucovorin if allergic to sulfa
Typical Pediatric Therapy	Sulfamethoxazole / Trimethoprim 25/5 mg/kg BID X 10 days - Then BID X 3 weeks
Clinical Hints	- Myalgia, watery diarrhea, nausea and leukocytosis - Eosinophilia may be present - Illness is prolonged and severe in AIDS patients
Synonyms	Cystoisospora belli, Isospora belli. ICD9: 007.2 ICD10: A07.3

Isosporiasis in the Dominican Republic

Prevalence surveys

Years	Region	Study Group	%	Notes
1991	Santo Domingo	children	2	2% of hospitalizations acute diarrhea among children ages 3 to 35 months (Santo Domingo, 1991) 1

References

1. [Arch Domin Pediatr 1991 May-Aug;27\(2\):43-7.](#)

Kawasaki disease

Agent	UNKNOWN
Reservoir	Unknown
Vector	None
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Diagnosis is based on clinical criteria only.
Typical Adult Therapy	Intravenous gamma globulin 2.0 g/kg over 10 to 12h X 1 dose. Plus aspirin 100 mg/kg/day X 14d (or until defervescence) - then 5 to 10 mg/kg/day until normal ESR Infliximab (a chimeric monoclonal antibody) 5 mg/kg has been successful in some studies.
Typical Pediatric Therapy	As for adult
Clinical Hints	- Disease most common among children - Fever, conjunctivitis, stomatitis and an erythematous rash which desquamates - Occasionally complicated by coronary artery occlusion - Case-fatality rates of 1% to 4% are reported
Synonyms	Kawasaki's disease, Mucocutaneous lymph node syndrome. ICD9: 446.1 ICD10: M30.3

Kikuchi's disease and Kimura disease

Agent	UNKNOWN
Reservoir	Unknown
Vector	None
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Biopsy.
Typical Adult Therapy	Supportive Hydroxychloroquine and corticosteroids have been successful for Kikuchi's disease in some cases.
Typical Pediatric Therapy	As for adult
Clinical Hints	Most patients of Asian origin Kikuchi disease: - Prolonged (1 to 12 months) cervical lymphadenopathy (rubbery, non-matted - may be tender) - Fever (40%), weight loss, "sweats", leukopenia Kimura disease: - Similar to Kikuchi disease - Salivary gland involvement, glomerulitis, painless subcutaneous masses and eosinophilia suggest Kimura disease - May be misdiagnosed as filariasis
Synonyms	Angiolymphoid hyperplasia, Angiolymphoid hyperplasia-eosinophilia, Eosinophilic follicular lymphadenitis, Histiocytic necrotizing lymphadenitis, Kikuchi's disease, Kikuchi-Fujimoto disease, Kimura disease. ICD9: 289.3 ICD10: I89.8

Kingella infection

Agent	BACTERIUM. <i>Kingella kingae</i> , et al A facultative gram-negative coccobacillus
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Unknown
Diagnostic Tests	Culture of blood, joint fluid, CSF, etc. Alert laboratory if these organisms are suspected.
Typical Adult Therapy	Penicillin G or Penicillin V usually effective - dosage per severity/site
Typical Pediatric Therapy	As for adult
Clinical Hints	- Most cases reported among young children - May present as septic arthritis, endocarditis, meningitis and other localized or systemic infections
Synonyms	

Laryngotracheobronchitis

Agent	VIRUS OR BACTERIUM. Parainfluenza virus, Influenza virus, <i>Mycoplasma</i> , et al
Reservoir	Human
Vector	None
Vehicle	Droplet, Respiratory or pharyngeal acquisition
Incubation Period	3d - 8d
Diagnostic Tests	Viral culture (respiratory secretions). Serology. Nucleic acid amplification.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Most cases are in young children - Usually encountered in the setting of bronchiolitis, laryngitis or croup following a minor upper respiratory infection
Synonyms	Bronchitis, Croup, Laringitis, Laryngite, Laryngitis, Laryngotracheitis. ICD9: 464,466 ICD10: J04,J05,J20,J21

Legionellosis

Agent	BACTERIUM. <i>Legionella pneumophila</i> , et al An aerobic gram-negative bacillus
Reservoir	Water
Vector	None
Vehicle	Water, Aerosols, Droplet, Respiratory or pharyngeal acquisition
Incubation Period	5- 6d (range 2-12d); Pontiac fever = 1-2d
Diagnostic Tests	Serology. Culture. Urine antigen (certain types). Nucleic acid amplification. Alert lab if organism suspected.
Typical Adult Therapy	Fluoroquinolone (Levofloxacin, Trovafloxacin, Pefloxacin, Sparfloxacin or Moxifloxacin). OR Azithromycin. OR Erythromycin + Rifampin OR Clarithromycin
Typical Pediatric Therapy	Azithromycin. OR Erythromycin + Rifampin OR Clarithromycin
Clinical Hints	- Respiratory illness with extrapulmonary manifestations - Diarrhea, confusion, renal or hepatic dysfunction, relative bradycardia, etc. - Most cases reported during summer in temperate areas - Case-fatality rates of 5% to 25% are reported
Synonyms	Doenca dos legionarios, Legionarsjuka, Legionarssjuka, Legionella, Legionellose, Legionellosi, Legionnaire's disease, Pontiac fever. ICD9: 482.84 ICD10: A48.1,A48.2

Leishmaniasis - cutaneous

Agent	PARASITE - Protozoa. Euglenozoa, Kinetoplastea. Flagellate: <i>Leishmania tropica</i> , et al
Reservoir	Human, Hyrax, Rodent, Marsupial, Dog, Sloth, Anteater, Armadillo, Bat
Vector	Sandfly (<i>Phlebotomus</i> for Old-world; <i>Lutzomyia</i> or <i>Psychodopygus</i> for New-world)
Vehicle	None
Incubation Period	2w - 8w (range 1w - months)
Diagnostic Tests	Identification of organism on smear or specialized culture. Nucleic acid amplification
Typical Adult Therapy	Pentavalent antimonials 20 mg/kg/d IV or IM X 21d & / or topical paromomycin . Alternatives: L. major - Fluconazole or Azithromycin , PO L. mexicana or L. panamensis - Ketoconazole , PO L. brasiliensis - Azithromycin , PO
Typical Pediatric Therapy	As for adult
Clinical Hints	- Chronic ulcerating skin nodule - May be painless (<i>Leishmania tropica</i>) or painful (<i>L. major</i>) - Diffuse infection or regional lymphadenopathy are occasionally encountered
Synonyms	Aleppo button, Antep boil, Baghdad boil, Bay sore, Bejudo, Biskra boil, Boessie-Yassi, Bolho, Boschyaws, Bosjaws, Bush yaws, Busi-yasi, Chiclero ulcer, Cutaneous leishmaniasis, Delhi ulcer, Domal, El-Mohtafura, Forest yaws, Gafsa boil, Granuloma endemicum, Hashara, Jericho boil, Kaal Daana, Kandahar sore, Leishmania enriettii, Leishmania major, Leishmania martinicensis, Leishmania tropica, Leishmania waltoni, Leishmaniasis, Leishmaniose: Kutane, Leishmaniosi cutanea, Lepra de montana, Liana, Okhet, One-year boil, Oriental sore, Pendjeh sore, Pian bois, Saldana, Ulcer de Bejudo, Urfa boil, Uta, Yatevi, Year boil. ICD9: 085.1,085.2,085.3,085.4 ICD10: B55.1

Leishmaniasis - cutaneous in the Dominican Republic

The first cases were reported in 1975.

Cutaneous leishmaniasis is reported from the northeastern region (El Seibo, La Altagracia and Sanchez Ramirez Provinces). [1](#)

22 cases were reported as of 1983.

An endemic focus of diffuse cutaneous leishmaniasis exists in the eastern region. [2](#) [3](#)

- The local pathogen, *Leishmania waltoni* (a member of the *Leishmania mexicana*) complex is found only in the Dominican Republic. [4](#)

Suspected reservoirs include rodents (*Rattus rattus* and *Plagiodontia aedium*) and mongoose (*Herpestes auropunctatus*). [5](#)

- The local vector is *Lutzomyia christophei*.

References

1. [PLoS One 2012 ;7\(5\):e35671](#).
2. [Ann N Y Acad Sci 1992 Jun 16;653:154-60.](#)
3. [Trans R Soc Trop Med Hyg 1983 ;77\(6\):756-62.](#)
4. [Am J Trop Med Hyg 2015 Sep ;93\(3\):552-8.](#)
5. [Am J Trop Med Hyg 1992 Mar ;46\(3\):282-7.](#)

Leishmaniasis - visceral

Agent	PARASITE - Protozoa. Euglenozoa, Kinetoplastea. Flagellate: <i>Leishmania donovani</i> , <i>L. infantum</i> , <i>L. cruzi</i> ; rarely, <i>L. tropica</i>
Reservoir	Human, Rodent, Dog, Fox, Hares
Vector	Sandfly (<i>Phlebotomus</i> for Old-world; <i>Lutzomyia</i> for New-world)
Vehicle	Blood
Incubation Period	2m - 6m (10d - 12m)
Diagnostic Tests	Smear / culture of bone marrow, splenic aspirate, lymph nodes. Serology. Nucleic acid amplification.
Typical Adult Therapy	Pentavalent antimonials (Stibogluconate) 20 mg/kg/d X 28d. OR Amphotericin B 1 mg/kg/QOD X 8w (or lipid complex 3 mg/kg/d X 5d) OR Paromomycin 11 mg/kg IM QD X 21 days OR Miltefosine 50 to 150 mg PO daily X 4 to 6 weeks.
Typical Pediatric Therapy	Pentavalent antimonials (Stibogluconate) 20 mg/kg/d X 28d. OR Amphotericin B 1 mg/kg/QOD X 8w (or lipid complex 3 mg/kg/d X 5d) OR Paromomycin 11 mg/kg IM QD X 21 days OR Miltefosine 2.5 mg/kg daily (maximum 150 mg) X 28d
Clinical Hints	- Chronic fever, weight loss, diaphoresis - Hepatosplenomegaly, lymphadenopathy and pancytopenia - Grey pigmentation (Kala Azar = "black disease") may appear late in severe illness - Case-fatality rates vary from 5% (treated) to 90% (untreated)
Synonyms	Burdwan fever, Cachectic fever, Dum Dum fever, Kala azar, Leishmania donovani, Leishmania infantum, Leishmania siamensis, Leishmania tarentolae, Leishmaniose: Viszerale, Leishmaniosi viscerale, Ponos, Visceral leishmaniasis. ICD9: 085.0 ICD10: B55.0

Although Leishmaniasis - visceral is not endemic to the Dominican Republic, imported, expatriate or other presentations of the disease have been associated with this country.

Leishmaniasis - visceral in the Dominican Republic

Visceral leishmaniasis has not been reported in the Dominican Republic (2012 publication). ¹

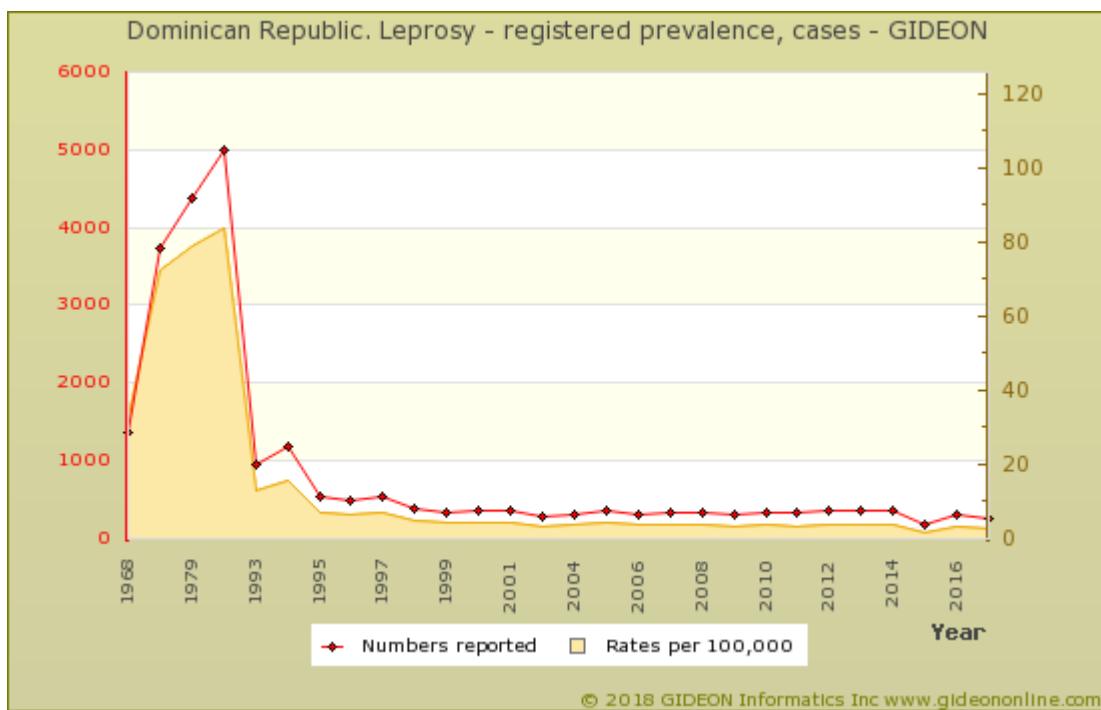
References

1. PLoS One 2012 ;7(5):e35671.

Leprosy

Agent	BACTERIUM. <i>Mycobacterium leprae</i> <i>Mycobacterium lepromatosis</i> An acid-fast bacillus
Reservoir	Human, Armadillo, Squirrel
Vector	None
Vehicle	Secretions
Incubation Period	3y - 5y (range 3m - 40y)
Diagnostic Tests	Visualization of organisms in exudate, scrapings or biopsy. Nucleic acid amplification.
Typical Adult Therapy	Multibacillary: One year therapy <i>Dapsone</i> 100 mg + <i>Clofazimine</i> 50 mg daily; and, <i>Rifampin</i> 600 mg + <i>Clofazimine</i> 300 mg once monthly Paucibacillary: Six month therapy <i>Dapsone</i> 100 mg daily; and <i>Rifampin</i> 600 mg once monthly
Typical Pediatric Therapy	Multibacillary: One year therapy <i>Dapsone</i> 1 to 2 mg/kg + <i>Clofazimine</i> 1 mg/kg daily; and, <i>Rifampin</i> 10 mg/kg + <i>Clofazimine</i> 1 mg/kg once monthly Paucibacillary: Six month therapy <i>Dapsone</i> 1 to 2 mg/kg daily; and <i>Rifampin</i> 10 mg/kg once monthly
Clinical Hints	- Anesthetic, circinate hypopigmented skin lesions - Thickened peripheral nerves (tuberculoid leprosy) - Diffuse, destructive papulonodular infection (lepromatous leprosy) - Combined/intermediate forms are encountered
Synonyms	Aussatz, Doence de Hansen, Hansen's disease, Lebbra, Lepra, <i>Mycobacterium leprae</i> , <i>Mycobacterium lepromatosis</i> . ICD9: 030 ICD10: A30

Leprosy in the Dominican Republic



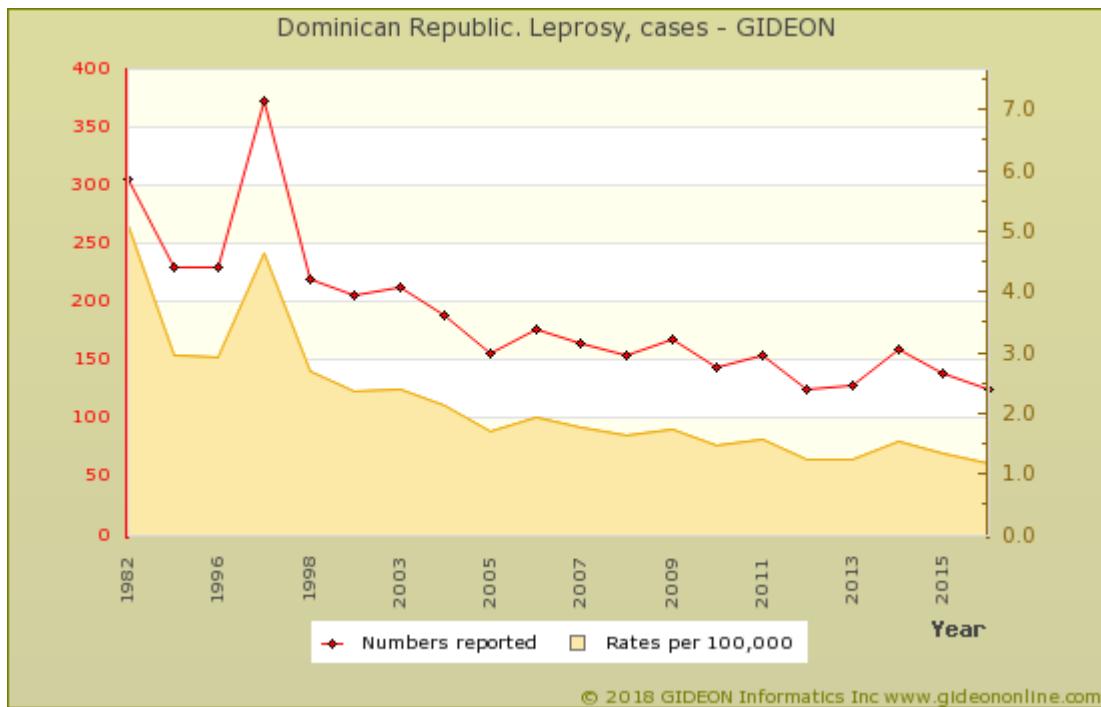
Graph: Dominican Republic. Leprosy - registered prevalence, cases

Notes:

Individual years:

1976 - True number estimated at 6,544 cases.

1982 - True number estimated at 8,754 cases (150 per 100,000).



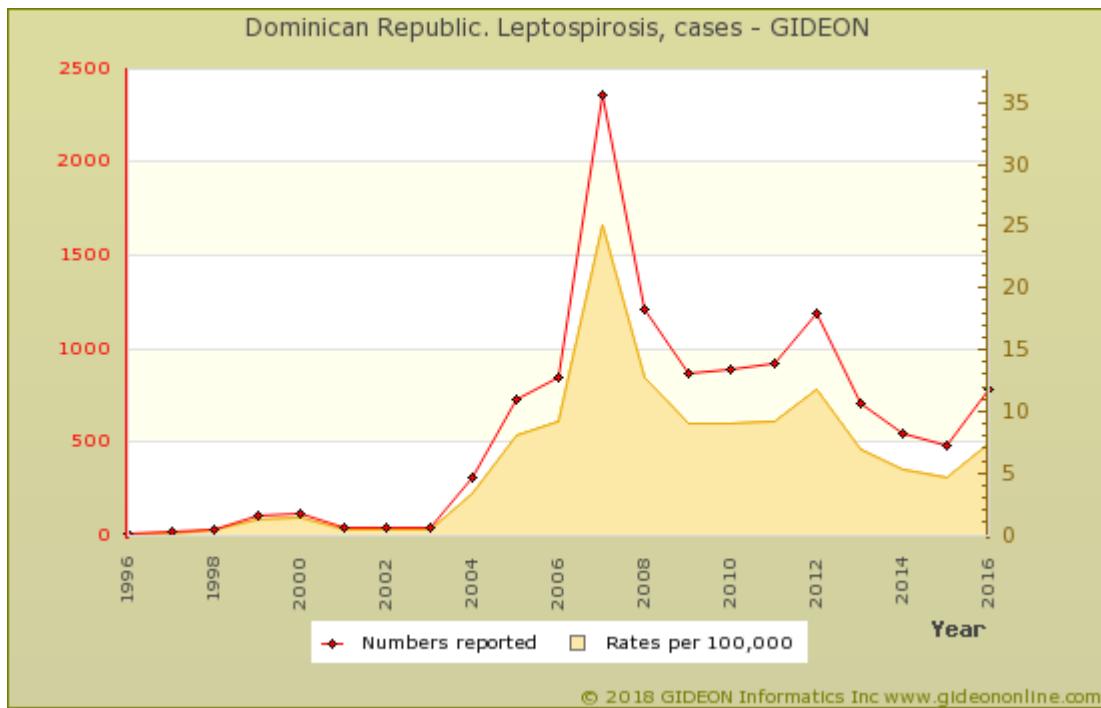
Graph: Dominican Republic. Leprosy, cases

MDT coverage is 100% (1998).

Leptospirosis

Agent	BACTERIUM. <i>Leptospira interrogans</i> , et al. An aerobic non-gram staining spirochete
Reservoir	Cattle, Dog, Horse, Deer, Rodent, Fox, Marine mammal, Cat, Marsupial, Frog
Vector	None
Vehicle	Water, Soil, Urine contact, Breastfeeding
Incubation Period	7d - 12d (range 2d - 26d)
Diagnostic Tests	Culture on specialized media. Dark field microscopy of urine, CSF. Serology.
Typical Adult Therapy	Penicillin 1.5 million units Q6h iv OR Doxycycline 100 mg BID X 5 to 7d OR Ceftriaxone 1g IV daily
Typical Pediatric Therapy	Penicillin G 50,000u/kg q6h iv X 5 to 7d Age >= 8y: Doxycycline 2.2 mg/kg BID X 5 to 7d may also be used
Clinical Hints	- Often follows recent skin contact with fresh water in rural or rodent-infested areas - "Sterile" meningitis, nephritis, hepatitis, myositis and conjunctivitis - Case-fatality rates of 5% to 40% are reported
Synonyms	Andaman hemorrhagic fever, Canefield fever, Canicola fever, Field fever, Fish handler's disease, Fort Bragg fever, Japanese autumnal fever, Leptospira, Leptospirosis, Leptospirosis, Leptospirosis, Mud fever, Pre-tibial fever, Rat fever, Rice field fever, Swamp fever, Swineherd disease, Weil's disease. ICD9: 100 ICD10: A27

Leptospirosis in the Dominican Republic



Graph: Dominican Republic. Leptospirosis, cases

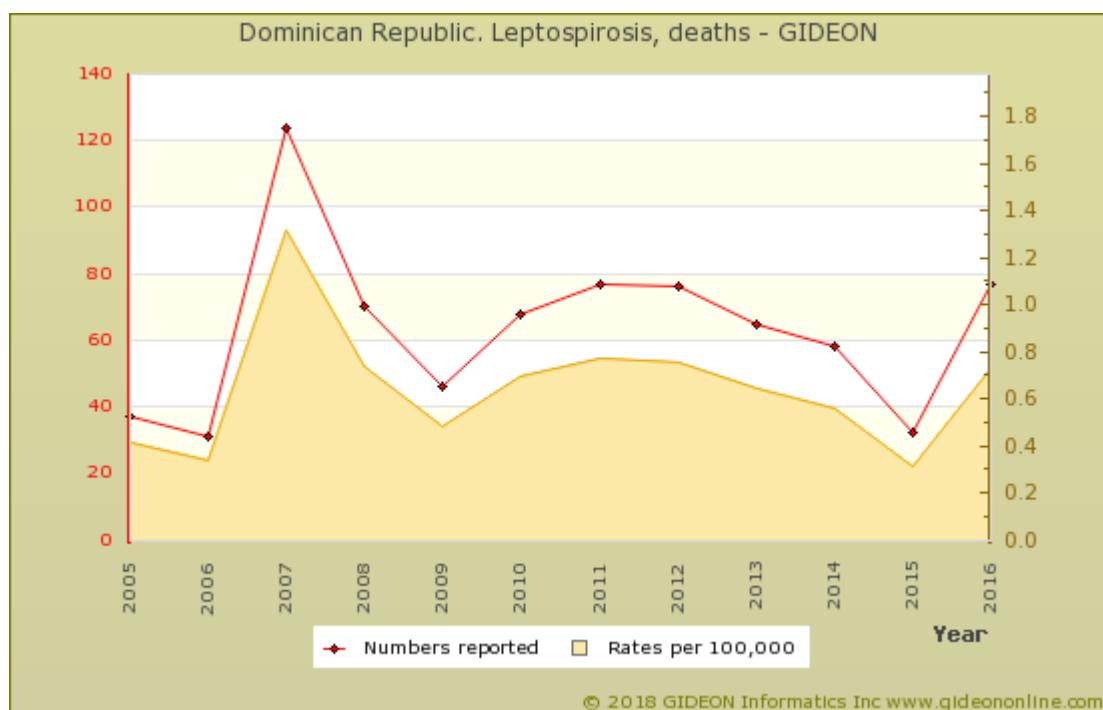
Notes:

Notes:

1. 110 cases (7 fatal) were reported during January to April 2016; 200 (20 fatal) during January to April 2017. ¹

Individual years:

1999 - During January to September, 25 cases (1 fatal) were confirmed in Santo Domingo city and 17 in Santiago. ²



Graph: Dominican Republic. Leptospirosis, deaths

Cross-border events

Years	Acquired by **	Originated in **	Setting	Cases	Notes
2001	Germany	Dominican Republic	travel	3	³
2011	Netherlands	Dominican Republic	travel	1	⁴ ⁵

** Country or Nationality

Prevalence surveys

Years	Study Group	%	Notes
1991*	children	4	4% of acute hepatitis cases in children (1991 publication) ⁶

* indicates publication year (not necessarily year of survey)

57 cases were confirmed during January 2000 to March 2001.

- 34 of the cases were from National District, 7 Santiago and 5 Puerto Plata
- Additional cases were reported in San Cristobal, Elias Pina, Azua, Bani, Moca, Valverde, Monte Plata, Hato Mayor and Villa Altagracia.
- *Leptospira interrogans* serovars *icterohaemorrhagiae*, *pomona* and *canicola* accounted for 75% of positive sera.
- Serovars *tarassovi*, *hardjo*, *grippotyphosa*, *wolffi*, *autumnalis* and *pyrogenes* were also implicated. ⁷

Cross-border events

Years	Acquired by **	Originated in **	Setting	Cases	Notes
2001	Germany	Dominican Republic	travel	3	⁸
2011	Netherlands	Dominican Republic	travel	1	⁹ ¹⁰

** Country or Nationality

Notable outbreaks

Years	Region	Setting	Cases	Deaths	Notes
2012	Nationwide		944	58	11
2016	Nationwide		560	42	Outbreak ascribed to local flooding 12 13
2017		hurricane	695	62	Case count to November 25 14

References

1. ProMED <promedmail.org> archive: 20170502.5007424
2. ProMED <promedmail.org> archive: 19990909.1595
3. ProMED <promedmail.org> archive: 20010615.1154
4. Euro Surveill 2012 Mar 29;17(13)
5. ProMED <promedmail.org> archive: 20120331.1086285
6. Arch Domin Pediatr 1991 May-Aug;27(2):39-41.
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14. ProMED <promedmail.org> archive: 20171215.5504877

Listeriosis

Agent	BACTERIUM. <i>Listeria monocytogenes</i> A facultative gram-positive bacillus
Reservoir	Mammal, Human, Bird, Soil, Water
Vector	None
Vehicle	Transplacental, Dairy products (eg, soft cheeses), Infected secretions, Vegetables, Poultry, Water, Fish, Shellfish
Incubation Period	3d - 21d (60d post-ingestion)
Diagnostic Tests	Culture of blood or CSF.
Typical Adult Therapy	Ampicillin 2g IV q6h X 2w (higher dosage in meningitis) + Gentamicin . Sulfamethoxazole / Trimethoprim recommended for Penicillin-allergic patients
Typical Pediatric Therapy	Ampicillin 50 mg/kg IV Q6h X 2w (higher dosage in meningitis). Sulfamethoxazole / Trimethoprim recommended for Penicillin-allergic patients
Clinical Hints	- Meningitis or sepsis, often in immune-suppressed patients (lymphoma, AIDS, etc) - Gastroenteritis - may follow ingestion of "over-the-counter" foods - Neonatal septicemia occasionally encountered
Synonyms	Listeria monocytogenes, Listeriose, Listeriosi. ICD9: 027.0 ICD10: A32

Listeriosis in the Dominican Republic

Dominican Republic. Listeriosis, cases: None reported between 1996 and 2004

Liver abscess - bacterial

Agent	BACTERIUM. Various species from portal (Bacteroides, mixed aerobe-anaerobe) or biliary (<i>Escherichia coli</i> , etc) source
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Ultrasound, CT or radionuclide scan. If amoebic abscess suspected, perform Entamoeba serology
Typical Adult Therapy	Intravenous antibiotic(s) directed at likely or suspected pathogens. Percutaneous or open drainage
Typical Pediatric Therapy	As for adult
Clinical Hints	- Tender liver and prolonged fever in a patient - Often associated with diverticulitis, cholecystitis, appendicitis, etc - Clinically similar to amoebic abscess, but often multiple
Synonyms	Ascesso fegato, Bacterial liver abscess, Hepatic abscess - bacterial, Liver abscess. ICD9: 572.0 ICD10: K75.0

Lymphocytic choriomeningitis

Agent	VIRUS - RNA. Arenaviridae, Mammarenavirus: Lymphocytic choriomeningitis virus
Reservoir	House mouse, Guinea pig, Hamster, Monkey
Vector	None
Vehicle	Urine, Saliva, Feces, Food, Dust, Respiratory or pharyngeal acquisition
Incubation Period	8d - 12d (range 6d - 14d)
Diagnostic Tests	Viral culture (blood, throat, CSF). Serology. Nucleic acid amplification. Biosafety level 3.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Headache, myalgia, meningitis and encephalitis - Photophobia or pharyngitis may be present - Preceding exposure to rodents - Infection resolves within 2 weeks, however convalescence may require an additional 2 months
Synonyms	

Lymphogranuloma venereum

Agent	BACTERIUM. Chlamydiaceae, Chlamydiae , <i>Chlamydia trachomatis</i> , types L1, L2, L3
Reservoir	Human
Vector	None
Vehicle	Sexual contact
Incubation Period	7d - 12d (range 3d - 30d)
Diagnostic Tests	Serology. Culture of pus performed in specialized laboratories.
Typical Adult Therapy	Doxycycline 100 mg PO BID X 3w. OR Erythromycin 500 mg QID X 3w OR Azithromycin 1g po weekly X 3w
Typical Pediatric Therapy	Age < 8 years: Erythromycin 10 mg/kg PO QID X 2 to 4w. Age >= 8 years: Doxycycline 2 mg/kg PO BID X 2 to 4w
Clinical Hints	- Genital nodule or vesicle with large, suppurating regional nodes - Generalized lymphadenopathy or proctitis may be present - Late complications include genital edema, rectal strictures and perianal abscesses
Synonyms	Bubonulus, Durand-Nicolas-Favre disease, Linfogranuloma venereo, Lymphogranuloma inguinale, Lymphopathia venereum, Maladie de Nicolas et Favre, Tropical bubo, Venereal bubo, Venerisk lymfogranulom. ICD9: 099.1 ICD10: A55

Lymphogranuloma venereum in the Dominican Republic

The disease rate in 1995 was 0.8 per 100,000.

Malaria

Agent	PARASITE - Protozoa. Apicomplexa, Haemosporida: <i>Plasmodium</i> spp.
Reservoir	Human Primate (<i>Plasmodium knowlesi</i>)
Vector	Mosquito (Anopheles)
Vehicle	Blood
Incubation Period	7d -30d
Diagnostic Tests	Examination of blood smear. Serology, antigen & microscopic techniques. Nucleic acid amplification.
Typical Adult Therapy	Resistant falcip: Lumefantrine / Artemether OR Quinine + Doxycycline or Clindamycin OR Atovaquone / Proguanil OR Artesunate IV (severe malaria) If sens., Chloroquine 1g, then 500 mg 6, 24 & 48 hrs. If P. ovale or P. vivax - follow with Primaquine
Typical Pediatric Therapy	Resistant falcip: Lumefantrine / Artemether OR Quinine + Clindamycin OR Atovaquone / Proguanil OR Artesunate (>age 8) IV (severe malaria) If sens, Chloroquine 10 mg/kg, then 5 mg/kg 6, 24, & 48 hrs. If P. ovale or P. vivax - follow with Primaquine
Clinical Hints	- Fever, headache, rigors ("shaking chills"), vomiting, myalgia, diaphoresis and hemolytic anemia - Fever pattern (every other or every third day) and splenomegaly may be present - Clinical disease may relapse after 7 (ovale and vivax) to 40 (<i>malariae</i>) years
Synonyms	Ague, Bilious remittent fever, Chagres fever, Estiautumnal fever, Marsh fever, Marsh fever, Paludism, Paludismo, <i>Plasmodium brasiliense</i> , <i>Plasmodium falciparum</i> , <i>Plasmodium knowlesi</i> , <i>Plasmodium malariae</i> , <i>Plasmodium ovale</i> , <i>Plasmodium simium</i> , <i>Plasmodium vivax</i> . ICD9: 084 ICD10: B50,B51,B52,B53,B54

Chloroquine resistant falciparum malaria endemic to 80 countries. Chloroquine-sensitive malaria endemic to 28 countries.

Malaria in the Dominican Republic

Time and Place

Malaria occurs throughout the year.

- Malaria is found in rural areas, with highest risk in the western (Haiti border) area: Dajabon, Monte Cristi, Barahona, Cabral, Castrenuelas, Comendador, Elias Pina, Estrelleta, Hondo Valle, Independencia, Jimanai, Pedernales, Pepillo Salcedo and Valverde.
- Transmission also occurs in La Altagracia Province and resort areas such as Punta Cana and Puerto Plata.
- There is no risk in Santiago City.
- Sporadic cases of local transmission were reported in Santo Domingo during 2015, 2016 and 2017.

Infecting species:

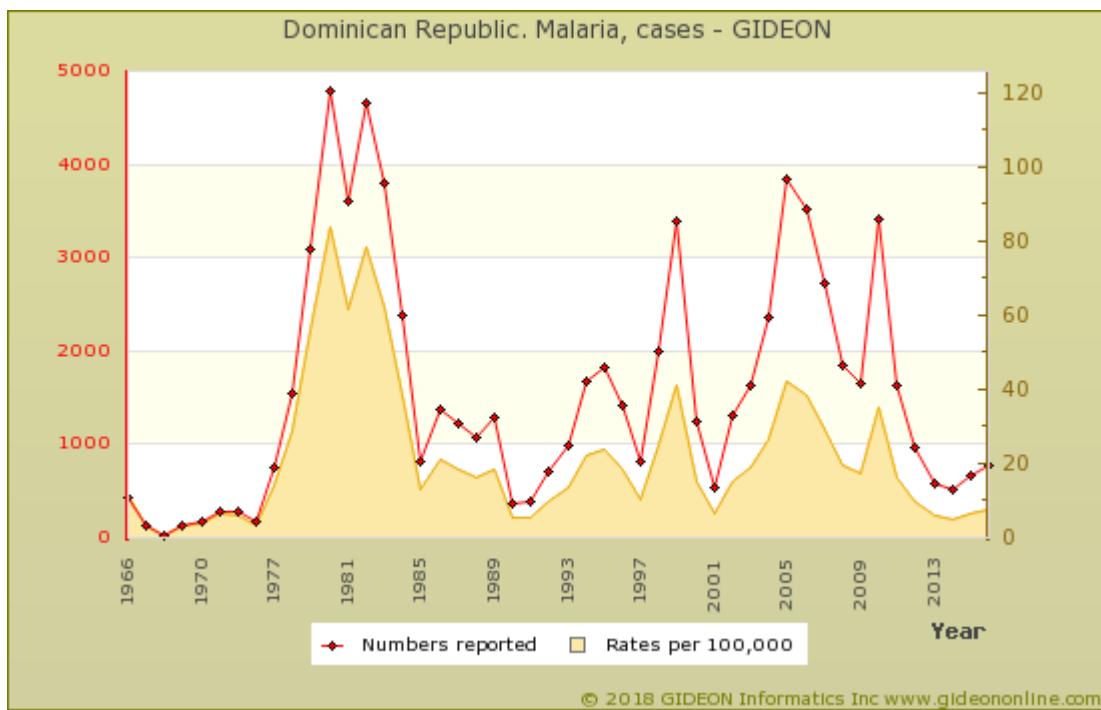
Chloroquine-resistant *P. falciparum* is NOT reported.

- *Plasmodium falciparum* is responsible for 99.6% to 100% of cases.
- A total of 24 cases of *Plasmodium vivax* infection were reported during 1999 to 2005; 6 in 2006; 5 in 2007.

Malaria in La Altagracia:

- Recent reports have appeared concerning malaria acquisition by tourists in La Altagracia (notably Bavaro Beach and Punta Cana).
- Thirteen cases of *P. falciparum* malaria (0 fatal) were acquired by Europeans in the Dominican Republic during June 1999 to February 2000: 10 Germans, 2 Spanish and 2 Austrians. [1](#) [2](#) [3](#) [4](#)
- As of 2000, the outbreak was reported under control, and prophylaxis is no longer recommended for this area; however, at least one additional case was reported (an Italian tourist) in 2001. [5](#)

- A resurgence of cases among American, Canadian and European tourists visiting Punta Cana during 2004 prompted renewal of prophylaxis recommendations for La Altagracia Province and Duarte Province.⁶
- During 2005, 21 tourists acquired malaria in these areas - 5 from the United States, 6 from Canada, and 10 from European countries.^{7 8 9 10 11 12 13}
- Additional cases were reported among German tourists in 2007¹⁴; and a Canadian tourist in 2008.^{15 16}



Graph: Dominican Republic. Malaria, cases

Notes:

Individual years:

1991 - Most cases from El Salado, La Puya and Las Carreras.

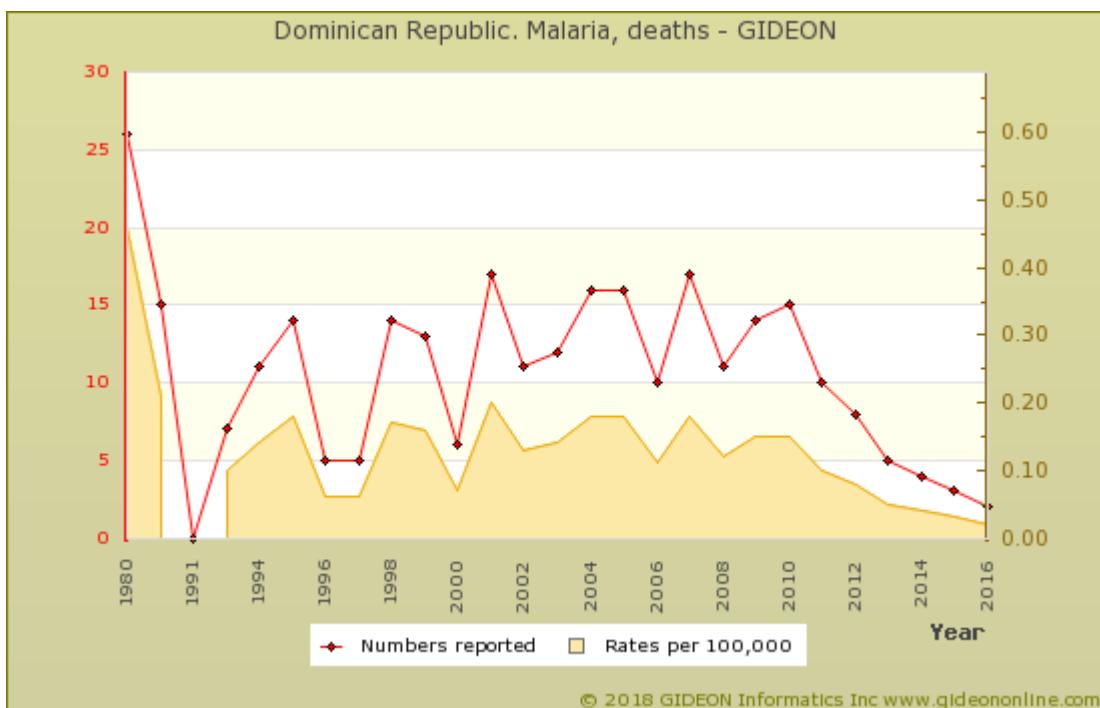
1992 - Most from Las Altagracia, Monte Cristi, National District and Valverde.

1997 - 59% of patients were foreigners.

1998 - Number approximate.

1999 - 48.3% Dominicans; 51.3% migrants from Haiti; 0.4% from other countries; 100% *Plasmodium falciparum*.

2004 - Included 1,547 cases in Azua, Bahoruco, Bahahona and La Altagracia.¹⁷



Graph: Dominican Republic. Malaria, deaths

Notes:

1. 26 fatal cases were reported during 1983 to 1988 (age-adjusted mortality 0.2 per 100,000 per year),

The local vector is *Anopheles albimanus*. ¹⁸

Notable outbreaks

Years	Region	Cases	Source	Notes
1999	Bavaro	359	construction activity	Outbreak in El Salado, Bavaro (Ia Altagracia Province) was linked to building construction. 24 of the patients were foreign tourists. ¹⁹

References

1. Emerg Infect Dis 2000 Sep-Oct;6(5):537-8.
2. Ned Tijdschr Geneesk 2000 Feb 19;144(8):385-6.
3. Euro Surveill 2001 Apr ;6(4):65-6.
4. Enferm Infect Microbiol Clin 2005 May ;23(5):277-8.
5. ProMED <promedmail.org> archive: 20010604.1101
6. MMWR Morb Mortal Wkly Rep 2005 Jan 07;53(51):1195-8.
7. Emerg Infect Dis 2000 Sep-Oct;6(5):537-8.
8. Ned Tijdschr Geneesk 2000 Feb 19;144(8):385-6.
9. Euro Surveill 2005 Oct 13;10(10):E051013.4.
10. ProMED <promedmail.org> archive: 20051015.3000
11. ProMED <promedmail.org> archive: 20050515.1332
12. ProMED <promedmail.org> archive: 20050228.0624
13. ProMED <promedmail.org> archive: 20050206.0407
14. ProMED <promedmail.org> archive: 20071126.3826
15. ProMED <promedmail.org> archive: 20080219.0670
16. ProMED <promedmail.org> archive: 20080220.0690
17. Wkly Epidemiol Rec 2007 Jan 26;82(4):25-30.
18. J Am Mosq Control Assoc 1991 Sep ;7(3):456-61.
19. ProMED <promedmail.org> archive: 20000223.0242

Malignant otitis externa

Agent	BACTERIUM. <i>Pseudomonas aeruginosa</i> : aerobic gram-negative bacillus (virtually all cases)
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Culture of otic exudate and biopsy material. Careful roentgenographic and neurological examinations.
Typical Adult Therapy	Early debridement <i>Ciprofloxacin</i> 400 mg iv Q8h Alternatives: <i>Imipenem</i> , <i>Meropenem</i> , <i>Ceftazidime</i> , <i>Cefepime</i> Early debridement
Typical Pediatric Therapy	Early debridement <i>Imipenem</i> : Age 0 to 7 days: 25 mg/kg IV Q12h Age 8 to 28 days: 25 mg/kg IV Q8h Age >28 days: 15 to 25 mg/kg IV Q6h (maximum 2 g/day) Alternatives: <i>Meropenem</i> , <i>Ceftazidime</i> , <i>Cefepime</i>
Clinical Hints	- Over 80% of patients are diabetics above age 50 - Otic pain, swelling and discharge - Infection of bony and cartilaginous ear canal - Cranial nerve (usually VII) signs in 50% - Case-fatality rate > 55%
Synonyms	

Mansonelliasis - M. perstans

Agent	PARASITE - Nematoda. Secernentea: <i>Mansonella (Esslingeria) perstans</i>
Reservoir	Human
Vector	Midge (<i>Culicoides</i> spp.)
Vehicle	None
Incubation Period	5m - 18m (range 1m - 2y)
Diagnostic Tests	Identification of microfilariae in blood. Nucleic acid amplification.
Typical Adult Therapy	Albendazole 400 mg PO BID X 10 d OR Mebendazole 100 mg PO BID X 30 d. Recent data suggest that addition of doxycycline may be of benefit.
Typical Pediatric Therapy	Age >2 years: As for adult. OR Albendazole 10 mg/kg/day PO X 10d
Clinical Hints	- Recurrent pruritic subcutaneous lesions - Arthralgia and eosinophilia - Headache, fever or abdominal pain may also be present
Synonyms	Acanthocheilonema perstans, Bung eye disease, Dipetalonema berghei, Dipetalonema perstans, Dipetalonema semiclarum, Esslingeria perstans, Filaria perstans, Mansonella perstans, Mansonella rhodhaini, Mansonella semiclarum, Mansonella sp. DEUX, Meningonema peruzzii, Tetrapetalonema berghei, Tetrapetalonema perstans. ICD9: 125.4 ICD10: B74.4

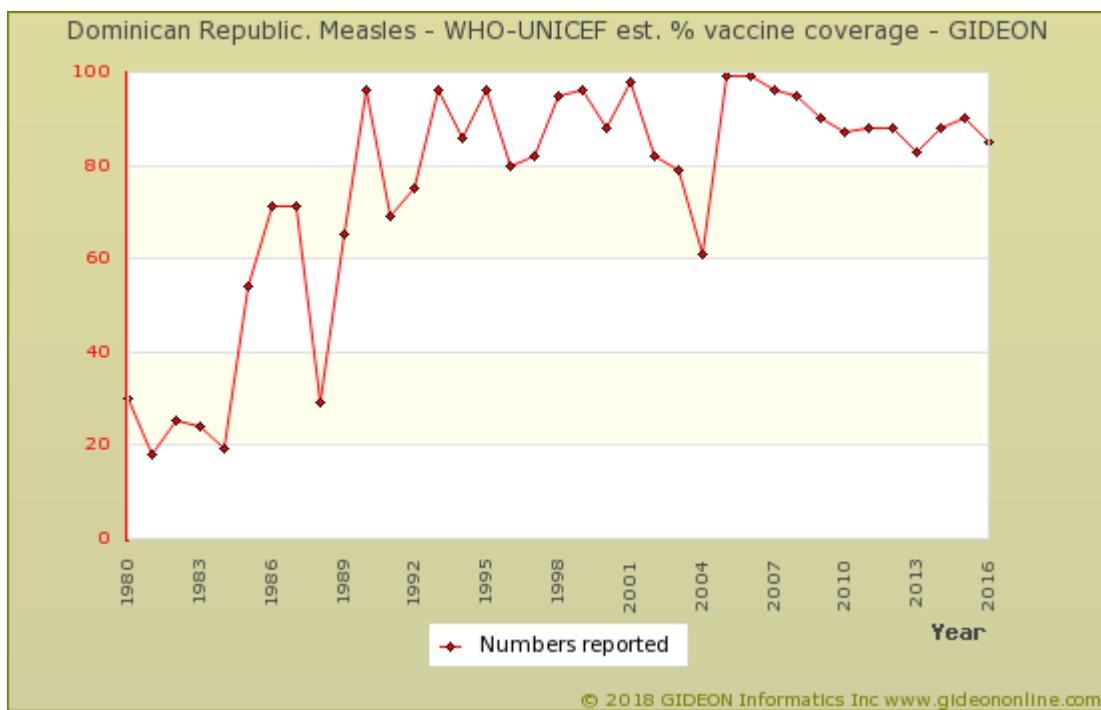
Measles

Agent	VIRUS - RNA. Mononegavirales Paramyxoviridae, Paramyxovirinae, Morbillivirus: Measles virus
Reservoir	Human
Vector	None
Vehicle	Droplet, Respiratory or pharyngeal acquisition
Incubation Period	8d - 14d
Diagnostic Tests	Viral culture (difficult and rarely indicated). Serology. Nucleic acid amplification.
Typical Adult Therapy	Respiratory isolation; supportive. Ribavirin 20 to 35 mg/kg/day X 7 days has been used for severe adult infection
Typical Pediatric Therapy	As for adult
Vaccines	Measles vaccine Measles-Mumps-Rubella vaccine Measles-Rubella vaccine
Clinical Hints	- Coryza, fever, headache, conjunctivitis, photophobia and a maculopapular rash after 3 to 5 days - Koplik's spots (bluish-grey lesions on buccal mucosa, opposite second molars) often precede rash - Encephalitis or viral pneumonia occasionally encountered
Synonyms	Masern, Massling, Mazelen, Meslinger, Morbilli, Morbillo, Rubeola, Rugeole, Sarampion, Sarampo. ICD9: 055 ICD10: B05

Measles in the Dominican Republic

Vaccine Schedule:

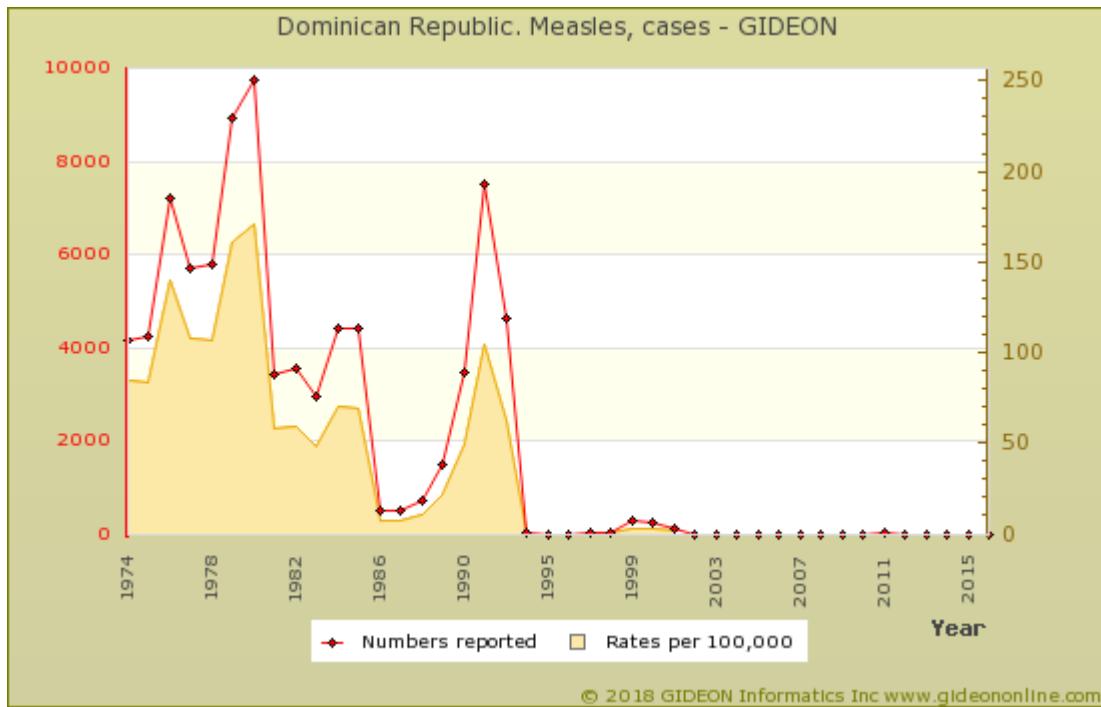
BCG - birth
DTwP - 2,4,6,18 months; 5, 10 years
DTwPHibHepB - 2,4,6 months
HepB - birth
IPV - 2 months
MMR - 12 months
MR - >=2 years
OPV - 2,4,6,18 months; 5 years
Pneumo conj - 2,4,12 months
Rotavirus - 2,4 months
Td - 1st contact; +4-6 weeks; +6 months; +1, +1 year; every 10 years



Graph: Dominican Republic. Measles - WHO-UNICEF est. % vaccine coverage

Notes:

Individual years:

1998 - Over 500,000 were vaccinated by campaign ¹

Graph: Dominican Republic. Measles, cases

Notes:

Individual years:

1998 - 14 cases reported to PAHO.

Cross-border events

Single cases included if associated with outbreaks

Years	Acquired by **	Originated in **	Notes
2000	Haiti	Dominican Republic	Outbreak (992 cases, or 57% of all cases for the Americas region) in Haiti thought to have originated with imported cases from the Dominican Republic. ²

** Country or Nationality

References

1. EPI News 1998 Dec ;20(6):4.
2. J Infect Dis 2003 May 15;187 Suppl 1:S127-32.

Melioidosis

Agent	BACTERIUM. <i>Burkholderia pseudomallei</i> An aerobic gram-negative bacillus
Reservoir	Soil, Water, Sheep, Goat, Horse, Pig, Rodent, Monkey, Marsupial
Vector	None
Vehicle	Water (contact, ingestion, aerosol), Breastfeeding, Sexual contact, Respiratory or pharyngeal acquisition
Incubation Period	3d - 21d (range 2d - 1y)
Diagnostic Tests	Culture of blood, sputum, tissue. Serology. Nucleic acid amplification.
Typical Adult Therapy	Ceftazidime or Meropenem or Imipenem IV X at least 14 days May be combined with Sulfamethoxazole / Trimethoprim PO Follow with Sulfamethoxazole / Trimethoprim +/- Doxycycline X at least 3 months.
Typical Pediatric Therapy	Ceftazidime or Meropenem or Imipenem IV X at least 14 days May be combined with Sulfamethoxazole / Trimethoprim PO Follow with Sulfamethoxazole / Trimethoprim X at least 3 months.
Clinical Hints	- Lymphangitis with septicemia - Fever, cough and chest pain - Diarrhea or infection of bone, central nervous system, liver and parotid are occasionally encountered - Chest roentgenogram findings and clinical course may mimic tuberculosis - Case-fatality rate 10% to over 50% (septicemic form)
Synonyms	Burkholderia pseudomallei, Burkholderia thailandensis, Melioidose, Nightcliff Gardeners' Disease, Whitmore disease. ICD9: 025 ICD10: A24.1,A24.2,A24.3,A24.4

Although Melioidosis is not endemic to the Dominican Republic, imported, expatriate or other presentations of the disease have been associated with this country.

Melioidosis in the Dominican Republic

A single case of melioidosis was reported in Dominican Republic during 1947 to 2015. ¹

Cross-border events

Years	Acquired by **	Originated in **	Setting	Cases	Notes
2011*	Argentina	Dominican Republic	travel	1	2

* indicates publication year (not necessarily year of event)

** Country or Nationality

References

1. Am J Trop Med Hyg 2015 Dec ;93(6):1134-9.
2. Medicina (B Aires) 2011 ;71(1):39-41.

Meningitis - aseptic (viral)

Agent	VIRUS - RNA. Picornaviridae, enteroviruses
Reservoir	Human
Vector	None
Vehicle	Fecal-oral, Droplet
Incubation Period	Variable
Diagnostic Tests	Viral isolation (stool, CSF, throat). Serology.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Lymphocytic meningitis, with normal CSF glucose level - Often follows sore throat - Typically occurs during late summer and early autumn in temperate regions
Synonyms	Aseptic meningitis, Encephalitis - viral, Meningite virale, Meningitis, viral, Meningo-encefalite virale, Viral encephalitis, Viral meningitis. ICD9: 047,048,049,320.2 ICD10: A87,G03.0

Meningitis - aseptic (viral) in the Dominican Republic

Notable outbreaks

Years	Region	Setting	Cases	Population	Notes
2010	Foreign Country	travel	23	high school students	Outbreak among Canadian high school students following travel to the Dominican Republic ¹

References

1. ProMED <promedmail.org> archive: 20100515.1595

Meningitis - bacterial

Agent	BACTERIUM. <i>Neisseria meningitidis</i> , <i>Streptococcus pneumoniae</i> , <i>Haemophilus influenzae</i> , et al
Reservoir	Human
Vector	None
Vehicle	Air, Secretions
Incubation Period	Variable
Diagnostic Tests	CSF microscopy and culture. Blood culture. Note: Antigen detection is non-specific and rarely useful.
Typical Adult Therapy	Bactericidal agent(s) appropriate to known or suspected pathogen + dexamethasone
Typical Pediatric Therapy	As for adult
Vaccines	<i>H. influenzae</i> (HbOC-DTP or -DTaP) vaccine <i>Haemophilus influenzae</i> (HbOC) vaccine <i>Haemophilus influenzae</i> (PRP-D) vaccine <i>Haemophilus influenzae</i> (PRP-OMP) vaccine <i>Haemophilus influenzae</i> (PRP-T) vaccine Meningococcal vaccine <i>Hepatitis B + Haemoph. influenzae</i> vaccine
Clinical Hints	- Headache, stiff neck, obtundation, high fever and leukocytosis - Macular or petechial rash and preceding sore throat suggest meningococcal infection
Synonyms	Bacterial meningitis, Enfermedad Meningococica, <i>Haemophilus influenzae</i> , <i>Haemophilus influenzaes</i> , HIB meningitis, HIBs, Infections a meningocoque, Meningite batterica, Meningite meningococcica, Meningococcal, Meningokokken Erkr., Meningokokkose. ICD9: 036.0,320 ICD10: A39,G00,G01,G02

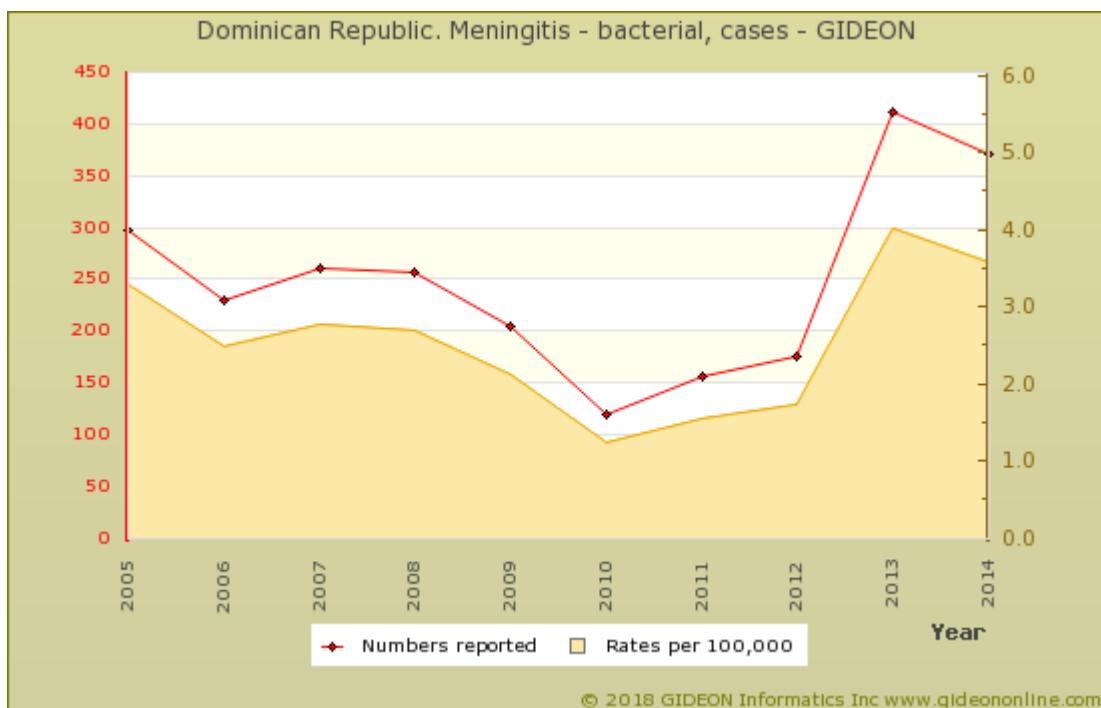
Meningitis - bacterial in the Dominican Republic

Incidence and Prevalence:

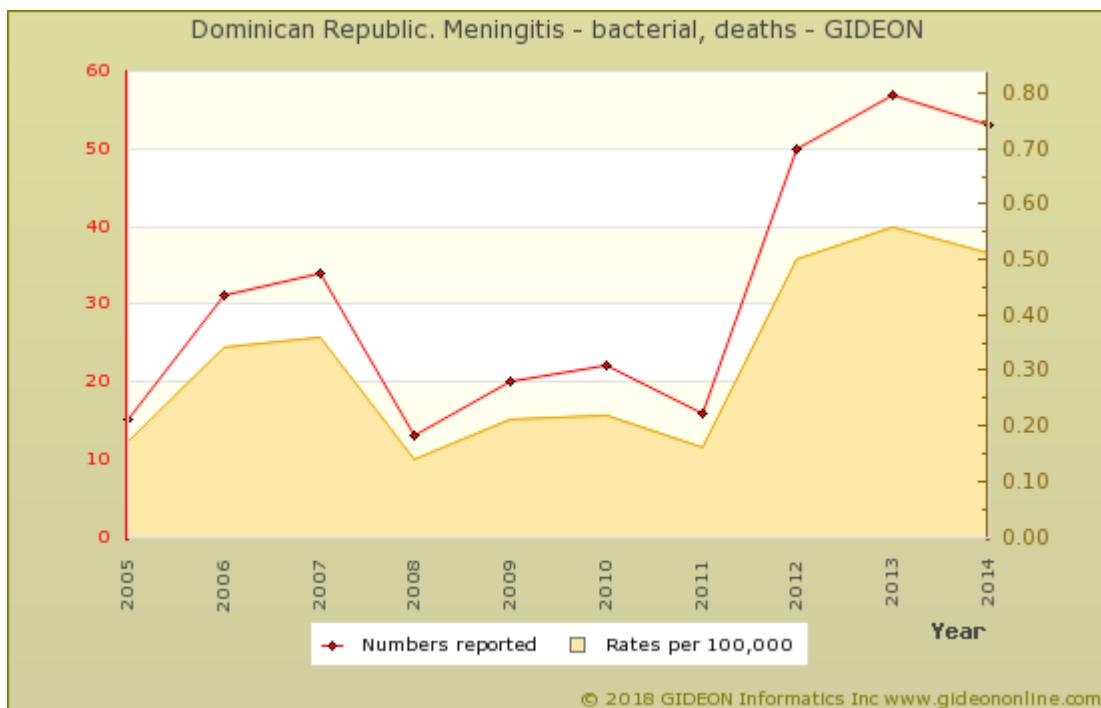
- 118 cases of meningitis and meningococcemia were reported in 1995; 101 in 1996; 37 during January to April 1997. ¹
- A mean of 132 cases of probable meningococcal disease were reported yearly during 1995 to 2002; 39 cases in 2005.
- Meningitis is responsible for 0.6% of all deaths and 15% of deaths from communicable diseases.

The predominant strain of meningococcus is type C.

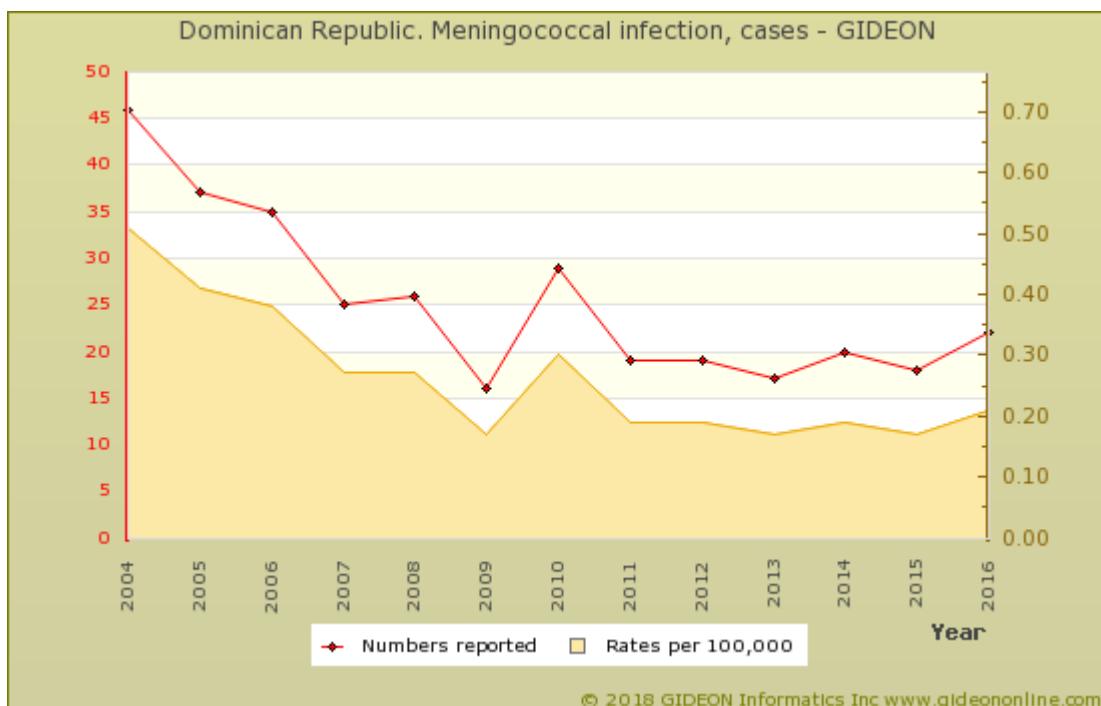
- 16 cases of meningococcal infection were reported in 2009.



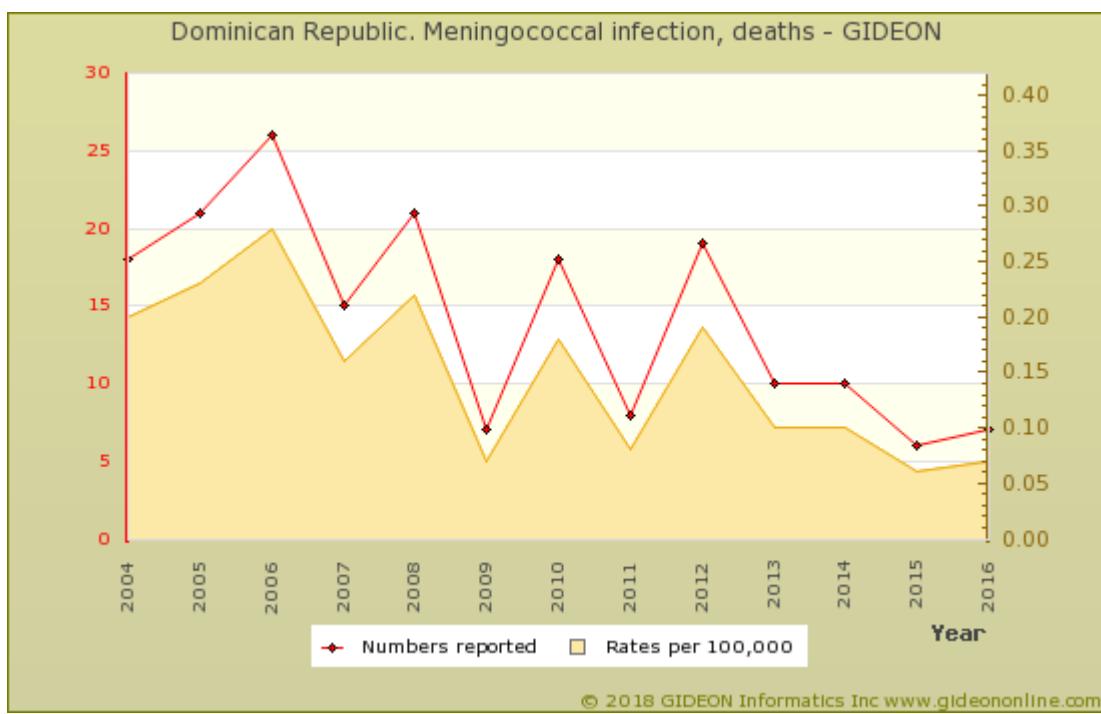
Graph: Dominican Republic. Meningitis - bacterial, cases



Graph: Dominican Republic. Meningitis - bacterial, deaths



Graph: Dominican Republic. Meningococcal infection, cases



Graph: Dominican Republic. Meningococcal infection, deaths

Vaccine Schedule:

BCG - birth

DTwP - 2,4,6,18 months; 5, 10 years

DTwPHibHepB - 2,4,6 months

HepB - birth

IPV - 2 months

MMR - 12 months

MR - >=2 years

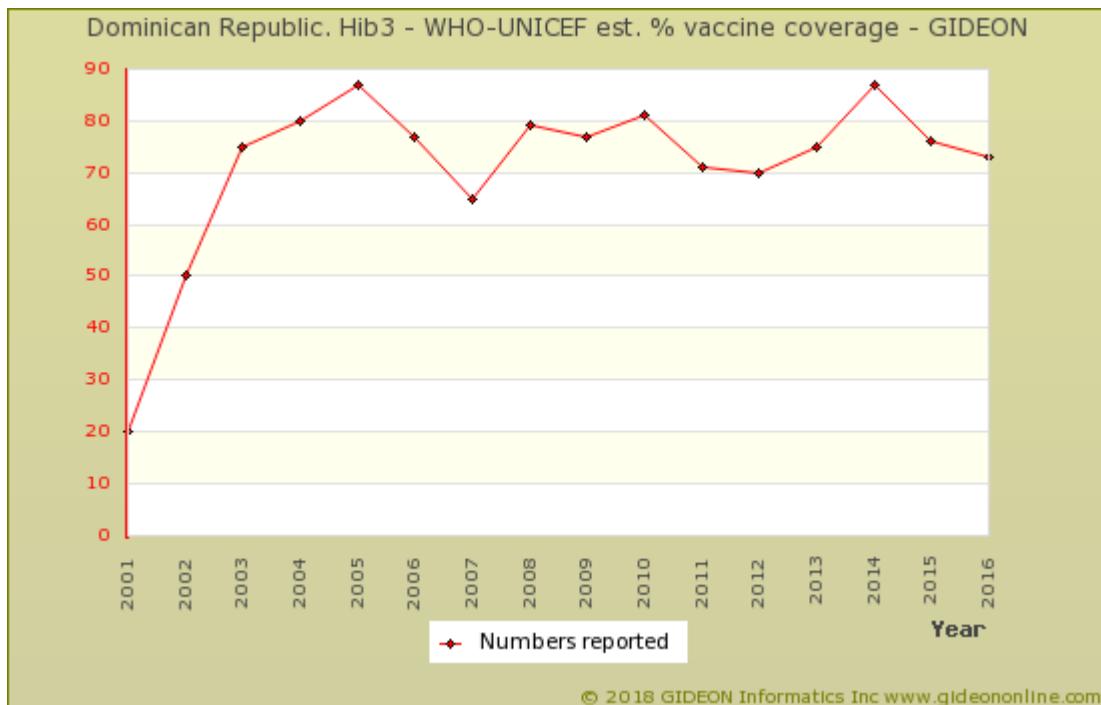
OPV - 2,4,6,18 months; 5 years

Pneumo conj - 2,4,12 months

Rotavirus - 2,4 months

Td - 1st contact; +4-6 weeks; +6 months; +1, +1 year; every 10 years

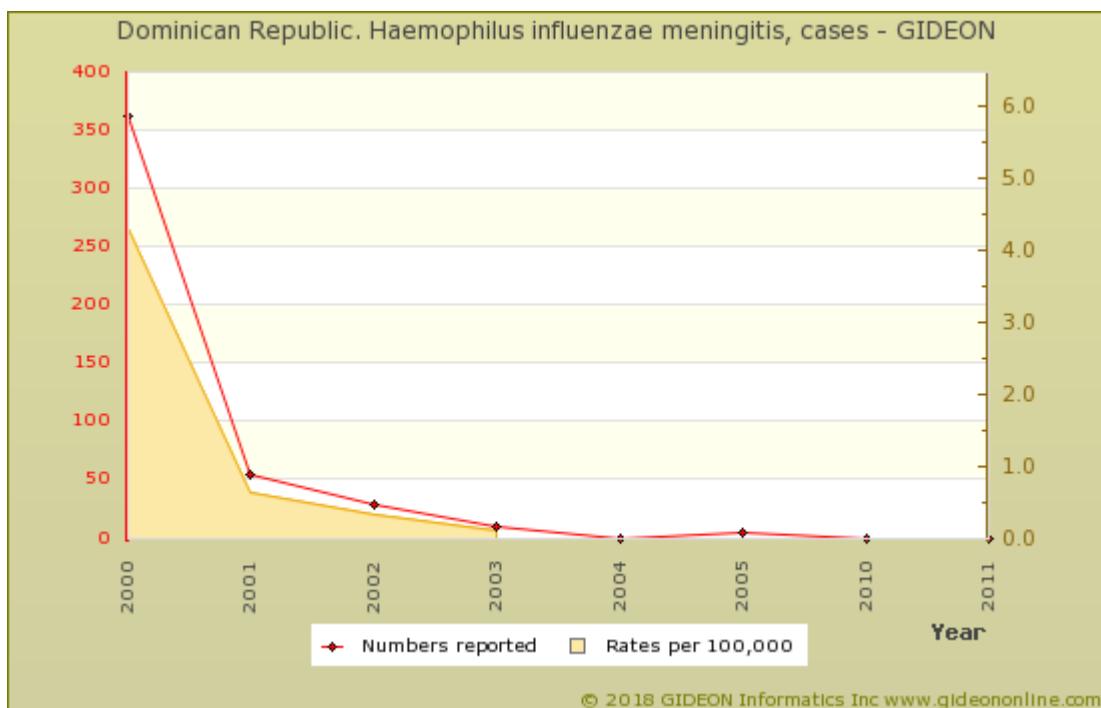
Routine Hib vaccination was introduced in 2001.



Graph: Dominican Republic. Hib3 - WHO-UNICEF est. % vaccine coverage

Prior to introduction of vaccination, Hib accounted for 60% of bacterial meningitis cases; decreasing to 26% in the vaccine era (2002 to 2004) .

- 7.7% of children ages 0 to 47 months carry Hib (1998 publication). ²



Graph: Dominican Republic. *Haemophilus influenzae* meningitis, cases

References

1. ProMED <promedmail.org> archive: 19970510.0965
2. Pediatr Infect Dis J 1998 Sep ;17(9):782-6.

Microsporidiosis

Agent	FUNGUS. Microsporidia: Enterocytozoon, <i>Encephalitozoon (Septata)</i> , <i>Vittaforma (Nosema)</i> , <i>Pleistophora</i> , <i>Trachipleistophora</i> , et al.
Reservoir	Rabbit, Rodent, Carnivore, Non-human primate, Fish, Dog, Bird
Vector	None
Vehicle	Fecal-oral
Incubation Period	Unknown
Diagnostic Tests	Microscopy of duodenal aspirates. Inform laboratory if this organism is suspected. Nucleic acid amplification.
Typical Adult Therapy	Albendazole 400 mg PO BID X 3 weeks. Add Fumagillin for ocular <i>S. intestinalis</i> may respond to Albendazole and Fumagillin Nitazoxanide has been used for <i>E. bieneusi</i> .
Typical Pediatric Therapy	Albendazole 200 mg PO BID X 3 weeks. Add Fumagillin for ocular <i>S. intestinalis</i> may respond to Albendazole and Fumagillin Nitazoxanide has been used for <i>E. bieneusi</i> .
Clinical Hints	- Self-limited diarrhea, traveler's diarrhea or asymptomatic carriage - Immunocompromised patients present with chronic diarrhea, cholangitis, cholecystitis, sinusitis or pneumonia - Ocular microsporidiosis is associated with keratoconjunctivitis - Hepatitis or myositis are reported in some cases
Synonyms	Anncaliia, Brachiola, Encephalitozoon, Enterocytozoon, Microsporidium, Nosema, Pleistophora, Trachipleistophora, Tubulinosema, Vittaforma. ICD9: 136.8 ICD10: A07.8

Molluscum contagiosum

Agent	VIRUS - DNA. Poxviridae. Molluscipoxvirus. Molluscum contagiosum virus
Reservoir	Human
Vector	None
Vehicle	Contact, Sexual contact, Vertical transmission
Incubation Period	2-7 w (range 14 to 180d)
Diagnostic Tests	Histology of excised material. Nucleic acid amplification
Typical Adult Therapy	Topical therapy; excision
Typical Pediatric Therapy	As for adult
Clinical Hints	- One or more raised, flesh-colored skin lesions with depressed center - Lesions persist for 6 to 12 weeks - Disseminated and indolent forms encountered, particularly in immune-suppressed patients
Synonyms	Water warts. ICD9: 078.0 ICD10: B08.1

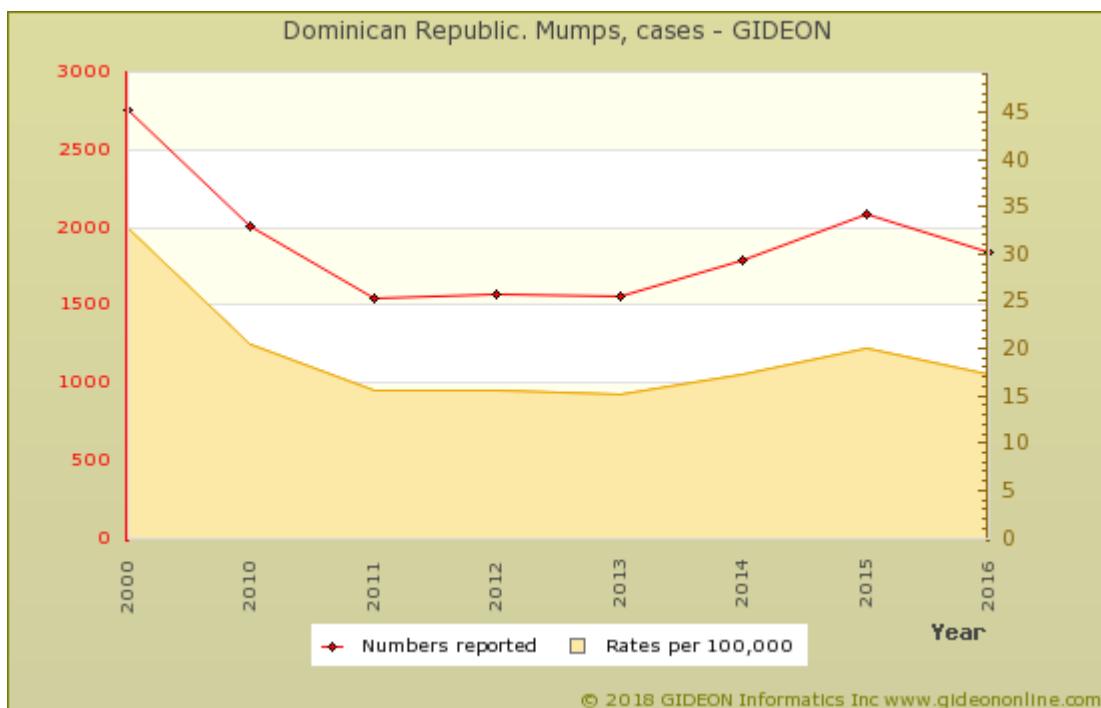
Mumps

Agent	VIRUS - RNA. Mononegavirales Paramyxoviridae, Paramyxovirinae, Rubulavirus: Mumps virus
Reservoir	Human
Vector	None
Vehicle	Aerosol, Respiratory or pharyngeal acquisition
Incubation Period	14d - 24d (range 12d - 24d)
Diagnostic Tests	Viral culture (saliva, urine, CSF) indicated only in complicated cases. Serology. Nucleic acid amplification.
Typical Adult Therapy	Respiratory isolation; supportive
Typical Pediatric Therapy	As for adult
Vaccines	Measles-Mumps-Rubella vaccine Mumps vaccine Rubella - Mumps vaccine
Clinical Hints	- Fever and parotitis - Orchitis (20% of post-pubertal males) - Meningitis (clinically apparent in 1% to 10%) - Oophoritis, or encephalitis (0.1%) - Most cases resolve within 1 to 2 weeks
Synonyms	Bof, Epidemic parotitis, Fiebre urliana, Infectious parotitis, Kusma, Oreillons, Paperas, Parotidite epidemica, Parotiditis, Parotide epidemica, Passjuka. ICD9: 072 ICD10: B26

Mumps in the Dominican Republic

Vaccine Schedule:

BCG - birth
 DTwP - 2,4,6,18 months; 5, 10 years
 DTwPHibHepB - 2,4,6 months
 HepB - birth
 IPV - 2 months
 MMR - 12 months
 MR - >=2 years
 OPV - 2,4,6,18 months; 5 years
 Pneumo conj - 2,4,12 months
 Rotavirus - 2,4 months
 Td - 1st contact; +4-6 weeks; +6 months; +1, +1 year; every 10 years



Graph: Dominican Republic. Mumps, cases

Myalgic encephalomyelitis

Agent	UNKNOWN
Reservoir	Unknown
Vector	None
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Clinical diagnosis; ie, discount other diseases.
Typical Adult Therapy	Supportive; ? immune modulators (experimental)
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Unexplained depression, fatigue, cognitive disorders and sleep disturbance- Recurrent bouts of pharyngitis and adenopathy- Rheumatological symptoms and fever persist more than six months
Synonyms	Akureyri disease, Atypical poliomyelitis, Chronic fatigue syndrome, Effort syndrome, Fabricula, Royal Free disease, Systemic exercise intolerance disease, Tapanui disease. ICD9: 780.71 ICD10: G93.3

Mycetoma

Agent	BACTERIUM OR FUNGUS. <i>Nocardia</i> spp, <i>Madurella mycetomatis</i> , <i>Actinomadura pellitieri</i> , <i>Streptomyces somaliensis</i> , et al
Reservoir	Soil, Vegetation
Vector	None
Vehicle	Contact, Wound, Soil
Incubation Period	2w - 2y
Diagnostic Tests	Bacterial and fungal culture of material from lesion.
Typical Adult Therapy	Antimicrobial or antifungal agent as determined by culture. Excision as indicated
Typical Pediatric Therapy	As for adult
Clinical Hints	- Most patients are males age 20 to 40 (ie, occupational exposure) - Painless, chronic, draining, fistulous subcutaneous nodule - usually involving lower extremity - Osteolytic lesions may be noted on x-ray - Usually no fever
Synonyms	Coelomycetes, Curvularia lunata, Cyphellophora, Diaporthe, Emarella, Fusarium subglutinans, Gloniopsis, Lasiodiplodia, Leptosphaeria tompkinsii, Madura foot, Madura-Fuss, Madurella, Medicopsis, Mycetom, Paraconiothyrium, Peyronellaea, Pleurostomophora, White grain eumycetoma. ICD9: 039.4,117.4 ICD10: B47

Mycobacteriosis - M. marinum

Agent	BACTERIUM. Actinomycetes, <i>Mycobacterium marinum</i> An aerobic acid-fast bacillus
Reservoir	Fresh and salt water (swimming pools, aquaria), Fish (ornamental, salmon, sturgeon, bass)
Vector	None
Vehicle	Water (per areas of minor skin trauma), Contact
Incubation Period	5d - 270d (median 21d)
Diagnostic Tests	Mycobacterial culture from lesion. Alert laboratory when this organism is suspected.
Typical Adult Therapy	Clarithromycin 500 mg BID X 3m Or Rifampicin 600 mg/day + Ethambutol 20 mg/kg/day X 6w. OR Minocycline 100 mg /day X 3m
Typical Pediatric Therapy	Sulfamethoxazole / Trimethoprim 5 mg-25 mg/kg BID X 6w. Alternative Minocycline (Age >= 8)
Clinical Hints	- Onset weeks after exposure to swimming pool, aquarium, other water source - Violaceous papule, ulcer, plaque, psoriaform lesion - Commonly involves the elbow, knee, hand or foot
Synonyms	Aquarium granuloma, Fish fanciers' finger syndrome, Fish tank granuloma, Mariner's TB, <i>Mycobacterium balnei</i> , <i>Mycobacterium marinum</i> , <i>Mycobacterium scrofulaceum</i> , Spam, Swimming pool granuloma. ICD9: 031.1 ICD10: A31.1

Mycobacteriosis - M. scrofulaceum

Agent	BACTERIUM. Actinomycetes, <i>Mycobacterium scrofulaceum</i> An aerobic acid-fast bacillus
Reservoir	Water (lakes, rivers), Soil, Raw milk, Plant material
Vector	None
Vehicle	Water, Soil, Areas of minor trauma, Contact
Incubation Period	Unknown
Diagnostic Tests	Culture of tissue or aspirates.
Typical Adult Therapy	Excision. Drugs (Isoniazid - Rifampin - streptomycin - Cycloserine) are rarely indicated
Typical Pediatric Therapy	As for adult
Clinical Hints	- Most common during early childhood. - Painless lymphadenopathy, most commonly unilateral and submandibular - In contrast, true tuberculosis involves the lower neck and produces a strongly positive tuberculin reaction and/or suggestive chest X ray
Synonyms	

Mycobacteriosis - miscellaneous nontuberculous

Agent	BACTERIUM. Actinomycetes, <i>Mycobacterium</i> spp. - over 130 species as of 2016 An aerobic acid-fast bacillus
Reservoir	Water, Soil, Fish, Mammal, Bird
Vector	None
Vehicle	Air, Water, Milk (<i>M. bovis</i>), Contact, Ingestion, Trauma, Respiratory or pharyngeal acquisition
Incubation Period	Variable
Diagnostic Tests	Microscopy & culture of tissue, secretions, blood. Nucleic acid amplification. Inform laboratory if suspected
Typical Adult Therapy	Drug, route and duration appropriate to clinical setting and species (in Therapy module, scroll through upper left box)
Typical Pediatric Therapy	As for adult
Clinical Hints	- Pneumonia, or chronic granulomatous infection of various tissues - Systemic disease may complicate immune suppression - <i>Mycobacterium avium-intracellulare</i> infection characterized by aggressive course and resistance to most antimycobacterial drugs
Synonyms	<i>Mycobacterium abscessus</i> , <i>Mycobacterium avium</i> , <i>Mycobacterium avium-intracellulare</i> , <i>Mycobacterium chimaera</i> , <i>Mycobacterium franklinii</i> , <i>Mycobacterium immunogenum</i> , <i>Mycobacterium jacussii</i> , <i>Mycobacterium kyorinense</i> , <i>Mycobacterium xenopi</i> , <i>Segniliparus</i> . ICD9: 031.9,031.2 ICD10: A31.0,A31.1,A31.8

Mycobacteriosis - miscellaneous nontuberculous in the Dominican Republic

Cross-border events

Does not include individual case reports

Years	Acquired by**	Originated in**	Setting	Cases	Notes
2004	United States	Dominican Republic	medical tourism	12	An outbreak (12 cases) of <i>M. abscessus</i> infection were diagnosed among Americans who had visited various clinics in the Dominican Republic for cosmetic surgery 1 2 3
2013 to 2014	United States	Dominican Republic	medical tourism	21	An outbreak (21 cases) wound infection was reported among Americans who had traveled to the Dominican Republic for cosmetic surgery - including 12 due to <i>Mycobacterium abscessus</i> and 2 <i>Mycobacterium fortuitum</i> 4 5 6
2017	United States	Dominican Republic	medical tourism	10	Outbreak of <i>Mycobacterium abscessus/cheloneae</i> infections among Americans followed plastic surgery procedures performed at a clinic in the Dominican Republic - 8 cases in New York City and 2 in Connecticut 7

** Country or Nationality

Notable outbreaks

Years	Region	Setting	Cases	Clinical	Source	Pathogen	Notes
2003	Santo Domingo	medical facility	6	wound infection	liposuction	<i>Mycobacterium abscessus</i>	Outbreak among patients who had undergone liposuction at a clinic 8
2004	Santo Domingo		12		cosmetic surgery	<i>Mycobacterium abscessus</i>	Outbreak among Americans who had visited various clinics in Santo Domingo for cosmetic surgery 9 10 11
2012 - 2014			7		cosmetic surgery	multiple pathogens	women. Outbreak of <i>Mycobacterium abscessus</i> , <i>Mycobacterium</i> sp. and <i>Mycobacterium conceptionense</i> infections among Swiss women following cosmetic surgery in the Dominican Republic, Ecuador and Mexico 12

Years	Region	Setting	Cases	Clinical	Source	Pathogen	Notes
2013 - 2014			19		cosmetic surgery	multiple pathogens	Outbreak among Americans who traveled to the Dominican Republic for cosmetic surgery - including 12 due to <i>Mycobacterium abscessus</i> and 2 <i>Mycobacterium fortuitum</i> 13 14 15
2017			10	wound infection	surgery	<i>Mycobacterium abscessus/chelonae</i>	Outbreak among Americans followed plastic surgery procedures performed at a clinic in the Dominican Republic 16

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3. Clin Infect Dis 2008 Apr 15;46(8):1181-8.
4. MMWR Morb Mortal Wkly Rep 2014 Mar 07;63(9):201-2.
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Mycoplasma (miscellaneous) infection

Agent	BACTERIUM. Mycoplasmatales <i>Mycoplasma genitalium, Mycoplasma hominis, Mycoplasma fermentans, Mycoplasma penetrans, Mycoplasma parvum, Ureaplasma urealyticum</i>
Reservoir	Human
Vector	None
Vehicle	Secretion, Sexual contact, Respiratory or pharyngeal acquisition
Incubation Period	Unknown
Diagnostic Tests	Culture (urine, pharynx). Serology. Nucleic acid amplification.
Typical Adult Therapy	Doxycycline 100 mg PO BID X 7 days OR Azithromycin 500 g PO, then 250 mg PO X 4 days OR Levofloxacin 500 mg daily X 7 days OR Ofloxacin 300 mg BID X 7 days
Typical Pediatric Therapy	Erythromycin 10 mg/kg PO QID X 2w
Clinical Hints	- Urethritis, vaginitis - Neonatal pneumonia - Rarely stillbirth, prematurity or infertility
Synonyms	Acholeplasma laidlawii, Epirythrozoon, Hemotrophic Mycoplasma, Mycoplasma amphoriforme, Mycoplasma buccale, Mycoplasma faecium, Mycoplasma felis, Mycoplasma fermentans, Mycoplasma genitalium, Mycoplasma hominis, Mycoplasma lipophilum, Mycoplasma oralis, Mycoplasma penetrans, Mycoplasma pirum, Mycoplasma primitum, Mycoplasma salivarium, Mycoplasma spermophilum, T Mycoplasmas, T strains, Ureaplasma parvum, Ureaplasma urealyticum. ICD9: 041.81 ICD10: A49.3

Mycoplasma pneumoniae infection

Agent	BACTERIUM. Mollicutes. <i>Mycoplasma pneumoniae</i>
Reservoir	Human
Vector	None
Vehicle	Droplet, Respiratory or pharyngeal acquisition
Incubation Period	6d - 23d
Diagnostic Tests	Culture (sputum, throat). Serology. Nucleic acid amplification.
Typical Adult Therapy	Erythromycin 500 mg PO BID X 2w. OR Azithromycin 1 g, followed by 500 mg PO daily X 5 days. OR Doxycycline 100 mg PO BID OR Levofloxacin 750 mg PO X 5d
Typical Pediatric Therapy	Azithromycin 10 mg/kg PO day 1; 5 mg/kg PO days 2 to 5 OR Erythromycin 10 mg/kg PO QID X 2w
Clinical Hints	- Coryza, "hacking" cough and subsegmental pulmonary infiltrate - Bullous otitis media is often present - Most patients below age 30 - Cold agglutinins neither sensitive nor specific, and appear only during second week
Synonyms	Mycoplasma pneumoniae, Primary atypical pneumonia. ICD9: 041.81,483.0 ICD10: B96.0

Myiasis

Agent	PARASITE - Insecta (Diptera) larvae
Reservoir	Mammal
Vector	Arthropod
Vehicle	Fly eggs deposited by biting arthropod
Incubation Period	1w - 3m
Diagnostic Tests	Identification of extracted maggot.
Typical Adult Therapy	Removal of maggot
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Fly larvae seen in various body regions- Pruritic or painful draining nodule- Fever and eosinophilia may be present- Instances of brain, eye, middle ear and other deep infestations are described.
Synonyms	Calliphora, Chrysomya, Chrysomyia, Clogmia, Cochliomyia, Cordylobia, Cuterebrosis, Dermatobia, Eristalis, Fannia, Furuncular myiasis, Gasterophilus, Hypoderma, Lucilia, Lund's fly, Maggot infestation, Megaselia, Musca, Muscina, Oedemagena, Oestrus, Ophthalmomyiasis, Parasarcophaga, Psychoda, Rectal myiasis, Sarcophaga, Screw worm, Telmatoscopus, Telmatoscopus, Urinary myiasis, Vaginal myiasis, Wohlfarthia. ICD9: 134.0 ICD10: B87

Necrotizing skin/soft tissue infx.

Agent	BACTERIUM. <i>Streptococcus pyogenes</i> , <i>Clostridium perfringens</i> , mixed anaerobic and/or gram-negative bacilli
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Clinical features. Smear and culture (including anaerobic culture) of exudate.
Typical Adult Therapy	Debridement and parenteral antibiotics directed by smear and culture results. Hyperbaric oxygen in more severe infections
Typical Pediatric Therapy	As for adult
Clinical Hints	- At least seven distinct syndromes are described - Local pain and swelling, skin discoloration or edema - Gas formation, foul odor and variable degrees of systemic toxicity
Synonyms	Anaerobic cellulitis, Chancre oris, Clostridial cellulitis, <i>Clostridium novyi</i> , Fasciitis, Fournier's gangrene, Gangrenous cellulitis, Gangrenous stomatitis, Invasive group A strep. Infections, Meleney's synergistic gangrene, Necrotizing fasciitis, Noma, Streptococcal fasciitis, Synergistic necrotizing cellulitis. ICD9: 686.8,528.1 ICD10: M72.6,A69.0

Neutropenic typhlitis

Agent	BACTERIUM. <i>Clostridium septicum</i> (occasionally <i>Clostridium tertium</i> , <i>Clostridium sporogenes</i> , <i>Clostridium sordellii</i> or <i>Clostridium perfringens</i>)
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Unknown
Diagnostic Tests	Typical findings in the setting of neutropenia. Ultrasonography may be helpful.
Typical Adult Therapy	Broad spectrum antimicrobial coverage, which should include clostridia and <i>Pseudomonas aeruginosa</i> ; ie <i>Piperacillin / Tazobactam</i> (or <i>Imipenem</i> or <i>Meropenem</i>) OR <i>Cefepime + Metronidazole</i> Role of surgery is controversial
Typical Pediatric Therapy	As for adult
Clinical Hints	- Condition affects neutropenic (leukemic, genetic, etc) patients - Fever, abdominal pain, diarrhea (occasionally bloody) and right lower quadrant signs - Infection may spread hematogenously to the extremities - Case-fatality rate is 50% to 75%
Synonyms	Neutropenic enterocolitis. ICD9: 540.0 ICD10: A04.8

Nocardiosis

Agent	BACTERIUM. Actinomycetes, <i>Nocardia</i> spp. An aerobic gram positive bacillus (acid-fast using special technique)
Reservoir	Soil
Vector	None
Vehicle	Air, Dust, Wound, Contact, Respiratory or pharyngeal acquisition
Incubation Period	Days to weeks
Diagnostic Tests	Culture and gram stain of exudates, sputa, tissue specimens. Advise laboratory when <i>Nocardia</i> suspected.
Typical Adult Therapy	Lymphadenitis or skin / soft tissue: Sulfamethoxazole / Trimethoprim OR Minocycline Pneumonia: Sulfamethoxazole / Trimethoprim + Imipenem ; OR Imipenem + Amikacin Brain abscess: Sulfamethoxazole / Trimethoprim + Imipenem ; OR Linezolid + Meropenem
Typical Pediatric Therapy	As for adult
Clinical Hints	- Pneumonia, lung abscess, brain abscess, or other chronic suppurative infection - Often occurs in the setting of immune suppression.
Synonyms	<i>Nocardia</i> , Nocardiose. ICD9: 039 ICD10: A43

Onchocerciasis - zoonotic

Agent	PARASITE - Nematoda. Secernentea: <i>Onchocerca lupi</i> , et. al.
Reservoir	Cattle, Horse, Deer, Boar, Dog, Wolf
Vector	Black fly (<i>Simulium</i> spp.)
Vehicle	None
Incubation Period	Unknown
Diagnostic Tests	Ideentification of excised worm
Typical Adult Therapy	Excision
Typical Pediatric Therapy	As of adult
Clinical Hints	- May be history of animal contact - Subcutaneous or subconjunctival nodule, or eye-worm
Synonyms	Dipetalonema arbuta, Dipetalonema splenti, Onchocerca cervicalis, Onchocerca dewittei, Onchocerca guttrosa, Onchocerca jakutensis, Onchocerca lupi, Onchocerca reticulata, Pelecitus. ICD9: 123.8 ICD10: B71.1.

Orbital and eye infection

Agent	BACTERIUM OR FUNGUS. <i>Streptococcus pyogenes</i> , oral anaerobes, <i>Aspergillus</i> spp., facultative gram-negative bacilli, et al
Reservoir	Endogenous, Introduced flora (trauma, surgery)
Vector	None
Vehicle	Trauma, Surgery, Contiguous (sinusitis), Hematogenous
Incubation Period	Variable
Diagnostic Tests	Imaging techniques (CT or MRI). Culture of aspirates or surgical material.
Typical Adult Therapy	Local and systemic antimicrobial agents appropriate for species and severity
Typical Pediatric Therapy	As for adult
Clinical Hints	- Proptosis, chemosis, extraocular palsy, or hypopyon - Associated with sinusitis, bacteremia, eye trauma or surgery - Infection may involve the eye (endophthalmitis); periosteum (periorbital infection); orbit (orbital cellulitis); or multiple structures (panophthalmitis).
Synonyms	Bacterial keratitis, Ceratite, Cheratite, Endophthalmitis, Eye infection, Keratite, Keratitis, Orbital infection, Panophthalmitis, Queratitis. ICD9: 360.0 ICD10: H05.0

Orbital and eye infection in the Dominican Republic

Notable outbreaks

Years	Cases	Clinical	Notes
1993*		conjunctivitis - acute hemorrhagic	1
2008	45,000	conjunctivitis	2

* indicates publication year (not necessarily year of outbreak)

References

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Orf

Agent	VIRUS - DNA. Poxviridae, Parapoxvirus: Orf virus
Reservoir	Sheep, Goat, Reindeer, Musk ox
Vector	None
Vehicle	Contact, Secretions, Fomite, Cat-scratch
Incubation Period	3d - 6d (range 2d - 7d)
Diagnostic Tests	Viral culture (skin lesion or exudate). Serology. Nucleic acid amplification. Biosafety level 3.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Skin pustule or ulcer following contact with sheep or goats - Most lesions are limited to finger or hand - Heals without scarring within 6 weeks
Synonyms	Contagious ecthyma, Contagious pustular dermatitis, Ecthyma contagiosum, Ovine pustular dermatitis, Scabby mouth. ICD9: 078.89 ICD10: B08.0

Ornithosis

Agent	BACTERIUM. Chlamydiaceae, Chlamydiae , <i>Chlamydophila (Chlamydia) psittaci</i>
Reservoir	Parakeet, Parrot, Pigeon, Turkey, Duck, Cat, Sheep, Goat, Cattle, Dog
Vector	None
Vehicle	Bird droppings, Dust, Air, Aerosol from cat, Respiratory or pharyngeal acquisition
Incubation Period	7d - 14d (range 4d - 28d)
Diagnostic Tests	Serology. Culture (available in special laboratories) rarely indicated.
Typical Adult Therapy	Doxycycline 100 mg PO BID X 10d. Alternatives: Azithromycin 1 g, then 0.5 g daily X 4 days. Clarithromycin 0.5 g BID Erythromycin 500 mg PO QID X 10d. Levofloxacin 750 mg PO X 7 days
Typical Pediatric Therapy	Azithromycin 10 mg/kg PO day 1; 5 mg/kg PO days 2 to 5 OR Erythromycin 10 mg/kg QID X 10d Alternative (Age >=8 years): Doxycycline 100 mg PO BID X 10d.
Clinical Hints	- Headache, myalgia and pneumonia - Relative bradycardia is common - Hepatomegaly or splenomegaly common - Onset 1 to 4 weeks following contact with pigeons, psittacine birds or domestic fowl - Case-fatality rate without treatment is 20%
Synonyms	Chlamydophila abortus, Chlamydophila psittaci, Ornitose, Papegojsjuka, Parrot fever, Psitacosis, Psittacosis, Psittakose. ICD9: 073 ICD10: A70

Osteomyelitis

Agent	BACTERIUM OR FUNGUS. <i>Staphylococcus aureus</i> , facultative gram-negative bacilli, <i>Candida albicans</i> , etc
Reservoir	Endogenous
Vector	None
Vehicle	Trauma, Surgery, Hematogenous
Incubation Period	Variable
Diagnostic Tests	Radiography, including bone scan. Culture of biopsy material.
Typical Adult Therapy	Systemic antimicrobial agent(s) appropriate to known or suspected pathogen. Surgery as indicated
Typical Pediatric Therapy	As for adult
Clinical Hints	- Limb pain or gait disturbance, often associated with obscure fever - May be preceded by infection of skin, soft tissues or joint; or result from bacteremia - X-ray changes are not apparent for at least 10 days in acute infection
Synonyms	Osteomielite, Osteomyelitis, Osteomyelite, Paravertebral abscess. ICD9: 015,730.9 ICD10: M86

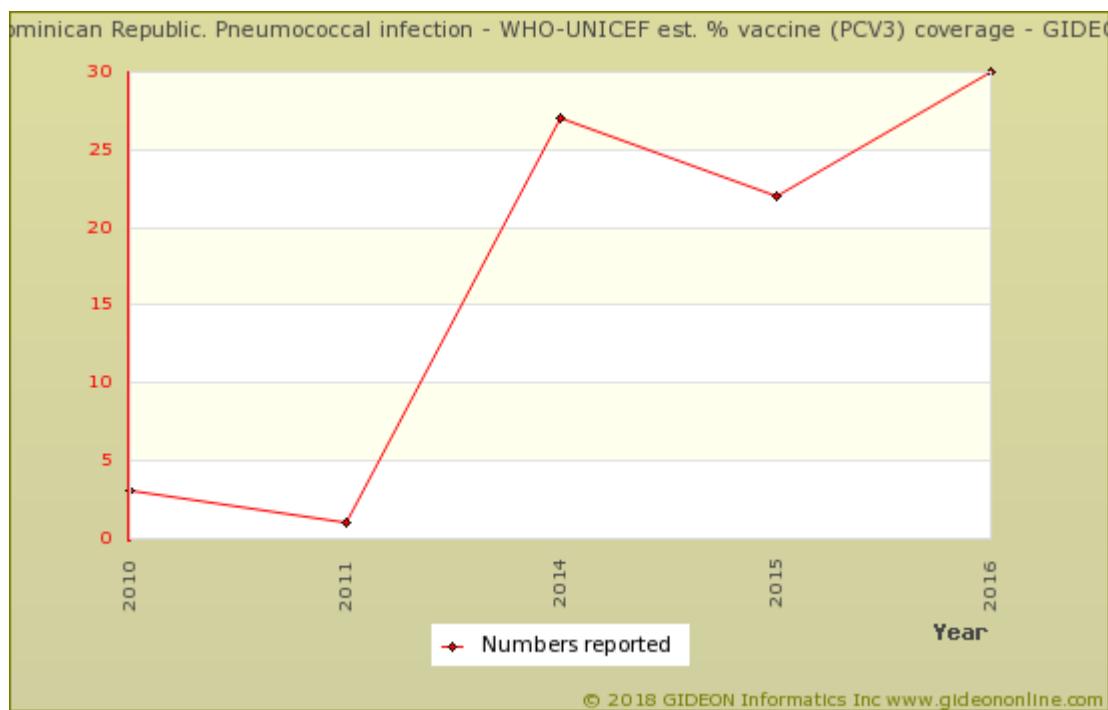
Otitis media

Agent	BACTERIUM OR VIRUS. <i>Haemophilus influenzae</i> & <i>Streptococcus pneumoniae</i> in most acute cases; RSV, Parainfluenza, et al
Reservoir	Human
Vector	None
Vehicle	None
Incubation Period	Variable
Diagnostic Tests	Clinical findings. Culture of middle ear fluid if available.
Typical Adult Therapy	If evidence of bacterial infection (severe otalgia >48 hours / fever >39 C): Amoxicillin / Clavulanate 1000/62.5 mg BID X 3 days Alternatives: Cefdinir , Cefpodoxime proxtil, Cefprozin, fluoroquinolone
Typical Pediatric Therapy	If evidence of bacterial infection (severe otalgia >48 hours / fever >39 C): Amoxicillin / Clavulanate 45/3.2 mg/kg BID X 3 days
Vaccine	Pneumococcal conjugate vaccine
Clinical Hints	- Acute bacterial otitis media often represents the final stage in a complex of anatomic, allergic or viral disorders of the upper airways - Recurrent or resistant infections may require surgical intervention.
Synonyms	Otitis media aguda. ICD9: 382.0 ICD10: H65,H66

Otitis media in the Dominican Republic

Vaccine Schedule:

BCG - birth
 DTwP - 2,4,6,18 months; 5, 10 years
 DTwPHibHepB - 2,4,6 months
 HepB - birth
 IPV - 2 months
 MMR - 12 months
 MR - >=2 years
 OPV - 2,4,6,18 months; 5 years
 Pneumo conj - 2,4,12 months
 Rotavirus - 2,4 months
 Td - 1st contact; +4-6 weeks; +6 months; +1, +1 year; every 10 years



Graph: Dominican Republic. Pneumococcal infection - WHO-UNICEF est. % vaccine (PCV3) coverage

Parainfluenza virus infection

Agent	VIRUS - RNA. Paramyxoviridae: Respirovirus - Human Parainfluenza virus 1 and 3. Rubulavirus - Human Parainfluenza virus 2 and 4.
Reservoir	Human
Vector	None
Vehicle	Droplet, Respiratory or pharyngeal acquisition
Incubation Period	3d - 8d
Diagnostic Tests	Viral culture (respiratory secretions). Serology. Nucleic acid amplification.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Upper respiratory infection - often croup or laryngitis - Most common during infancy - Older children develop a "cold-like" illness - Complicated by pneumonia in 7% to 17% of cases
Synonyms	Parainfluenza, Sendai. ICD9: 078.89,480.2 ICD10: J12.2

Parvovirus B19 infection

Agent	VIRUS - DNA. Parvoviridae, Parvovirinae: Erythrovirus B19
Reservoir	Human
Vector	None
Vehicle	Droplet, Breastfeeding, Respiratory or pharyngeal acquisition
Incubation Period	4d - 14d (range 3d - 21d)
Diagnostic Tests	Serology. Nucleic acid amplification (testing should be reserved for the rare instance of complicated infection).
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Erythema infectiosum (erythema of cheeks; lacelike or morbilliform rash on extremities) - Febrile polyarthralgia - Bone marrow aplasia/hypoplasia may be present
Synonyms	Duke's disease, Erythema infantum febrile, Erythema infectiosum, Erythema simplex marginatum, Erythrovirus B19, Erythrovirus B19, Fifth disease, Fourth disease, Funfte Krankheit, Parascarlatina, Parvovirus 4, Parvovirus B19, Sticker's disease. ICD9: 057.0 ICD10: B08.3

Pediculosis

Agent	PARASITE - Insecta. Anoplura: <i>Pediculus humanus</i> , <i>Phthirus pubis</i> .
Reservoir	Human
Vector	Louse
Vehicle	Contact
Incubation Period	7d
Diagnostic Tests	Identification of adults and "nits."
Typical Adult Therapy	Permethrin 1%; or malathion 0.5%; or lindane OR Ivermectin 200 mcg/kg PO
Typical Pediatric Therapy	Permethrin 1%; or malathion 0.5%; or lindane OR Ivermectin 200 mcg/kg PO (> 15 kg body weight)
Clinical Hints	- Pruritus in the setting of poor personal hygiene - Adult insects or nits may be visible - Body louse (rarely the head louse) transmits such diseases as epidemic typhus, trench fever and relapsing fever
Synonyms	Crab louse, Lausebefall, Pediculose, <i>Pediculus capitus</i> , <i>Pediculus corporis</i> , Pedikulose, <i>Phthirus pubis</i> , Pidocci. ICD9: 132 ICD10: B85

Pentastomiasis - Linguatula

Agent	PARASITE - Pentastomid worm. <i>Linguatula serrata</i>
Reservoir	Herbivore
Vector	None
Vehicle	Meat (liver or lymph nodes of sheep/goat)
Incubation Period	Unknown
Diagnostic Tests	Identification of larvae in nasal discharge.
Typical Adult Therapy	No specific therapy available
Typical Pediatric Therapy	As for adult
Clinical Hints	- May follow ingestion of undercooked liver. - Pharyngeal or otic itching - Cough, rhinitis or nasopharyngitis
Synonyms	Linguatula, Marrara syndrome. ICD9: 128.8 ICD10: B83.8

Pericarditis - bacterial

Agent	BACTERIUM. <i>Streptococcus pneumoniae</i> , <i>Staphylococcus aureus</i> , et al
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Ultrasonography and cardiac imaging techniques. Culture of pericardial fluid (include mycobacterial culture).
Typical Adult Therapy	Antimicrobial agent(s) appropriate to known or anticipated pathogen. Drainage as indicated
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fever, chest pain and dyspnea - Patients are acutely ill and have overt signs such as venous distention - Enlarged cardiac "shadow" - Concurrent pneumonia or upper respiratory infection may be present - Case-fatality rate is 20%
Synonyms	Bacterial pericarditis, Pericardite. ICD9: 074.23,074.2,115.03,420 ICD10: I30

Perinephric abscess

Agent	BACTERIUM OR FUNGUS. <i>Escherichia coli</i> , other facultative gram negative bacilli, <i>Candida albicans</i> , et al
Reservoir	Human
Vector	None
Vehicle	None
Incubation Period	Variable
Diagnostic Tests	Urine and blood culture. Renal imaging (CT, etc).
Typical Adult Therapy	Antimicrobial agent(s) appropriate to known or anticipated pathogen. Surgery as indicated
Typical Pediatric Therapy	As for adult
Clinical Hints	- Unexplained fever, leukocytosis and flank pain - Patients are typically over age 50, and often diabetic - Consider in the patient with nonresponsive "pyelonephritis" or a renal mass
Synonyms	

Perirectal abscess

Agent	BACTERIUM. Various (often mixed anaerobic and aerobic flora)
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Culture of drainage material.
Typical Adult Therapy	Surgical drainage and antibiotics effective against fecal flora
Typical Pediatric Therapy	As for adult
Clinical Hints	- Anal or perianal pain with fever and a tender mass - Granulocytopenic patients commonly develop small, soft and less overt abscesses - often due to <i>Pseudomonas aeruginosa</i> .
Synonyms	

Peritonitis - bacterial

Agent	BACTERIUM. Various (often mixed anaerobic and aerobic flora)
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Culture of blood and peritoneal fluid. Peritoneal fluid cell count may also be useful.
Typical Adult Therapy	Antimicrobial agent(s) appropriate to known or anticipated pathogens. Surgery as indicated
Typical Pediatric Therapy	As for adult
Clinical Hints	- Abdominal pain and tenderness - Vomiting, absent bowel sounds, guarding and rebound - Diarrhea may be present in children - Underlying visceral infection or perforation, trauma, hepatic cirrhosis (spontaneous peritonitis) etc.
Synonyms	Acute peritonitis, Bacterial peritonitis, Peritonite. ICD9: 567 ICD10: K65

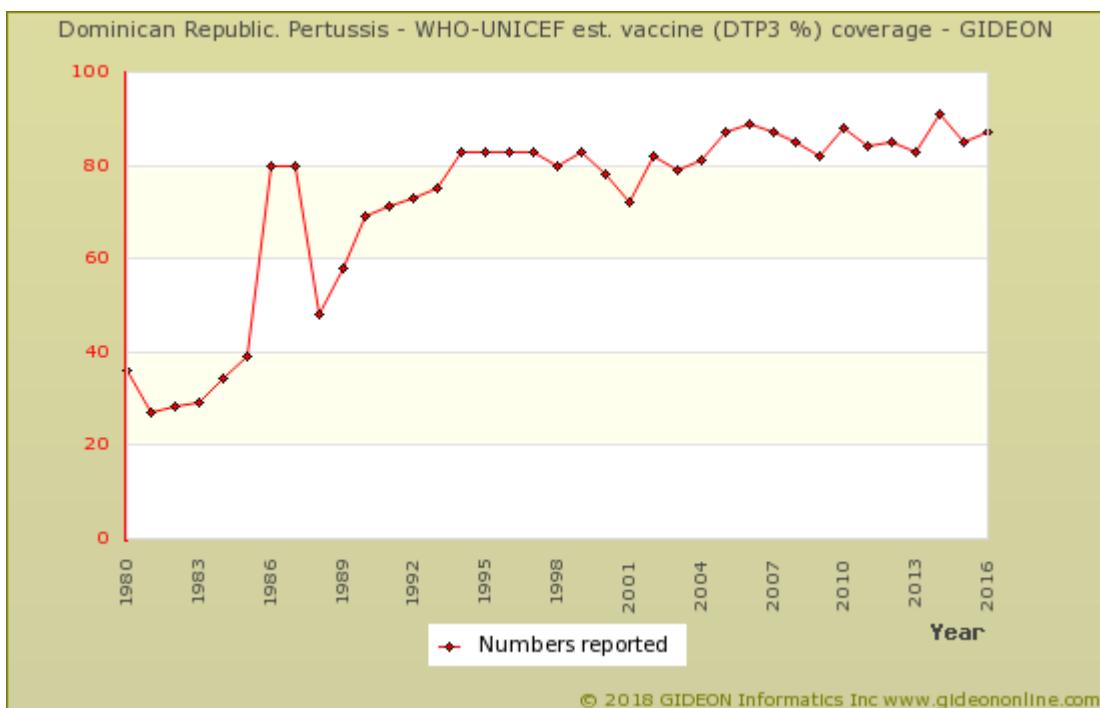
Pertussis

Agent	BACTERIUM. <i>Bordetella pertussis</i> An aerobic gram-negative coccobacillus
Reservoir	Human
Vector	None
Vehicle	Air, Infected secretions, Respiratory or pharyngeal acquisition
Incubation Period	7d - 10d (range 5d - 21d)
Diagnostic Tests	Culture & direct fluorescence (nasopharynx). Alert laboratory when suspected. Serology.
Typical Adult Therapy	Respiratory precautions. <i>Azithromycin</i> 500 mg po X 1, then 250 mg daily X 4 days OR <i>Clarithromycin</i> 500 mg po BID X 7 days OR Sulfamethoxazole / <i>Trimethoprim</i>
Typical Pediatric Therapy	Respiratory precautions: <i>Azithromycin</i> 10mg /kg po daily for 5 days OR <i>Clarithromycin</i> 15/mg/kg BID X 7 days OR Sulfamethoxazole / <i>Trimethoprim</i>
Vaccines	DTaP vaccine DTP vaccine
Clinical Hints	- Coryza, paroxysmal cough - May be associated with pneumonia or otitis - Prominent lymphocytosis - Most often diagnosed in young children, but may present as indolent cough in adults - Epistaxis and subconjunctival hemorrhage often noted - Seizures (below age 2) - Case-fatality rate is 0.5%
Synonyms	<i>Bordetella holmesii</i> , <i>Bordetella parapertussis</i> , <i>Bordetella pertussis</i> , Chincofe, Chyncough, Coqueluche, Keichhusten, Keuchhusten, Kichhosta, Kikhusta, Kikhoste, Kinkhoest, Kinkhost, Kirkhosta, Parapertussis, Pertosse, Syndrome coqueluchoide, Tos convulsa, Tos farina, Tosse convulsa, Tussis convulsa, Whooping cough. ICD9: 033 ICD10: A37

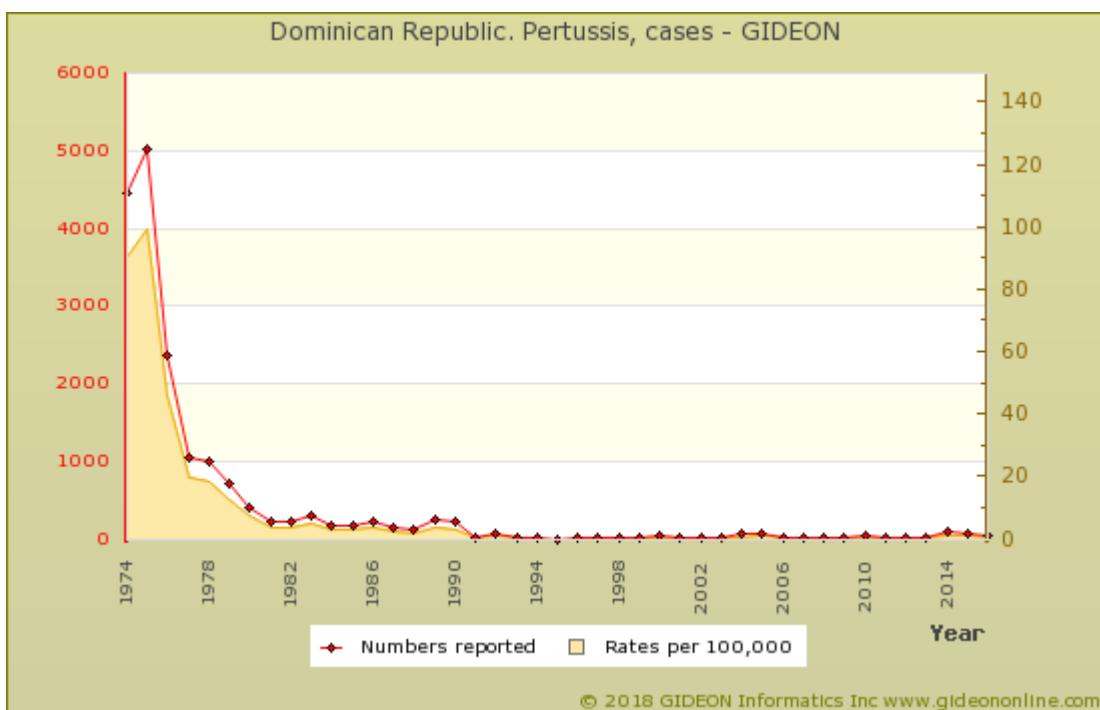
Pertussis in the Dominican Republic

Vaccine Schedule:

BCG - birth
 DTwP - 2,4,6,18 months; 5, 10 years
 DTwPHibHepB - 2,4,6 months
 HepB - birth
 IPV - 2 months
 MMR - 12 months
 MR - >=2 years
 OPV - 2,4,6,18 months; 5 years
 Pneumo conj - 2,4,12 months
 Rotavirus - 2,4 months
 Td - 1st contact; +4-6 weeks; +6 months; +1, +1 year; every 10 years



Graph: Dominican Republic. Pertussis - WHO-UNICEF est. vaccine (DTP3 %) coverage



Graph: Dominican Republic. Pertussis, cases

Pharyngeal and cervical space infx.

Agent	BACTERIUM. <i>Streptococcus pyogenes</i> , mixed oral anaerobes, etc.
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Careful examination of region and X-ray (or CT scan). Smear and culture of pus if available.
Typical Adult Therapy	Surgical drainage and parenteral antibiotics effective against oral flora
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fever, painful swelling and displacement of the tongue, fauces and other intraoral structures - Dysphagia, dyspnea or jugular phlebitis may ensue in more virulent infections
Synonyms	Cervical space infection, Descending necrotizing mediastinitis, Lemmier's syndrome, Ludwig's angina, Post-anginal septicemia, Quinsy. ICD9: 682.0,682.1 ICD10: J36,J39.0,J39.1

Pharyngitis - bacterial

Agent	BACTERIUM. Most often <i>Streptococcus pyogenes</i> ; <i>Streptococcus</i> groups B, C, F and G are occasionally isolated
Reservoir	Human
Vector	None
Vehicle	Droplet, Rarely food, Respiratory or pharyngeal acquisition
Incubation Period	1d - 5d
Diagnostic Tests	Throat swab for culture or antigen detection (group A Streptococcus) ASLO titer may not indicate current infection
Typical Adult Therapy	Penicillin G or Penicillin V or other antistreptococcal antibiotic to maintain serum level for 10 days
Typical Pediatric Therapy	As for adult
Clinical Hints	- Purulent pharyngitis and cervical lymphadenopathy usually indicate streptococcal etiology - Viruses (mononucleosis, Enteroviruses) and other bacteria (gonorrhea, diphtheria) should also be considered
Synonyms	Acute pharyngitis, Bacterial pharyngitis, Mal di gola batterica, Oral thrush, Streptococcal pharyngitis, Tonsillitis - bacterial, Vincent's angina. ICD9: 034.0,462 ICD10: J02,J03

Philophthalmosis

Agent	PARASITE - Platyhelminthes, Trematoda. <i>Philophthalmus gralli</i> , <i>Ph. lucipetus</i> , <i>Ph. lacrimosus</i>
Reservoir	Snail
Vector	None
Vehicle	Aquatic plants
Incubation Period	Unknown Less than 24 hours in birds
Diagnostic Tests	Identification of excised worm
Typical Adult Therapy	Removal of worm
Typical Pediatric Therapy	As for adult
Clinical Hints	- Conjunctivitis and lacrimation - Presence of an adult worm in the conjunctival sac
Synonyms	Oriental avian eye fluke, Oriental eye fluke, Philophthalmus. ICD9: 121.8 ICD10: b66.8

Pinta

Agent	BACTERIUM. <i>Treponema carateum</i> A microaerophilic gram-negative spirochete
Reservoir	Human
Vector	Black fly (<i>Simulium</i>)
Vehicle	Contact
Incubation Period	7d - 21d (range 3d - 60d)
Diagnostic Tests	VDRL & FTA (or MHTP) - as in syphilis.
Typical Adult Therapy	Benzathine Penicillin G 1.2 million units IM as single dose
Typical Pediatric Therapy	Benzathine Penicillin G : Weight <14 kg 300,000u IM Weight 14 to 28kg 600,000u IM Weight >28kg 1.2 million u IM
Clinical Hints	- Acute, pruritic erythematous papules which evolve to chronic, enlarging dyschromic plaques - A generalized papulosquamous rash may be noted later in the illness - Lesions may recur for up to 10 years in some cases
Synonyms	Azul, Carate, Empeines, Mal del pinto, Tina. ICD9: 103 ICD10: A67

Pityriasis rosea

Agent	UNKNOWN. Human herpesvirus 7 has been implicated
Reservoir	Unknown
Vector	Unknown
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Clinical features.
Typical Adult Therapy	Supportive; ultraviolet B exposure is suggested Acyclovir 400 mg PO TID X 7 days has been used in severe cases
Typical Pediatric Therapy	Supportive; ultraviolet B exposure is suggested
Clinical Hints	- Herald patch followed by crops of pruritic, salmon-colored macules and papules - Systemic symptoms are rare - Illness resolves after 3 to 8 weeks
Synonyms	

Plesiomonas infection

Agent	BACTERIUM. <i>Plesiomonas shigelloides</i> A facultative gram-negative bacillus
Reservoir	Fish Animal, Soil, Reptile, Bird
Vector	None
Vehicle	Water, Food
Incubation Period	1d - 2d
Diagnostic Tests	Stool culture - alert laboratory when this organism is suspected. Nucleic acid amplification.
Typical Adult Therapy	Stool precautions. Ciprofloxacin 400 mg IV or 750 mg PO, BID Alternatives: Sulfamethoxazole / Trimethoprim , Amoxicillin / Clavulanate , Ceftriaxone
Typical Pediatric Therapy	Stool precautions. Sulfamethoxazole / Trimethoprim , Amoxicillin / Clavulanate , Ceftriaxone
Clinical Hints	- In many cases, follows ingestion of shellfish or recent travel to developing countries - Fever, abdominal pain, vomiting and severe diarrhea - Symptoms often persist for 2 to 4 weeks
Synonyms	Plesiomonas shigelloides. ICD9: 008.8 ICD10: A04.8

Pleurodynia

Agent	VIRUS - RNA. Picornaviridae: Coxsackievirus
Reservoir	Human
Vector	None
Vehicle	Air, Fecal-oral, Fomite, Respiratory or pharyngeal acquisition
Incubation Period	3d - 5d
Diagnostic Tests	Viral culture (throat, stool). Serology. Nucleic acid amplification.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- A late summer illness in temperate regions - Sore throat followed by pleuritic chest pain - Pain is often recurrent and appears in "waves" - local pressure on affected area may elicit the pain - Usually resolves within one week.
Synonyms	Balme disease, Bamble disease, Bamie disease, Bornholm disease, Devil's grip, Drangedal disease, Epidemic benign dry pleurisy, Epidemic myalgia, Sylvest's disease. ICD9: 074.1 ICD10: B33.0

Pneumocystis pneumonia

Agent	FUNGUS. Ascomycota, Archiascomycetes, Pneumocystidales: <i>Pneumocystis jiroveci</i> (now distinct from <i>Pneumocystis carinii</i>)
Reservoir	Human
Vector	None
Vehicle	Air, Respiratory or pharyngeal acquisition
Incubation Period	4d - 8w
Diagnostic Tests	Identification of organisms in induced sputum, bronchial washings, tissue. Serology. Nucleic acid amplification.
Typical Adult Therapy	Therapy: Sulfamethoxazole / Trimethoprim 25 mg/5 mg/kg QID X 14d. OR Pentamidine 4 mg/kg/d X 14d. OR Dapsone + Trimethoprim . OR Atovaquone OR Primaquine + Clindamycin Prophylaxis - similar, but at altered dosage. Dapsone also used.
Typical Pediatric Therapy	Therapy: Sulfamethoxazole / Trimethoprim 25 mg/5 mg/kg QID X 14d. OR Pentamidine 4 mg/kg/d X 14d. OR Dapsone + Trimethoprim . OR Atovaquone OR Primaquine + Clindamycin Prophylaxis - similar, but at altered dosage.
Clinical Hints	- Dyspnea, hypoxia and interstitial pneumonia - Usually encountered in the setting of severe immune suppression (AIDS, leukemia, etc) - Roentgenographic findings (typically bilateral alveolar pattern) may appear after several days
Synonyms	PCP, <i>Pneumocystis carinii</i> , <i>Pneumocystis jiroveci</i> . ICD9: 136.3 ICD10: B59

Pneumonia - bacterial

Agent	BACTERIUM. <i>Streptococcus pneumoniae</i> , <i>Klebsiella pneumoniae</i> ssp <i>pneumoniae</i> , other aerobic and facultative gram negative bacilli, etc.
Reservoir	Human
Vector	None
Vehicle	Droplet, Endogenous, Respiratory or pharyngeal acquisition
Incubation Period	1d - 3d
Diagnostic Tests	Culture of sputum, blood. Analyze ("grade") sputum cytology to assess significance of culture.
Typical Adult Therapy	Antimicrobial agent(s) appropriate to known or suspected pathogen
Typical Pediatric Therapy	As for adult
Vaccine	Pneumococcal vaccine
Clinical Hints	- Rigors, pleuritic pain, hemoptysis, lobar infiltrate and leukocytosis - Empyema and lung abscess suggest etiology other than pneumococcus - Foul sputum with mixed flora may herald anaerobic (aspiration) pneumonia
Synonyms	Bacterial pneumonia, Empiema, Empyeem, Empyem, Empyeme, Empyeme, Lung abscess, Neumonia, Pleurisy, Pneumococcal infection - invasive, Pneumococcal pneumonia, Polmonite batterica, <i>Streptococcus pneumoniae</i> , <i>Streptococcus pneumoniae</i> - invasive. ICD9: 481,482,483,484 ICD10: J13,J14,J15,J17,J18,J85,J86

Poliomyelitis and acute flaccid paralysis

Agent	VIRUS - RNA. Picornaviridae, Picornavirus: Polio virus
Reservoir	Human
Vector	None
Vehicle	Fecal-oral, Dairy products, Food, Water, Fly, Respiratory or pharyngeal acquisition
Incubation Period	7d - 14d (range 3d - 35d)
Diagnostic Tests	Viral culture (pharynx, stool). Serology. Nucleic acid amplification.
Typical Adult Therapy	Stool precautions; supportive
Typical Pediatric Therapy	As for adult
Vaccines	Poliomyelitis - injectable vaccine Poliomyelitis - oral vaccine
Clinical Hints	- Sore throat, headache, vomiting and myalgia followed by flaccid paralysis - Meningeal involvement in 1% of cases - Paralysis in only 0.1% of cases - Paralysis tends to be more extensive in adult patients
Synonyms	Acute flaccid paralysis, Heine-Medin disease, Infantile paralysis, Kinderlahmung, Kinderverlamming, Paralisi infantile, Parálisis flaccida, Parálisis flacida aguda, PFA (Parálisis Flacidas Agudas), Polio, Poliomielitis, Poliomielitis. ICD9: 045 ICD10: A80

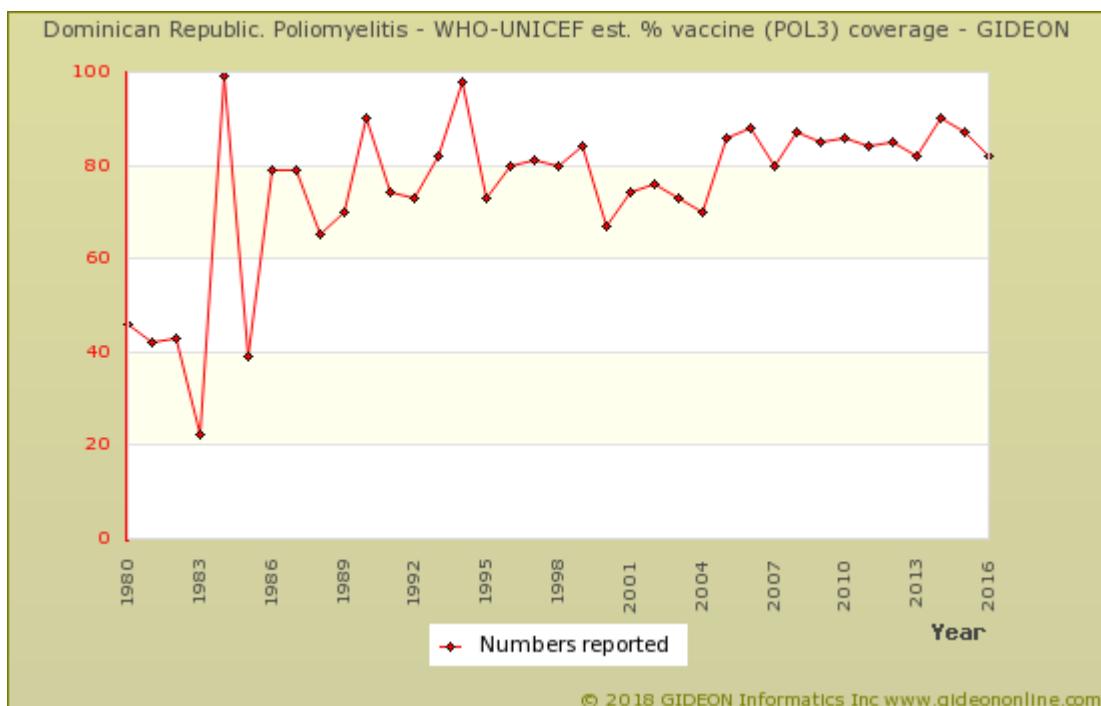
Although Poliomyelitis and acute flaccid paralysis is not endemic to the Dominican Republic, imported, expatriate or other presentations of the disease have been associated with this country.

Poliomyelitis and acute flaccid paralysis in the Dominican Republic

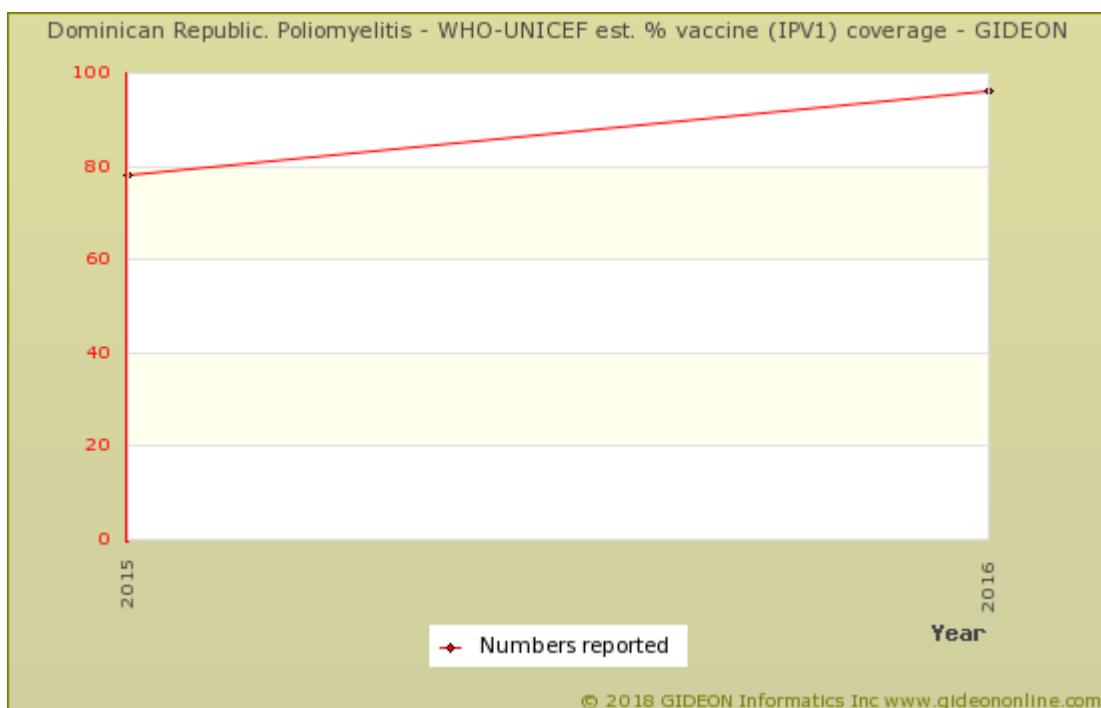
Vaccine Schedule:

BCG - birth
DTwP - 2,4,6,18 months; 5, 10 years
DTwPHibHepB - 2,4,6 months
HepB - birth
IPV - 2 months
MMR - 12 months
MR - >=2 years
OPV - 2,4,6,18 months; 5 years
Pneumo conj - 2,4,12 months
Rotavirus - 2,4 months
Td - 1st contact; +4-6 weeks; +6 months; +1, +1 year; every 10 years

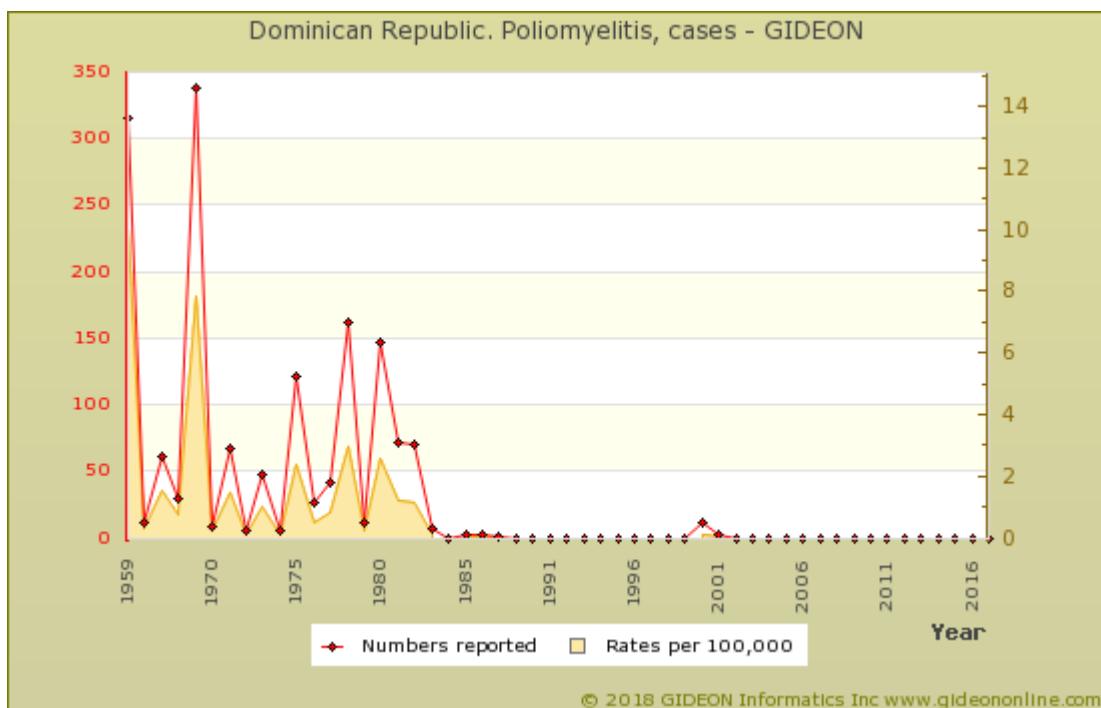
Disease rates of 0 to 0.68 per 100,000 were reported during 1940 to 1958. ¹



Graph: Dominican Republic. Poliomyelitis - WHO-UNICEF est. % vaccine (POL3) coverage



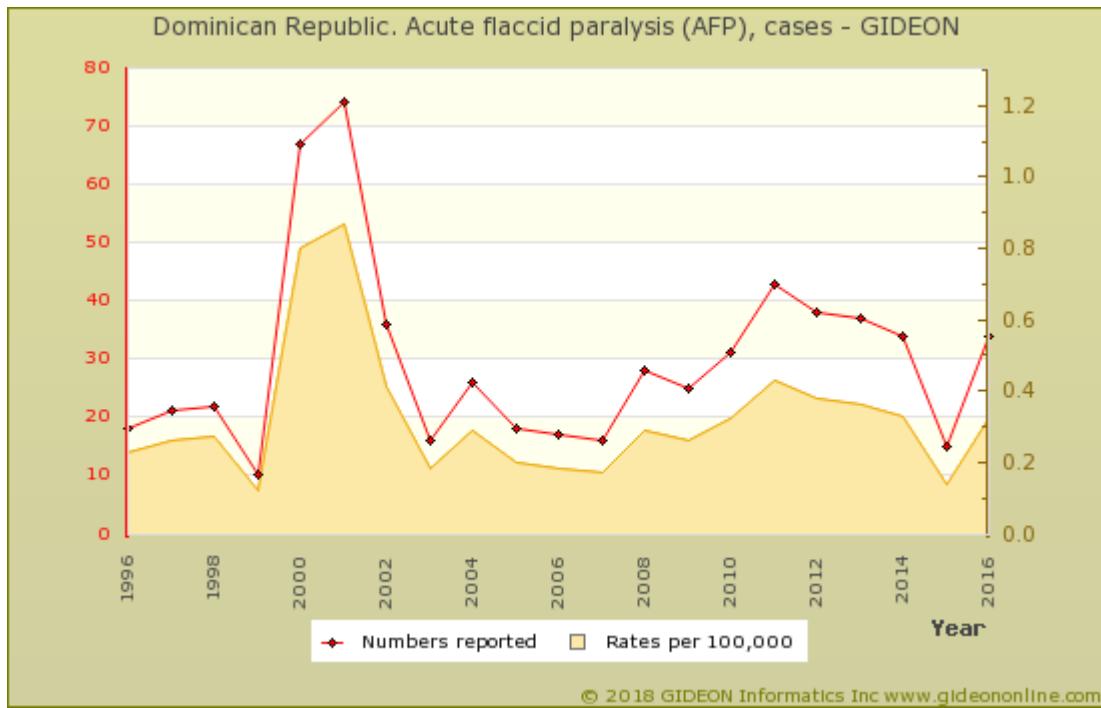
Graph: Dominican Republic. Poliomyelitis - WHO-UNICEF est. % vaccine (IPV1) coverage



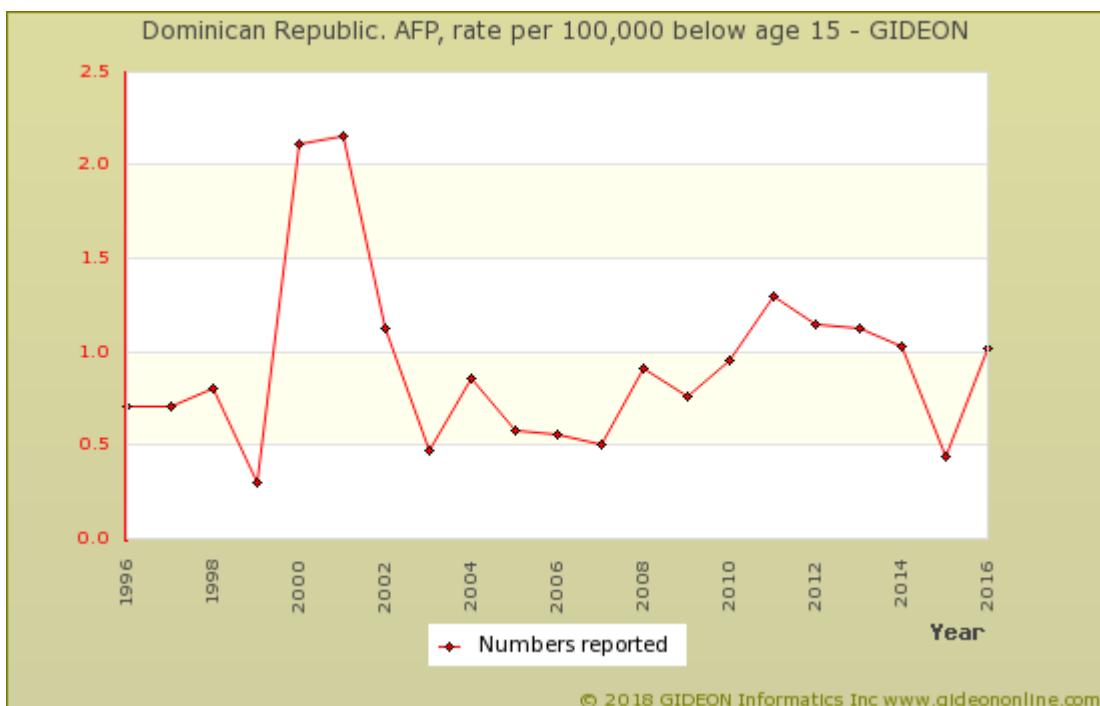
Graph: Dominican Republic. Poliomyelitis, cases

Notes:

1. Seven fatal cases were reported during 1980 to 1981. ²
2. The last case of wild viral infection was reported in 1985. All recently reported cases (1986 to 1988) were vaccine-related.



Graph: Dominican Republic. Acute flaccid paralysis (AFP), cases



Graph: Dominican Republic. AFP, rate per 100,000 below age 15

Notable outbreaks

Years	Region	Cases	Pathogen	Notes
2000 - 2001	Multinational	21	Poliovirus 1 vaccine-derived	Outbreak reported on Hispaniola (13 Dominican Republic, and 8 Haiti) - with cases in La Vega, Santiago, Santo Domingo, Monsenor Nouel and Espillat 3 4 5 6 7 8 9 10 11 12 13 14 15

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5. Wkly Epidemiol Rec 2000 Dec 08;75(49):397-9.
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Protothecosis and chlorellosis

Agent	ALGA. <i>Prototheca wickerhamii</i> ; rarely <i>Pr. zopfii</i> , <i>Pr. cutis</i> Achloric algae Chlorella spp. contain chloroplasts
Reservoir	Rare animal pathogens (cat, dog, cattle wild mammals).
Vector	None
Vehicle	Water, Sewage, Food, Skin trauma
Incubation Period	Unknown
Diagnostic Tests	Culture on fungal media. Biopsy. Nucleic acid amplification.
Typical Adult Therapy	Surgical excision. There are anecdotal reports of successful therapy with Amphotericin B , Ketoconazole and Itraconazole (latter 200 mg/day X 2 months) or voriconazole
Typical Pediatric Therapy	As for adult (Itraconazole 2 mg/kg/day X 2 months)
Clinical Hints	- May follow immune suppression or skin trauma - Dermal papules, plaques, eczematoid or ulcerated lesions - Olecranon bursitis is common - Systemic infection reported in some cases
Synonyms	Chlorellosis, Prototheca, Protothecosis. ICD9: 136.8 ICD10: B99

Pseudocowpox

Agent	VIRUS - DNA. Poxviridae, Parapoxvirus: Pseudocowpox virus
Reservoir	Cattle
Vector	None
Vehicle	Contact
Incubation Period	5d - 14d
Diagnostic Tests	Viral culture (skin lesion or exudate). Serology. Nucleic acid amplification. Biosafety level 3.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Umbilicated nodule on the hand following contact with cattle - Mild regional lymphadenopathy
Synonyms	Bovine papular stomatitis, Farmyard pox, Milker's nodule, Noduli mulgentinum, Paravaccinia, Sealpox. ICD9: 051.1 ICD10: B08.0

Pyoderma (impetigo, abscess, etc)

Agent	BACTERIUM. Various (<i>Staphylococcus aureus</i> & <i>Streptococcus pyogenes</i> predominate)
Reservoir	Human
Vector	None
Vehicle	Endogenous, Secretions, Contact, Trauma
Incubation Period	Variable
Diagnostic Tests	Clinical diagnosis usually sufficient. Aspiration of lesion for smear and culture may be helpful in some cases.
Typical Adult Therapy	Antibiotic directed at likely pathogens (Group A Streptococcus and Staphylococcus aureus)
Typical Pediatric Therapy	As for adult
Clinical Hints	- Impetigo is characterized by vesicles which progress to pustules ("honey-colored pus") - Highly contagious - May be complicated by acute glomerulonephritis
Synonyms	Acne vulgaris, Carbonchio, Carbuncle, Folicolite, Follicolite, Folliculite, Folliculitis, Follikulitis, Foroncolosi, Foronculose, Foruncolosi, Furunculosis, Furunkulose, Furunkulose, Hydradenitis, Impetigine, Impetigo, Paronychia, Pyoderma. ICD9: 680,684,686 ICD10: L01,L02,L08.0,L73.2

Pyomyositis

Agent	BACTERIUM. Usually <i>Staphylococcus aureus</i>
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Ultrasonography or CT scan.
Typical Adult Therapy	Antibiotic directed at confirmed or suspected pathogen (usually <i>Staphylococcus aureus</i>); drainage
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Pain, swelling and "woody" induration of a large muscle (usually lower limb or trunk)- Associated with fever and leukocytosis- Often follows trauma to the involved region- Lymphadenopathy uncommon; leucocytosis in most cases.
Synonyms	Tropical pyomyositis. ICD9: 040.81 ICD10: M60.0

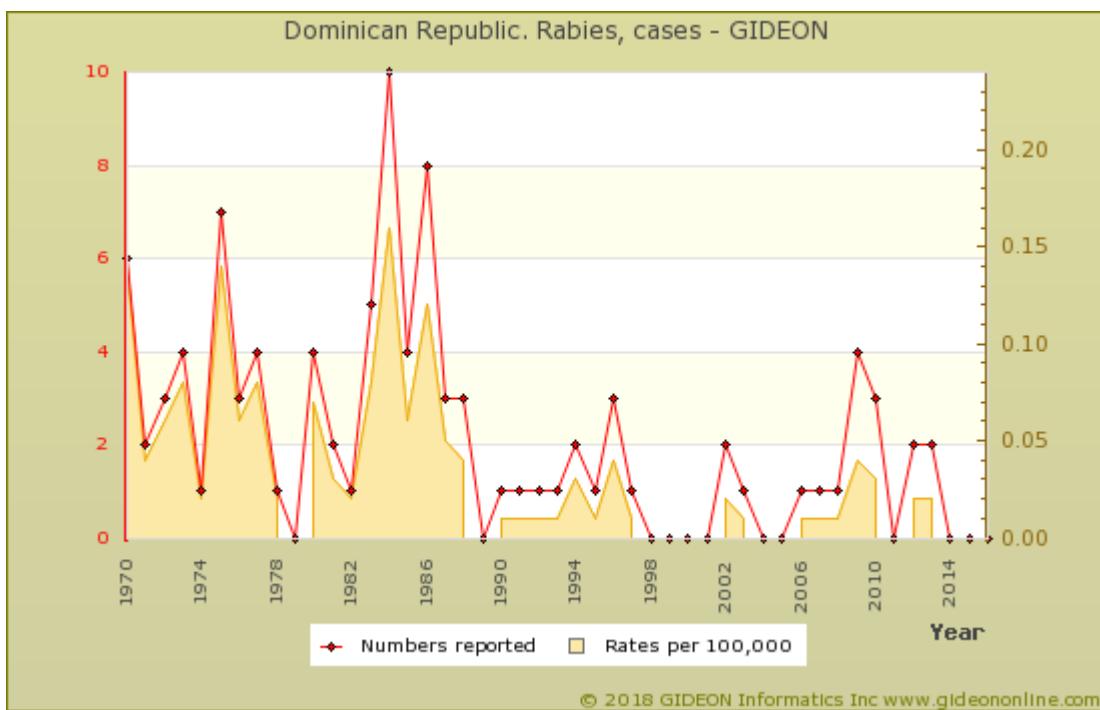
Q-fever

Agent	BACTERIUM. <i>Coxiella burnetii</i> Intracellular organism related to Rickettsiae
Reservoir	Cattle, Sheep, Goat, Bird, Fish, Rodent, Rabbit, Tick, Bandicoot, Marsupial, Dog, Cat
Vector	None
Vehicle	Air, Dust, Secretions, Dairy products, Respiratory or pharyngeal acquisition
Incubation Period	18d - 21d (range 4d - 40d)
Diagnostic Tests	Serology. Culture possible in specialized laboratories. Nucleic acid amplification.
Typical Adult Therapy	Doxycycline 100 mg BID X 2w OR Fluoroquinolone Add Hydroxychloroquine 600 mg per day if endocarditis
Typical Pediatric Therapy	Age < 8 years: Erythromycin 10 mg/kg QID X 2 weeks Age >= 8 years: Doxycycline 100 mg BID X 2 weeks
Vaccine	Q fever vaccine
Clinical Hints	- Proximity to farming or animals during 2 to 4 weeks preceding illness - Headache, myalgia, cough and hepatic dysfunction - Hepatosplenomegaly, "F.U.O." and endocarditis are encountered - Most infections resolve in 1 to 2 weeks - Case-fatality rate is 1.5%
Synonyms	Balkan grippe, Candidatus <i>Coxiella massiliensis</i> , <i>Coxiella burnetii</i> , Febbre australiana, Febre Q, Nine Mile fever, Q-Fieber, Q-koorts, Query fever, Red River fever. ICD9: 083.0 ICD10: A78

Rabies

Agent	VIRUS - RNA. Rhabdoviridae, Mononegavirales, Lyssavirus: Rabies virus. Other human Lyssaviruses = Mokola, Duvenhage, European Bat (EBL)
Reservoir	Dog, Fox, Skunk, Jackal, Wolf, Cat, Raccoon, Mongoose, Bat, Rodent, Rabbit
Vector	None
Vehicle	Saliva, Bite, Transplants, Air (bat aerosol), Respiratory or pharyngeal acquisition
Incubation Period	1m - 3m (range 4d to 19 years !)
Diagnostic Tests	Viral culture & direct immunofluorescence of saliva, CSF, corneal smears. Serology. Nucleic acid amplification.
Typical Adult Therapy	Strict isolation; supportive. The Milwaukee protocol (prolonged deep sedation and support) has been successful in some cases. See Vaccines module for pre- and post-exposure schedules
Typical Pediatric Therapy	As for adult
Vaccines	Rabies vaccine Rabies immune globulin
Clinical Hints	- Follows animal bite (rarely lick) - often after months - Agitation, confusion, seizures, painful spasms of respiratory muscles - Progressive paralysis, coma and death - Case-fatality rate exceeds 99.9%
Synonyms	Aravan, Australian bat lyssavirus, Ballina, BBLV, Bokeloh bat lyssavirus, Duvenhage, EBL, European bat Lyssavirus, Hondsduinheid, Hydrophobia, Ikoma lyssavirus, Irkut, Khujand, Lyssa, Mokola, Pteropus lyssavirus, Rabia, Rage, Raiva, Saint Hubert's disease, Shimoni bat virus, Tollwut, West Caucasian bat, Wutkrankheit. ICD9: 071 ICD10: A82

Rabies in the Dominican Republic



Graph: Dominican Republic. Rabies, cases

Notes:

1. The average annual incidence of human rabies was 3 (1970 to 1979); 4.4 (1980 to 1984); 3.8 (1985 to 1990); 1 (1990 to 1994).

2. 1993 to 1996 - All cases acquired from dogs.

4. 1 case (in 2004) of bat-associated rabies was reported during 1996 to 2006. ¹

Individual years:

1997 - Acquired from a cat.

2012 - An Canadian acquired rabies in the Dominican Republic. ² ³

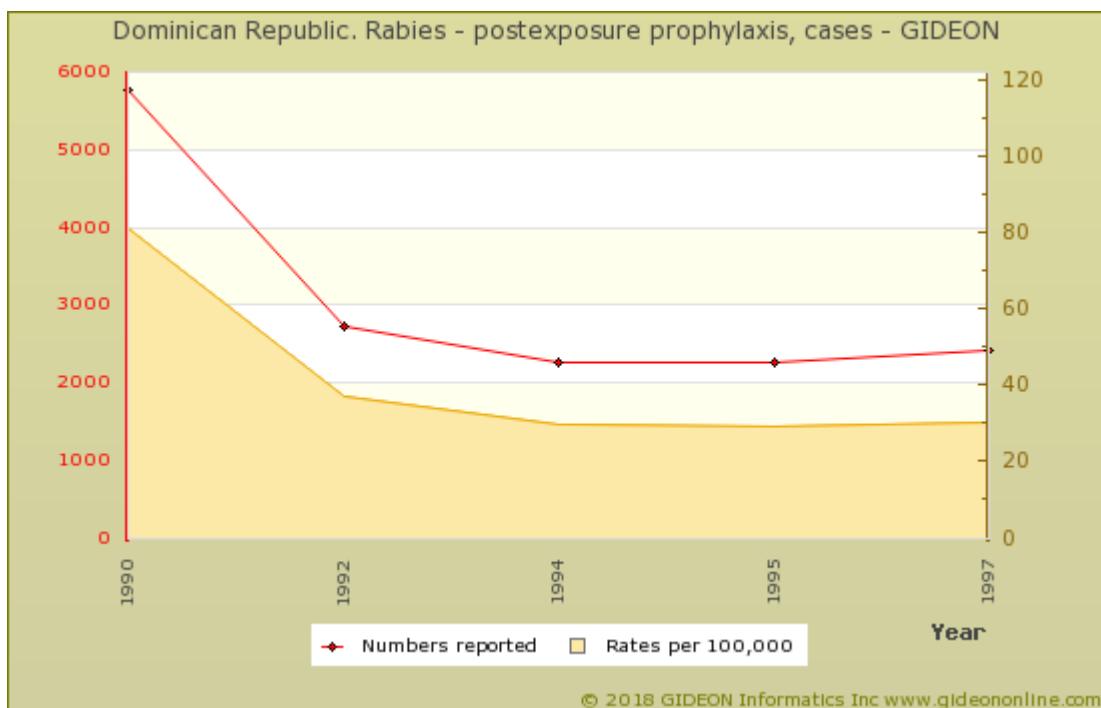
2017 - A child was treated successfully for rabies using the "Wisconsin protocol" ⁴

Cross-border events

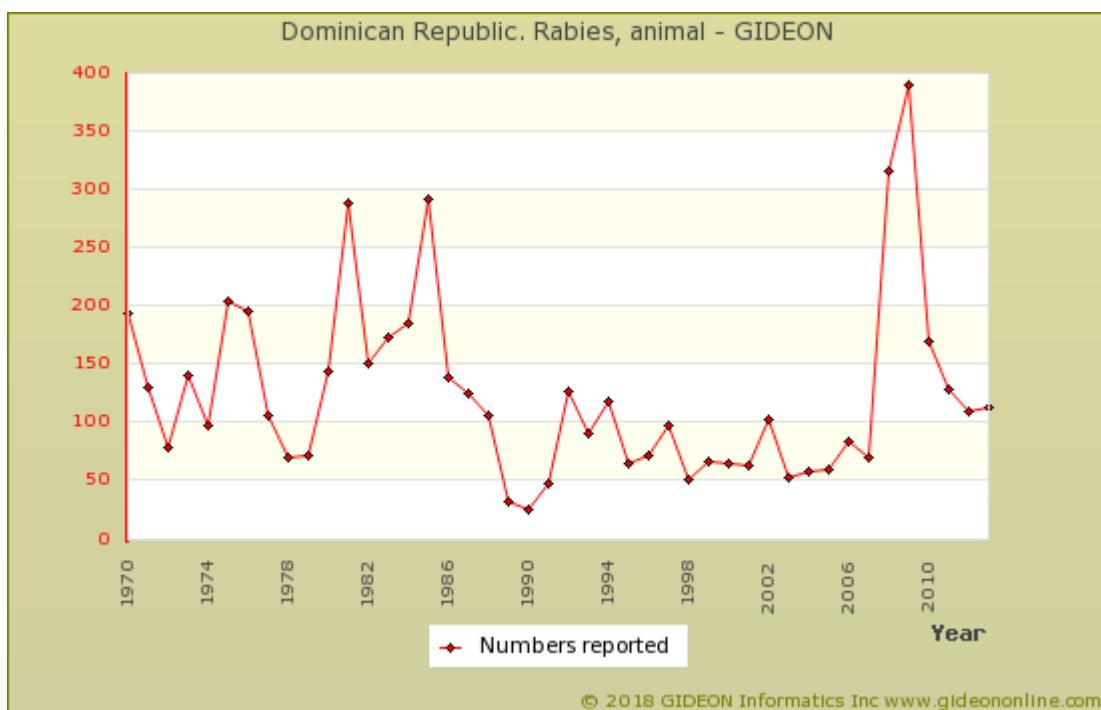
Includes rabies in imported animals

Years	Acquired by **	Originated in **	Cases	Deaths	Notes
1984	Canada	Dominican Republic	1	1	Acquired from a dog
2012	Canada	Dominican Republic	1	1	⁵ ⁶

** Country or Nationality



Graph: Dominican Republic. Rabies - postexposure prophylaxis, cases



Graph: Dominican Republic. Rabies, animal

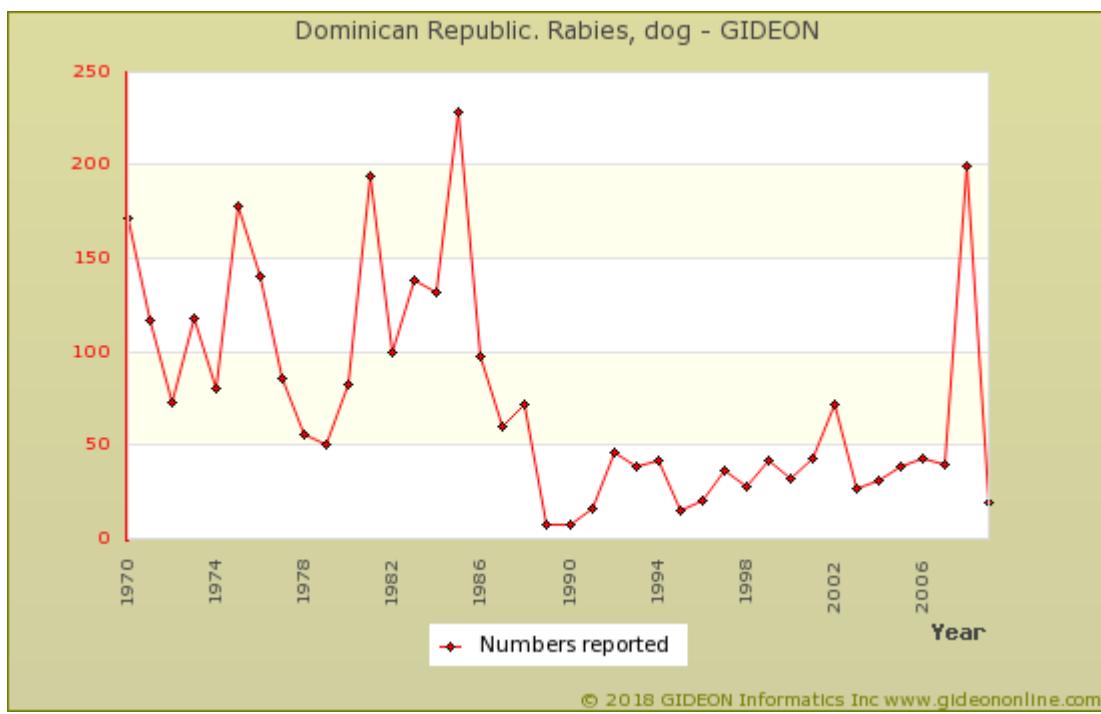
Notes:

Individual years:

1994 - 29.4% dogs, 22.0% mongoose and 13.8% cats.

1996 - 27.3% dogs, 30.1% ruminants, 31.9% mongoose.⁷

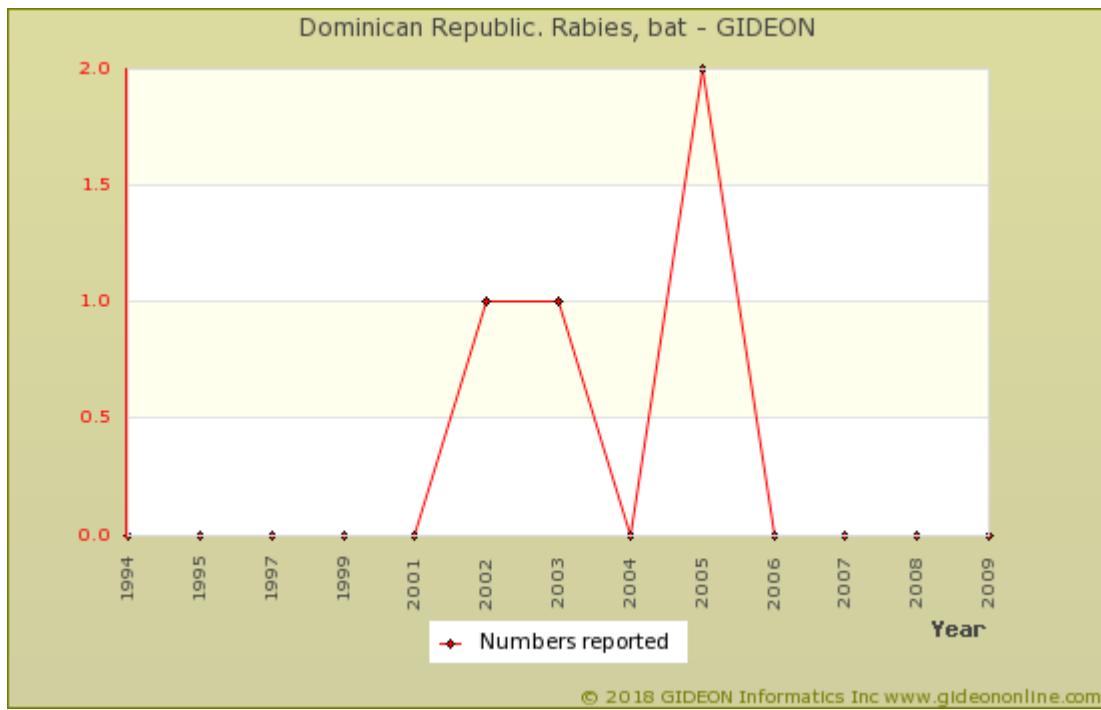
1999 - Included 13 cats.



Graph: Dominican Republic. Rabies, dog

Notes:

1. An average of 28 rabid dogs were reported annually during 1990 to 1994 (5 per 100,000 per year).



Graph: Dominican Republic. Rabies, bat

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Rat bite fever - spirillary

Agent	BACTERIUM. <i>Spirillum minus</i> An aerobic gram-negative spirochete
Reservoir	Rat, Mouse, Cat
Vector	None
Vehicle	Bite
Incubation Period	7d - 21d (range 5d - 40d)
Diagnostic Tests	Dark-field exam of wound. Animal inoculation.
Typical Adult Therapy	Amoxicillin / Clavulanate 875 / 125 mg PO BID X 7d. OR Procaine Penicillin G 600,000u IM q12h X 7d. OR Doxycycline 200 mg BID X 7d
Typical Pediatric Therapy	Amoxicillin / Clavulanate 10 mg/kg PO BID X 7d OR Procaine Penicillin G 25,000u/kg IM q12h X 7d
Clinical Hints	- Symptoms begin 1 to 3 weeks following rat bite - Lymphadenopathy, myalgia, maculopapular rash and recurrent fever - Infection resolves after 3 to 6 days - Case-fatality rate is 6%
Synonyms	Sodoku, Spirilllosis, <i>Spirillum minor</i> , <i>Spirillum minus</i> . ICD9: 026.0 ICD10: A25.0

Rat bite fever - streptobacillary

Agent	BACTERIUM. <i>Streptobacillus moniliformis</i> A facultative gram-negative bacillus
Reservoir	Rat, Squirrel, Weasel, Turkey
Vector	None
Vehicle	Secretions, Bite, Dairy products
Incubation Period	3d - 10d (range 1d - 22d)
Diagnostic Tests	Culture of blood or joint fluid. Nucleic acid amplification.
Typical Adult Therapy	Amoxicillin / Clavulanate 875 / 125 mg PO BID X 7d. OR Doxycycline 100 mg PO BID X 7d
Typical Pediatric Therapy	Amoxicillin / Clavulanate 10 mg/kg TID X 7d. OR (if age > 8 years) Doxycycline 2 mg/kg PO BID X 7 days (maximum 200 mg/day)
Clinical Hints	- History of a rat bite during the preceding 1 to 3 weeks in most cases - Headache, myalgia, maculopapular rash and arthralgia or arthritis - Infection has also been acquired from contaminated milk - The case-fatality rate is 10%.
Synonyms	Haverhill fever, Streptobacillosis, <i>Streptobacillus moniliformis</i> . ICD9: 026.1 ICD10: A25.1

Respiratory syncytial virus infection

Agent	VIRUS - RNA. Paramyxoviridae, Pneumovirinae: Human respiratory syncytial virus
Reservoir	Human
Vector	None
Vehicle	Droplet, Infected secretions (hands), Respiratory or pharyngeal acquisition
Incubation Period	2d - 8d
Diagnostic Tests	Viral culture or DFA (nasal and other respiratory secretions). Serology. Nucleic acid amplification.
Typical Adult Therapy	Ribavirin aerosol 20 mg/ml for 12h/d X 3 to 5d (severe infections). Effectiveness not proven
Typical Pediatric Therapy	As for adult
Vaccine	RSV immune globulin
Clinical Hints	- Most cases occur during infancy - Rhinorrhea, cough, wheezing, bronchiolitis and respiratory distress
Synonyms	Chimpanzee coryza agent, Respiratory syncytial virus, RSV. ICD9: 079.6,480.1 ICD10: B97.4,J12.1

Respiratory viruses - miscellaneous

Agent	VIRUS - RNA and DNA Paramyxoviridae: Mononegavirales Human Metapneumovirus Coronaviridae: New Haven Coronavirus, HKU1 Parvovirinae: Human Bocavirus
Reservoir	Human
Vector	None
Vehicle	Droplet, Secretions (on hands), Respiratory or pharyngeal acquisition
Incubation Period	Unknown
Diagnostic Tests	Viral culture. Serology. Nucleic acid amplification.
Typical Adult Therapy	NA
Typical Pediatric Therapy	NA
Clinical Hints	- Rhinorrhea, cough, wheezing, bronchiolitis and respiratory distress - Age distribution and prominence of specific signs / symptoms vary among the specific viruses in this category
Synonyms	Acanthamoeba polyphaga mimivirus, Bat reovirus, Bocaparvovirus, Bocavirus, Bradford coccus, Cardiovirus, Coronavirus HKU1, Coronavirus NL63, Encephalomyocarditis Virus, HCoV-HKU1, HCoV-NL63, HK23629/07, HKU1, HRV-A, HRV-B, HRV-C, Human Bocavirus, Human Coronavirus NL63, Human CoV 229E, Human CoV OC43, Human metapneumovirus, Human rhinovirus, Kampar, Karolinska Institutet virus, KI virus, Melaka, Metapneumovirus, Mimivirus, New Haven coronavirus, Pulau, Rhinovirus, Small Anellovirus, Sosuga, Tioman virus, Torque tenovirus, Torquetenovirus, Washington University virus, WU polyomavirus, WU virus. ICD9: 079.89 ICD10: B34.2,J12.8

Reye's syndrome

Agent	UNKNOWN
Reservoir	Unknown
Vector	None
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Clinical diagnosis.
Typical Adult Therapy	Electrolyte & glucose management, ? enemas, ? dialysis
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Follows viral infection; aspirin ingestion is often implicated.- Vomiting, lethargy, coma, seizures- Hepatomegaly, hypoglycemia and elevated blood ammonia concentration- Patients are usually anicteric
Synonyms	Reye syndrome. ICD9: 331.81 ICD10: G93.7

Rheumatic fever

Agent	BACTERIUM. <i>Streptococcus pyogenes</i> A facultative gram-positive coccus
Reservoir	Human
Vector	None
Vehicle	Droplet
Incubation Period	1w - 5w
Diagnostic Tests	Clinical diagnosis.
Typical Adult Therapy	Supportive; salicylates
Typical Pediatric Therapy	As for adult
Clinical Hints	- In most cases, illness follows overt pharyngitis, after 1 to 5 weeks - Migratory arthritis, fever, carditis, chorea - Subcutaneous nodules, erythema marginatum and leukocytosis - An attack of rheumatic fever will persist for approximately 3 months
Synonyms	Febbre reumática. ICD9: 390,391 ICD10: I00,I01,I02

Rheumatic fever in the Dominican Republic

Rheumatic fever accounts for 25.8% of children treated for joint pain.¹

Mortality rates of 0.2 per 100,000 per year are reported.

References

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Rhinoscleroma and ozena

Agent	BACTERIUM. <i>Klebsiella pneumoniae</i> ssp <i>ozaenae</i> and <i>Klebsiella pneumoniae</i> ssp <i>rhinoscleromatis</i> Facultative gram-negative bacilli
Reservoir	Human
Vector	None
Vehicle	Secretions, Contact, Respiratory or pharyngeal acquisition
Incubation Period	Unknown
Diagnostic Tests	Culture. Biopsy. Nucleic acid amplification. Advise laboratory when this diagnosis is suspected.
Typical Adult Therapy	Rhinoscleroma: Ciprofloxacin 750 mg PO BID X 3 months Ozena: Ciprofloxacin 750 mg PO BID X 3 months or Sulfamethoxazole / Trimethoprim X 3 months
Typical Pediatric Therapy	Rhinoscleroma: Streptomycin , often with systemic or topical Rifampin - for 3 to 6 weeks Ozena: Ciprofloxacin or Sulfamethoxazole / Trimethoprim for 3 months
Clinical Hints	Rhinoscleroma: - Chronic fetid nasal discharge - A crusting mass may develop in the nose - Infection may extend to the larynx, trachea or paranasal sinuses Ozena: - Chronic rhinitis progressing to atrophy of the nasal mucosa - Extension to the larynx and systemic infection have been reported
Synonyms	Klebsiella pneumoniae ssp <i>ozaenae</i> , Ozena, Rhinoscleroma. ICD9: 040.1 ICD10: J31.0

Rhodococcus equi infection

Agent	BACTERIUM. <i>Rhodococcus equi</i> An aerobic gram-positive coccobacillus
Reservoir	Farm animal, Farm soil
Vector	None
Vehicle	Inhalation, Contact, Ingestion
Incubation Period	Unknown
Diagnostic Tests	Culture of blood, body fluids and secretions. Advise laboratory when these organisms are suspected.
Typical Adult Therapy	Two drugs from the following, administered for two months: Levofloxacin , Rifampin , Azithromycin , Ciprofloxacin , Imipenem , Vancomycin
Typical Pediatric Therapy	Two drugs from the following, administered for two months: Levofloxacin , Rifampin , Azithromycin , Imipenem , Vancomycin
Clinical Hints	- 40% of patients recall recent contact with farm or farm animals - Most often presents as pleuropulmonary infection in an immune-suppressed individual
Synonyms	Rhodococcus. ICD9: 027.9 ICD10: A92.8

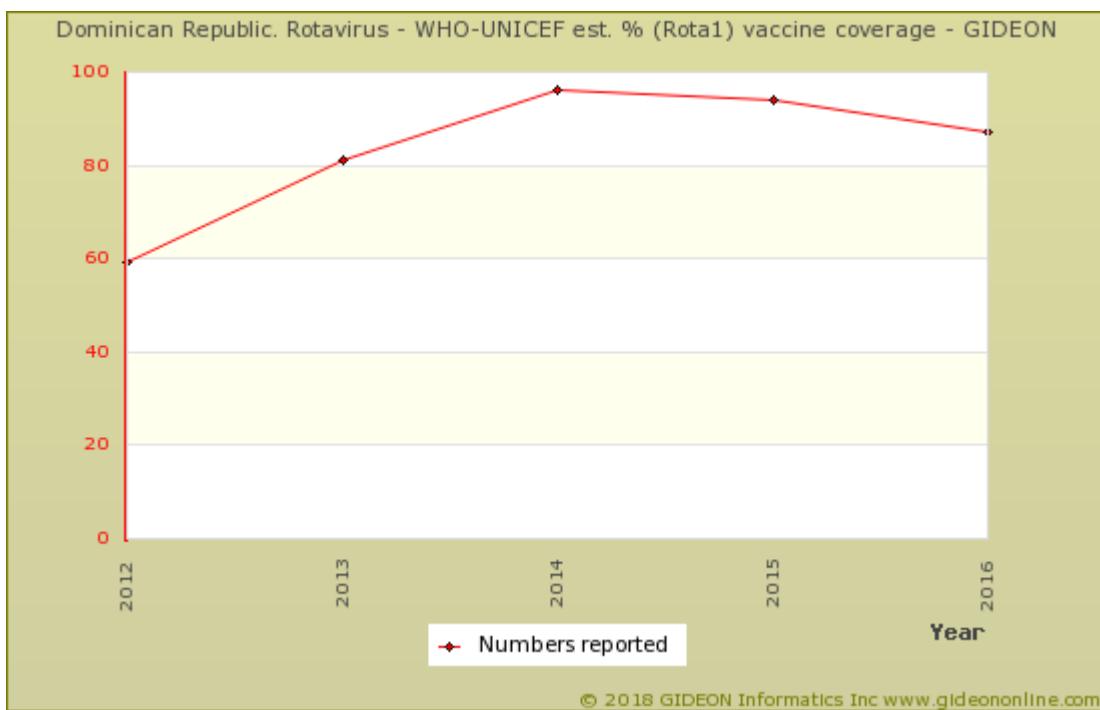
Rotavirus infection

Agent	VIRUS - RNA. Reoviridae: Rotavirus
Reservoir	Human, Pig
Vector	None
Vehicle	Fecal-oral, Water
Incubation Period	2.0 d (range 12h - 3d)
Diagnostic Tests	Stool assay for viral antigen. Serology. Nucleic acid amplification.
Typical Adult Therapy	Stool precautions; supportive
Typical Pediatric Therapy	As for adult
Vaccine	Rotavirus vaccine
Clinical Hints	- Vomiting, diarrhea and mild fever - The illness lasts approximately 1 week, and is most severe in infancy - Fatal cases are associated with dehydration and electrolyte imbalance
Synonyms	Rotavirus. ICD9: 008.61 ICD10: A08.0

Rotavirus infection in the Dominican Republic

Vaccine Schedule:

BCG - birth
DTwP - 2,4,6,18 months; 5, 10 years
DTwPHibHepB - 2,4,6 months
HepB - birth
IPV - 2 months
MMR - 12 months
MR - >=2 years
OPV - 2,4,6,18 months; 5 years
Pneumo conj - 2,4,12 months
Rotavirus - 2,4 months
Td - 1st contact; +4-6 weeks; +6 months; +1, +1 year; every 10 years



Graph: Dominican Republic. Rotavirus - WHO-UNICEF est. % (Rota1) vaccine coverage

Notable outbreaks

Years	Region	Notes
2010	Multiple locations	Outbreak reported in 9 provinces ¹

References

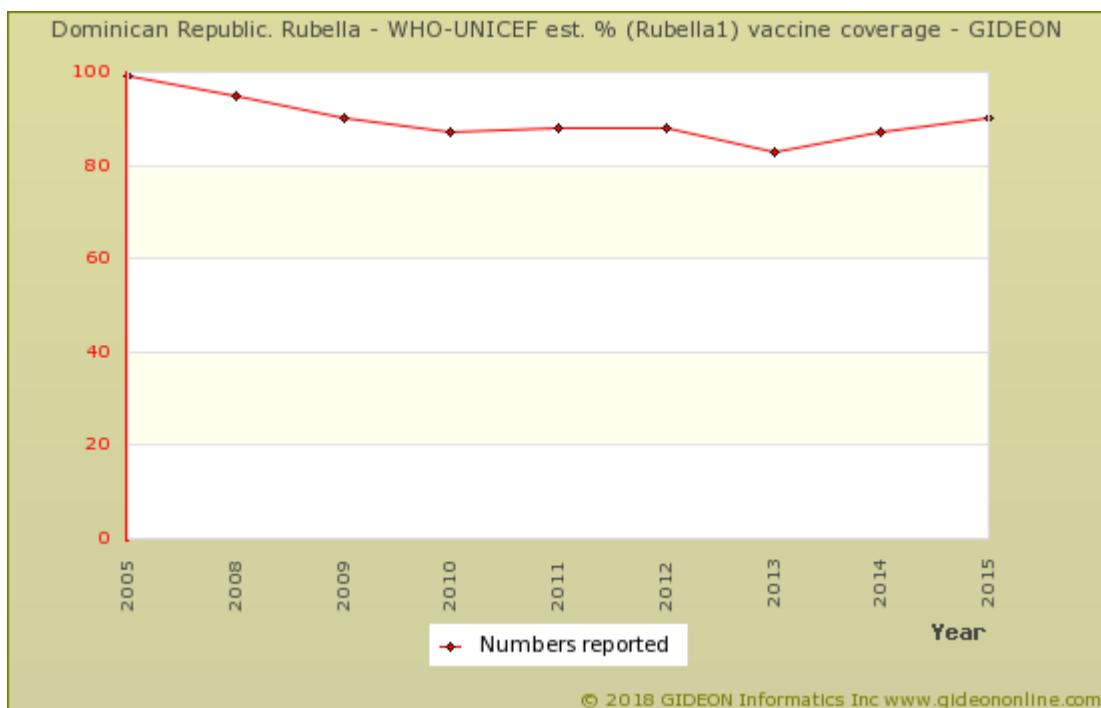
1. ProMED <promedmail.org> archive: 20100330.1009

Rubella

Agent	VIRUS - RNA. Togaviridae: Rubivirus, Rubella virus
Reservoir	Human
Vector	None
Vehicle	Contact, Air, Transplacental, Breastfeeding, Respiratory or pharyngeal acquisition
Incubation Period	16d - 18d (range 14d - 23d)
Diagnostic Tests	Viral culture (throat, urine). Serology. Nucleic acid amplification.
Typical Adult Therapy	Respiratory precautions. Supportive
Typical Pediatric Therapy	As for adult
Vaccines	Rubella vaccine Rubella - Mumps vaccine Measles-Mumps-Rubella vaccine Measles-Rubella vaccine
Clinical Hints	- Maculopapular rash following a one-day prodrome of coryza and headache - Post auricular lymphadenopathy - Arthralgia and arthritis are encountered in adults - Severe thrombocytopenia or encephalitis may follow acute infection - Congenital rubella characterized by hearing loss, congenital heart disease, cataracts, mental retardation and other abnormalities
Synonyms	Epidemic roseola, German measles, Roda hund, Rode hond, Rode hunder, Rodehond, Rosolia, Roteln, Rubeola [Spanish], Three-day measles. ICD9: 056 ICD10: B06

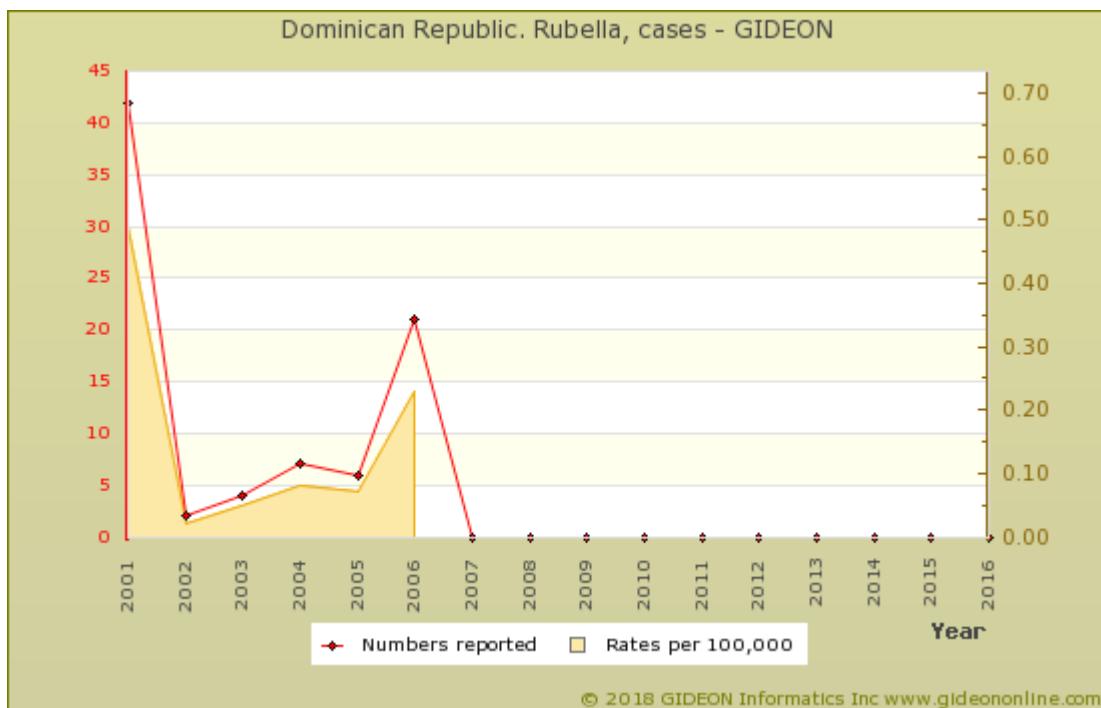
Rubella in the Dominican Republic**Vaccine Schedule:**

BCG - birth
 DTWP - 2,4,6,18 months; 5, 10 years
 DTwPHibHepB - 2,4,6 months
 HepB - birth
 IPV - 2 months
 MMR - 12 months
 MR - >=2 years
 OPV - 2,4,6,18 months; 5 years
 Pneumo conj - 2,4,12 months
 Rotavirus - 2,4 months
 Td - 1st contact; +4-6 weeks; +6 months; +1, +1 year; every 10 years



Graph: Dominican Republic. Rubella - WHO-UNICEF est. % (Rubella1) vaccine coverage

799 clinical cases were reported in 2000.



Graph: Dominican Republic. Rubella, confirmed cases

Dominican Republic. Rubella - CRS, cases: None reported between 2003 and 2016

Salmonellosis

Agent	BACTERIUM. <i>Salmonella</i> A facultative gram-negative bacillus
Reservoir	Mammal, Bird, Reptile
Vector	None
Vehicle	Food, Milk, Eggs, Poultry Shellfish, Meat, Vegetables, Fruit, Fecal-oral Breastfeeding, Fly
Incubation Period	12h - 36h (range 6h - 6d)
Diagnostic Tests	Culture (stool, blood, infected tissue). Serology.
Typical Adult Therapy	Stool precautions. Therapy not indicated for uncomplicated diarrhea; if necessary, treat per antibiogram
Typical Pediatric Therapy	As for adult
Clinical Hints	- Onset 12 to 24 hours after ingestion of eggs, meat, poultry - Fever, chills and watery diarrhea - Fecal leucocytes present - Fever resolves in 2 days; but diarrhea may persist for up to 7 days (occasionally weeks)
Synonyms	Salmonellosen, Salmonellosi. ICD9: 003 ICD10: A02

Salmonellosis in the Dominican Republic

Notable outbreaks

Years	Cases	Pathogen	Population	Notes
1999	15	enteritidis	tourists	Outbreak among Canadian travelers to the Dominican Republic - most following visits to Rio San Juan (59%) or the area of Puerto Plata ¹

References

1. ProMED <promedmail.org> archive: 19990527.0891

Sarcocystosis

Agent	PARASITE - Protozoa. Coccidea, Eimeriida: <i>Sarcocystis bovihominis</i> or <i>S. suihominis</i>
Reservoir	Cattle, Pig
Vector	None
Vehicle	Meat, Water
Incubation Period	9d - 39d
Diagnostic Tests	Identification of cysts in stool.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Diarrhea and abdominal pain of varying severity - Muscle pain and eosinophilia occasionally encountered
Synonyms	Isospora hominis, Kudoa, Sarcocystiasis, Sarcocystis, Sarcosporidiosis. ICD9: 136.5 ICD10: A07.8

Scabies

Agent	PARASITE - Arthropod. Arachnid, Acarina (Mite), Sarcoptae: <i>Sarcoptes (Acarus) scabiei</i>
Reservoir	Human
Vector	Mite
Vehicle	Contact, Sexual contact
Incubation Period	3d - 42d
Diagnostic Tests	Identification of mites in skin scrapings.
Typical Adult Therapy	Permethrin 5%. OR Lindane. OR Crotamiton 10% OR Ivermectin 150 to 200 mcg/kg PO as single dose
Typical Pediatric Therapy	Permethrin 5%. OR Lindane. OR Crotamiton 10% OR Ivermectin 200 mcg/kg PO (> 15 kg body weight)
Clinical Hints	- Intensely pruritic papules, vesicles and burrows - Lesions prominent at interdigital webs, wrists, elbows, axillae, perineal region, buttocks and penis - Pruritus is most intense at night - Severe psoriaform infestation (Norwegian scabies) may affect debilitated individuals
Synonyms	Cheyletiella, Cheyletiella infestation, Escabiose, Escabiosis, Histostomatid mites, Kratze, Mange, Ornithonyssus, Pyemotes, Sarcoptes scabiei, Sarna, Scabbia, Skabies, Tropical rat mite. ICD9: 133 ICD10: B86

Scarlet fever

Agent	BACTERIUM. <i>Streptococcus pyogenes</i> A facultative gram-positive coccus
Reservoir	Human
Vector	None
Vehicle	Secretions, Food, Respiratory or pharyngeal acquisition
Incubation Period	1d - 4d
Diagnostic Tests	Typical clinical features associated with group A streptococcal pharyngitis.
Typical Adult Therapy	Benzathine Penicillin G 1.2 million units IM as single dose
Typical Pediatric Therapy	Benzathine Penicillin G : Weight <14kg: 300,000 units IM Weight 14 to 28kg: 600,000 units IM Weight >28kg: 1.2 million units IM
Clinical Hints	- Overt exudative pharyngitis - Appearance of a florid desquamative erythematous rash within 24 to 48 hours - Facial flushing and circum-oral pallor - Lingual desquamation ("strawberry tongue")
Synonyms	Escarlatina, Lanhousha, Scarlattina, Scharlach. ICD9: 034.1 ICD10: A38

Schistosomiasis - mansoni

Agent	PARASITE - Platyhelminthes, Trematoda. Strigeida, Schistosomatidae: <i>Schistosoma mansoni</i>
Reservoir	Snail (<i>Biomphalaria</i>), Dog, Cat, Pig, Cattle, Rodent, Horse, Non-human primate
Vector	None
Vehicle	Water (skin contact)
Incubation Period	2w - 6w
Diagnostic Tests	Identification of ova in stool or biopsy specimens. Serology. Antigen detection.
Typical Adult Therapy	Praziquantel 20 mg/kg PO BID X one day OR Oxamniquine 15 mg PO X one dose
Typical Pediatric Therapy	Praziquantel 20 mg/kg PO BID X one day OR Oxamniquine 10 mg PO BID X one day
Clinical Hints	- Early urticaria, fever and eosinophilia - Later, hepatosplenomegaly and portal hypertension - Parasite may survive for decades in human host
Synonyms	Bilharziasis, intestinal, Katayama fever [3], Schistosoma mansoni. ICD9: 120.1 ICD10: B65.1

Schistosomiasis - mansoni in the Dominican Republic

Time and Place

The disease was first reported in 1942.

- Most cases have been reported from El Seibo and Higuey.
- A survey conducted during 1982 to 1987 revealed ongoing transmission in San Rafael del Yuma, Batey Palo Bonito, Maicillo, Nisibon, and barrios in the city of Higuey; and new foci in Bayaguana, Sabana Rey (Cotui) and Jarabacoa; and in the National District (Guerra).

Prevalence surveys

Years	Region	Study Group	%	Notes
1982 - 1987	Multiple locations	general population	7.4-24.6	7.4% to 24.6% in Higuey, 10.2% in Maicillo, 7.8% in El Valle and 9.9% in El Seibo (1982 to 1987) ^{1 2}

The local snail intermediate is *Biomphalaria glabrata*. ³

References

1. Trop Med Parasitol 1990 Dec ;41(4):415-8.
2. Trop Geogr Med 1987 Jul ;39(3):244-50.
3. Public Health Rep 1985 Sep-Oct;100(5):524-30.

Septic arthritis

Agent	BACTERIUM or FUNGUS. Gram positive cocci most common; gram negative bacilli, gonococci, mycobacteria , fungi, et al
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Smear and culture of joint fluid. Cytological and chemical analysis of joint fluid also useful.
Typical Adult Therapy	Antimicrobial agent(s) directed at known or likely pathogen
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Fever (60% to 80%) associated with swelling, erythema and tenderness- Usually involves a single joint, most commonly knee (elbow or ankle in children)- Mean fluid leukocyte count in acute bacterial forms is 50,000 per cu mm
Synonyms	

Septicemia - bacterial

Agent	BACTERIUM. <i>Escherichia coli</i> , <i>Staphylococcus aureus</i> , facultative gram negative bacilli, et al
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Culture of blood and sepsis source.
Typical Adult Therapy	Antimicrobial agent(s) directed at known or likely pathogen
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fever, rigors, leukocytosis, tachypnea, mental changes - Hypotension, acidosis and bleeding diathesis herald septic shock - Additional signs (eg, urinary infection, phlebitis, etc) may point to the source of infection
Synonyms	Sepsis, Septicaemia, Septicemia, Septicemie, Septikemie, Setticemia. ICD9: 036.2,036.3,038 ICD10: A40,A41

Septicemia - bacterial in the Dominican Republic

Mortality rates of 10.0 per 100,000 per year are reported.

Shigellosis

Agent	BACTERIUM. <i>Shigella sonnei</i> , <i>Shigella flexneri</i> , <i>Shigella boydii</i> or <i>Shigella dysenteriae</i> A facultative gram-negative bacillus
Reservoir	Human, Non-human primate
Vector	None
Vehicle	Fecal-oral, Water, Dairy products, Fomite, Fly, Vegetables
Incubation Period	48h - 72h (range 7h - 1w)
Diagnostic Tests	Stool culture.
Typical Adult Therapy	Stool precautions. Choice of antimicrobial agent based on regional susceptibility patterns. Continue treatment for five days
Typical Pediatric Therapy	As for adult
Clinical Hints	- Watery or bloody diarrhea, tenesmus, abdominal pain and headache - Colonic hyperemia and abundant fecal leucocytes are present - Usually resolves in 3 days, but may persist for up to 14 - Reported case fatality rate is 1% - severity and mortality highest with <i>Shigella dysenteriae</i> infection
Synonyms	Bacillaire dysenterie, Bacillary dysentery, Dissenteria batterica, Dysenteria bacillaris, Leptospirenerkrankung, Ruhr, Shigella, Shigellose, Shigellose, Übertragbare Ruhr. ICD9: 004 ICD10: A03

Shigellosis in the Dominican Republic

16,550 cases of dysentery were officially reported in 1963.

Cross-border events

Does not include individual case reports

Years	Originated in **	Setting	Cases	Notes
1982	Dominican Republic	cruise ship	36	An outbreak (36 cases) of <i>Shigella flexneri</i> infection was reported among passengers on a cruise ship, following a buffet in the Dominican Republic. ¹

** Country or Nationality

Notable outbreaks

Years	Setting	Cases	Pathogen	Population	Notes
1982	cruise ship	36	<i>Shigella flexneri</i>	passengers	Outbreak reported among passengers on a cruise ship, following a buffet in the Dominican Republic. ²

References

1. Eur J Epidemiol 1986 Mar ;2(1):26-30.
2. Eur J Epidemiol 1986 Mar ;2(1):26-30.

Sinusitis

Agent	BACTERIUM. Various (<i>Haemophilus influenzae</i> & <i>Streptococcus pneumoniae</i> in most acute cases)
Reservoir	Human
Vector	None
Vehicle	None
Incubation Period	Variable
Diagnostic Tests	Imaging techniques. Culture of sinus drainage.
Typical Adult Therapy	Amoxicillin / Clavulanate 2000 / 125 mg BID X 7 days Drainage as indicated Alternatives: Levofloxacin , Cllindamycin, Cefuroxime , Cefdinir
Typical Pediatric Therapy	Amoxicillin / Clavulanate 90 / 6.4 mg/kg BID X 7 days Drainage as indicated Alternatives: Cllindamycin, Cefuroxime , Cefdinir
Clinical Hints	- Sinusitis often follows upper respiratory infections - Headache, fever and local tenderness are common - The precise presentation varies with patient age and anatomic localization
Synonyms	Acute sinusitis, Mastoidite, Mastoiditis, Rhinosinusitis, Sinusite. ICD9: 473.9,383.0,461 ICD10: H70,J01

Sporotrichosis

Agent	FUNGUS. Ascomycota, Euascomycetes, Ophiostomatales: <i>Sporothrix schenckii</i> , <i>S. brasiliensis</i> and <i>S. globosa</i> A dimorphic dematiaceous fungus
Reservoir	Soil, Vegetation, Wood
Vector	None
Vehicle	Trauma, Contact, Air, Respiratory or pharyngeal acquisition
Incubation Period	1w - 3m
Diagnostic Tests	Fungal culture. Serologic tests available in some centers.
Typical Adult Therapy	Itraconazole 100 to 200 mg PO daily X 3 to 6 months. OR Fluconazole 400 mg PO daily X 6 months. OR Potassium iodide 1 to 5 ml PO TID X 3 to 6 months
Typical Pediatric Therapy	Itraconazole 2 mg/kg PO daily X 3 to 6 months. OR Fluconazole 3 mg/kg PO daily X 6 months.
Clinical Hints	- Recent contact with flowers, thorns, trees or other plant material (occasionally cats) - Draining nodules which appear along the course of lymphatics - Eye, brain, testis, bone and other tissues may be involved
Synonyms	Rose gardener's disease, Schenck's disease, Sporothrix brasiliensis, Sporothrix chiensis, Sporothrix globosa, Sporothrix mexicana, Sporothrix schenckii, Sporotrichose. ICD9: 117.1 ICD10: B42

Staphylococcal food poisoning

Agent	BACTERIUM. <i>Staphylococcus aureus</i> exotoxins
Reservoir	Human (nares, hands), Cattle (udder), Dog/Cat (nasopharyngeal)
Vector	None
Vehicle	Food (creams, gravies, sauces)
Incubation Period	2h - 4h (range 30 min - 9h)
Diagnostic Tests	Identification of bacterium in food.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Onset 1 to 6 hours after food ingestion- "Explosive" diarrhea and vomiting- Usually no fever- No fecal leucocytes- Resolves within 1 to 2 days- Fatality is rarely reported
Synonyms	Staphylococcus aureus food poisoning. ICD9: 005.0 ICD10: A05.0

Staphylococcal scalded skin syndrome

Agent	BACTERIUM. <i>Staphylococcus aureus</i> phage group 2 A facultative gram-positive coccus
Reservoir	Human
Vector	None
Vehicle	Contact, Secretions
Incubation Period	1d - 4d
Diagnostic Tests	Typical clinical features; Recovery of <i>S. aureus</i> from localized wound or blood ; skin biopsy may be helpful
Typical Adult Therapy	Fluid replacement (as for burn) ; Intravenous Nafcillin or Oxacillin , in addition to application of anti-staphylococcal drug to local source infection; Vancomycin if MRSA Clindamycin used to interfere with toxin production.
Typical Pediatric Therapy	Fluid replacement (as for thermal burn) ; Intravenous Nafcillin or Oxacillin , in addition to application of anti-staphylococcal drug to local source infection; Vancomycin if MRSA
Clinical Hints	- Acute, generalized exfoliative dermatitis which occurs primarily in infants and young children - A pre-existing localized skin infection is present in most cases
Synonyms	Lyell disease, Ritter disease, Ritter von Ritterschein disease, Scalded skin syndrome, SSSS. ICD9: 695.81 ICD10: L00

Streptococcus suis infection

Agent	BACTERIUM. <i>Streptococcus suis</i> I and <i>Streptococcus suis</i> II A facultative gram-positive coccus
Reservoir	Pig
Vector	None
Vehicle	Air, Secretions, Meat, Wound, Contact
Incubation Period	Unknown. Probably hours to few days
Diagnostic Tests	Culture of blood, tissue, body fluids
Typical Adult Therapy	Systemic antibiotic. Usually susceptible in vitro to Penicillin, Amoxicillin, Chloramphenicol and Gentamicin
Typical Pediatric Therapy	Systemic antibiotic
Clinical Hints	- Disease appears hours to a few days after contact with pigs or pig products - Severe multisystem illness, hemorrhagic diatheses, deafness or meningitis
Synonyms	Streptococcus suis. ICD9: 027.8 ICD10: A48.8

Strongyloidiasis

Agent	PARASITE - Nematoda. Secernentea: <i>Strongyloides stercoralis</i> (<i>Strongyloides fulleborni</i> is occasionally implicated in systemic disease)
Reservoir	Human, Dog, Monkey (for <i>Strongyloides fulleborni</i>)
Vector	None
Vehicle	Skin contact, Soil, Feces, Autoinfection, Sexual contact
Incubation Period	14d - 30d
Diagnostic Tests	Identification of larvae (or ova, for <i>Strongyloides fulleborni</i>) in stool or duodenal aspirate. Serology.
Typical Adult Therapy	Ivermectin 200 micrograms/kg/d PO daily X 2d OR Thiabendazole 25 mg/kg BID (max 3g) X 2d OR Albendazole 400 mg/d X 3d (7 days for hyperinfection syndrome)
Typical Pediatric Therapy	Ivermectin 200 micrograms/kg/d PO daily X 2d OR Thiabendazole 25 mg/kg BID (max 3g) X 2d. OR Albendazole 200 mg/d X 3d (7 days for hyperinfection syndrome)
Clinical Hints	- Diarrhea - Gluteal or perineal pruritus and rash - Eosinophilia often present - Widespread dissemination encountered among immune-suppressed patients (case-fatality rate for this complication = 80%)
Synonyms	Anguilluliasis, Anguillulosis, Cochin China gastroenteritis, Diploscapter, Halicephalobus, Larva currens, Leptodera intestinals, Leptodera stercoralis, Lungworm, Metastrongylus, Micronema, Pseudo-rhabdis stercoralis, Rhabditis stercoralis, Rhabdonema intestinale, Rhabdonema stercoralis, <i>Strongyloides fulleborni</i> , <i>Strongyloides stercoralis</i> , Strongyloidose, Threadworm, Turbatrix. ICD9: 127.2 ICD10: B78

Subdural empyema

Agent	BACTERIUM. <i>Haemophilus influenzae</i> , oral anaerobes, streptococci, et al
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Imaging techniques (CT scan, etc).
Typical Adult Therapy	Antimicrobial agent(s) directed at known or likely pathogen
Typical Pediatric Therapy	As for adult
Clinical Hints	<ul style="list-style-type: none">- Fever, severe headache, vomiting- Signs of meningeal irritation and increased cerebrospinal fluid pressure- May follow head trauma, meningitis, otitis or sinusitis- Case-fatality rates vary from 15% (patient alert) to 60% (comatose)
Synonyms	

Suppurative parotitis

Agent	BACTERIUM. Most commonly <i>Staphylococcus aureus</i>
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Unknown
Diagnostic Tests	Clinical features (local swelling and purulent discharge from salivary ducts). Stain and culture of discharge.
Typical Adult Therapy	Surgical drainage and aggressive parenteral antistaphylococcal therapy
Typical Pediatric Therapy	As for adult
Clinical Hints	- Consider in patient with unexplained fever in the setting of malnutrition, dehydration and obtundation - Local swelling and discharge of pus from salivary duct
Synonyms	Parotitis, bacterial. ICD9: 527.2 ICD10: K11.3

Syphilis

Agent	BACTERIUM. <i>Treponema pallidum</i> subsp. <i>pallidum</i> A microaerophilic gram-negative spirochete
Reservoir	Human
Vector	None
Vehicle	Sexual contact, Secretions, Respiratory or pharyngeal acquisition
Incubation Period	2w - 4w (range 10d - >8w)
Diagnostic Tests	Dark field microscopy (chancre). VDRL confirmed by antitreponemal test (FTA, MHTP). Nucleic acid amplification.
Typical Adult Therapy	Primary, secondary or early (< 1 year) latent: Benzathine Penicillin G 2.4 million units IM Other stages: Repeat dosage at one and two weeks Alternatives: Tetracycline , Ceftriaxone
Typical Pediatric Therapy	Primary, secondary or early (< 1 year) latent: Benzathine Penicillin G : Weight <14 kg: 600,000u IM Weight 14 to 28 kg: 1,200,000u IM Other stages: Repeat dosage at one and two weeks
Clinical Hints	- Firm, painless chancre (primary syphilis) - Fever, papulosquamous rash and multisystem infection (secondary syphilis) - Late necrotic lesions of brain, aorta, bone or other organs (tertiary syphilis)
Synonyms	Canton rash, Chinese ulcer, Christian disease, French disease, German sickness, Harde sjanker, Lues, Neopolitan itch, Polish sickness, Sifilide, Sifilis, Spanish pockes, Syphilis, Treponema pallidum. ICD9: 090,091,092,093,094,095,096,097 ICD10: A50,A51,A52,A53

Syphilis in the Dominican Republic

There is evidence that yaws arrived to the Dominican Republic millennia ago, mutated, and spread onward to Europe as syphilis. [1](#) [2](#)

Rates per 100,000: 24.4 in 1995.

Seroprevalence surveys

Years	Region	Study Group	%	Notes
1996*	Multiple locations	MSM	7.3	7.3% of men who have sex with men (1996 publication) 3
2013*	Multiple locations	MSM	3.5-6.9	3.5% to 6.9% of gay, transsexuals and men who have sex with men (Santo Domingo, Barahona, La Altagracia and Santiago, 2013 publication) 4
2013	La Romana	MSM	13	13% of MSM and transgender women (La Romana Province, 2013) 5
2013		prisoners	5	5% of male prison inmates
1992		sex workers	19.6	19.6% of CSW (1992)
2006*	Catania	sex workers	2.5	2.5% of Dominican and Colombian CSW in Italy (Catania, Sicily, 2006 publication) 6

* indicates publication year (not necessarily year of survey)

Mortality rates of 2.5 per 100,000 per year are reported.

References

1. [Clin Infect Dis 2005 May 15;40\(10\):1454-63.](#)
2. [Clin Infect Dis 2000 Oct ;31\(4\):936-41.](#)
3. [AIDS 1996 Feb ;10\(2\):201-6.](#)
4. [Int J STD AIDS 2013 Apr ;24\(4\):313-21.](#)
5. [BMJ Open 2015 Apr 29;5\(4\):e007747.](#)
6. [J Immigr Minor Health 2006 Oct ;8\(4\):319-23.](#)

Taeniasis

Agent	PARASITE - Platyhelminthes, Cestoda. Cyclophyllidea, Taeniidae: <i>Taenia solium</i> & <i>T. saginata</i> (other species occasionally encountered)
Reservoir	Cattle, Pig
Vector	None
Vehicle	Meat
Incubation Period	6w - 14w
Diagnostic Tests	Identification of ova or proglottids in feces.
Typical Adult Therapy	Praziquantel 10 mg/kg PO as single dose OR Niclosamide 2 g PO once
Typical Pediatric Therapy	Praziquantel 10 mg/kg PO as single dose OR Niclosamide 50 mg/kg PO once
Clinical Hints	- Vomiting and weight loss - Often symptomatic or first recognized due to passage of proglottids - Parasite may survive for over 25 years in the human intestine
Synonyms	Bandwurmer [Taenia], Drepanidotaenia, Gordiid worm, Hair snake, Mesocestoides, Raillietina, <i>Taenia asiatica</i> , <i>Taenia longihamatus</i> , <i>Taenia saginata</i> , <i>Taenia saginata asiatica</i> , <i>Taenia solium</i> , <i>Taenia taeniaformis</i> , <i>Taeniarhynchiasis</i> , Tapeworm (pork or beef), Tenia. ICD9: 123.0,123.2 ICD10: B68

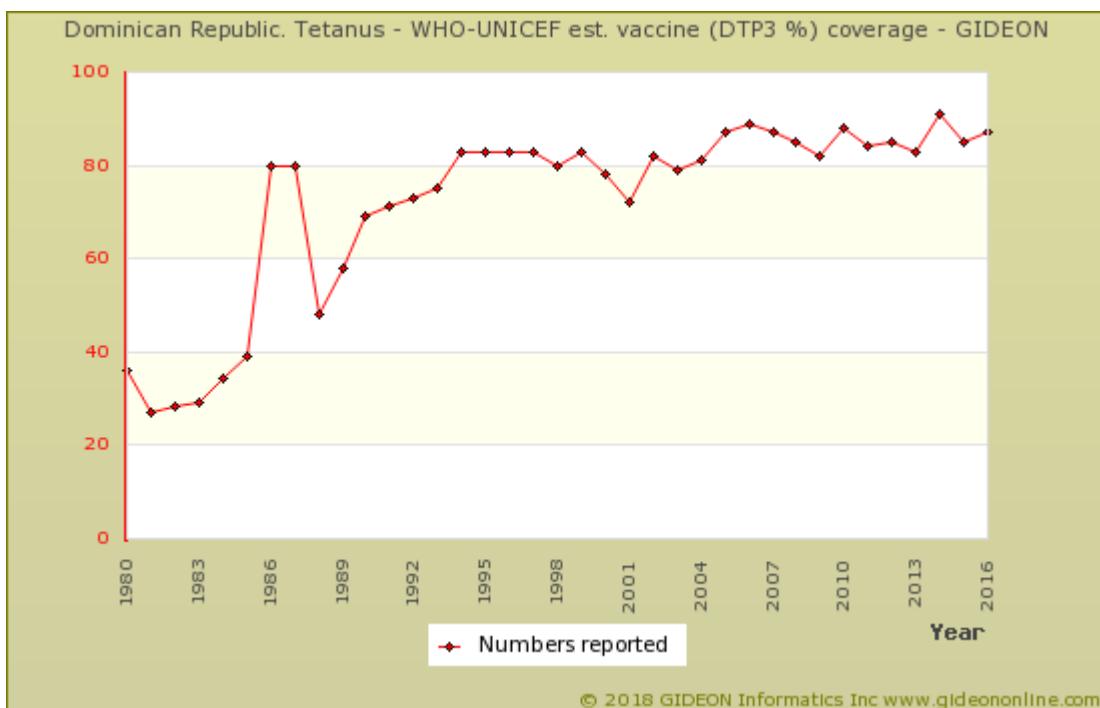
Tetanus

Agent	BACTERIUM. <i>Clostridium tetani</i> An anaerobic gram-positive bacillus
Reservoir	Animal feces, Soil
Vector	None
Vehicle	Trauma
Incubation Period	6d - 8d (range 1d - 90d)
Diagnostic Tests	Isolation of <i>C. tetani</i> from wound is rarely helpful. Serology (specimen taken before administration of antitoxin).
Typical Adult Therapy	Human antitoxin (see Vaccine module). Metronidazole (2 g daily) or Penicillin G (24 million u daily) or Doxycycline (200 mg daily). Diazepam (30 to 240 mg daily). Tracheostomy, hyperalimentation
Typical Pediatric Therapy	Human antitoxin (see Vaccine module). Metronidazole (30 mg/kg daily); or Penicillin G (300,000 units/kilo daily). Diazepam. Tracheostomy, hyperalimentation
Vaccines	DT vaccine DTaP vaccine DTP vaccine Td vaccine Tetanus immune globulin Tetanus vaccine
Clinical Hints	- Trismus, facial spasm, opisthotonus and tachycardia - Recurrent tonic spasms of skeletal muscle - Sensorium is clear - Disease may persist for 4 to 6 weeks - Case fatality rates of 10% to 40% are reported
Synonyms	Lockjaw, Starrkrampf, Stelkrampf, Tetano, Tetanos. ICD9: 037,771.3 ICD10: A33,A34,A35

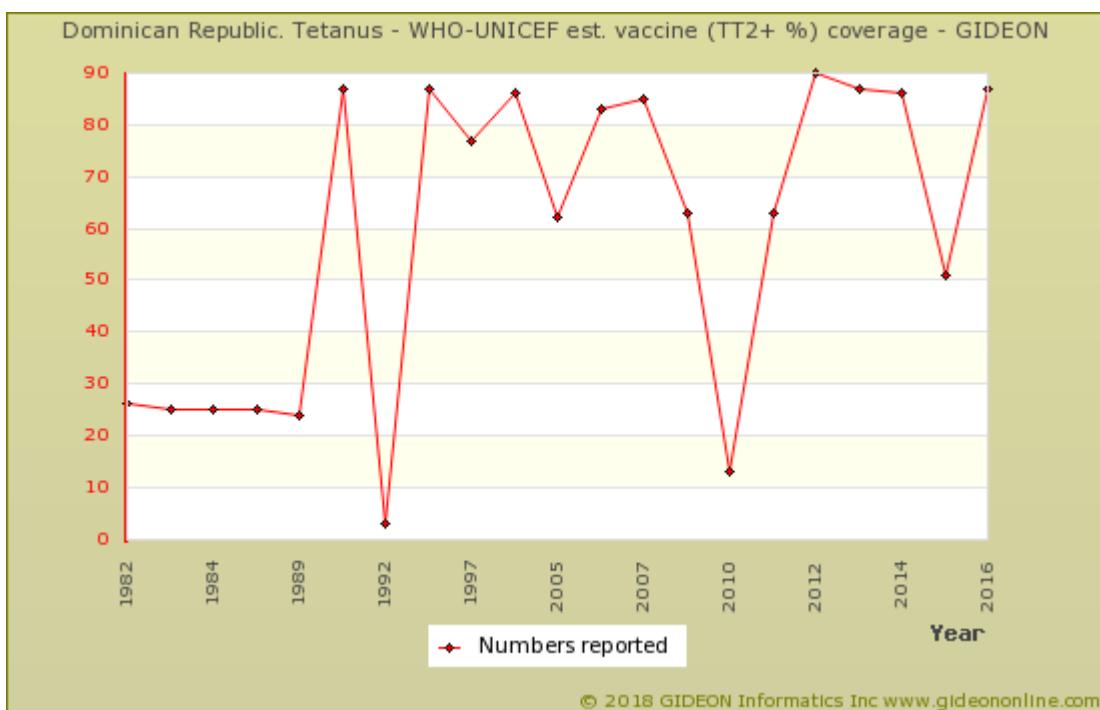
Tetanus in the Dominican Republic

Vaccine Schedule:

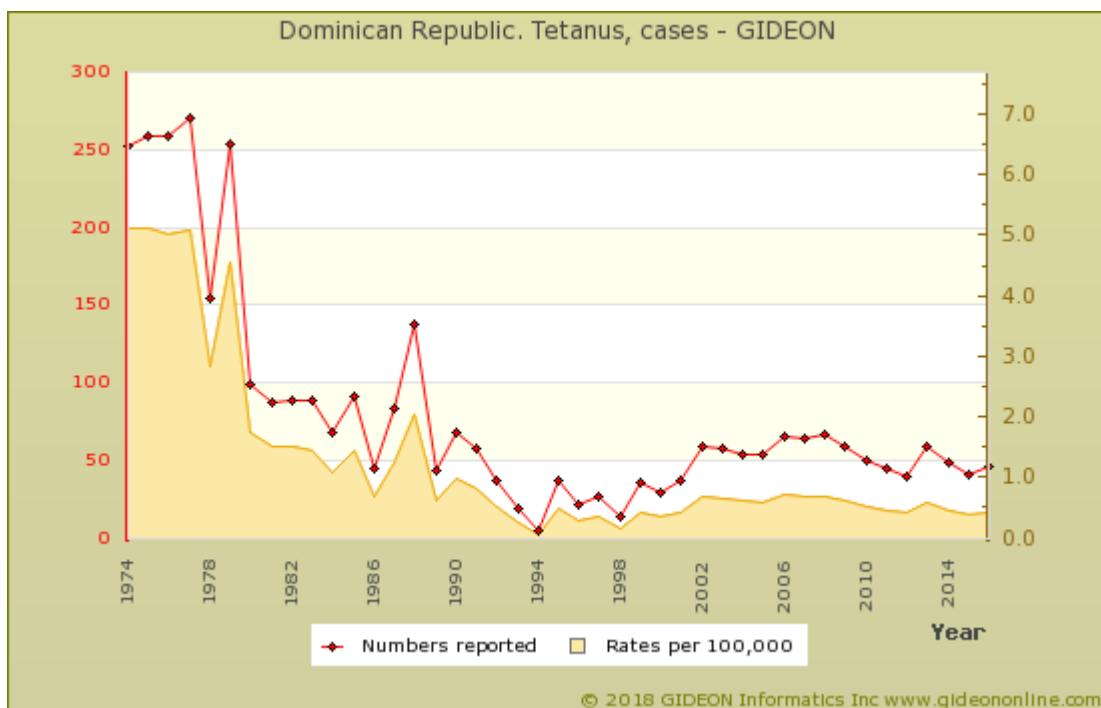
BCG - birth
 DTwP - 2,4,6,18 months; 5, 10 years
 DTwPHibHepB - 2,4,6 months
 HepB - birth
 IPV - 2 months
 MMR - 12 months
 MR - >=2 years
 OPV - 2,4,6,18 months; 5 years
 Pneumo conj - 2,4,12 months
 Rotavirus - 2,4 months
 Td - 1st contact; +4-6 weeks; +6 months; +1, +1 year; every 10 years



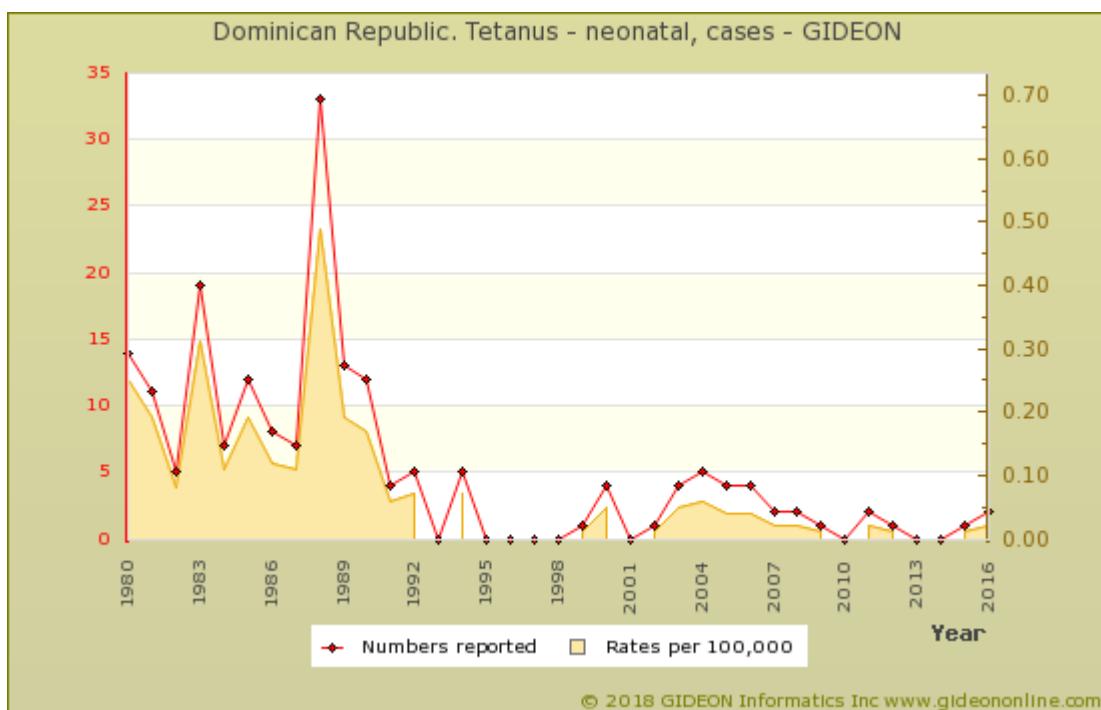
Graph: Dominican Republic. Tetanus - WHO-UNICEF est. vaccine (DTP3 %) coverage



Graph: Dominican Republic. Tetanus - WHO-UNICEF est. vaccine (TT2+ %) coverage



Graph: Dominican Republic. Tetanus, cases



Graph: Dominican Republic. Tetanus - neonatal, cases

Toxic shock syndrome

Agent	BACTERIUM. <i>Staphylococcus aureus</i> , <i>Streptococcus pyogenes</i> , et al - (toxins) Facultative gram-positive cocci
Reservoir	Human
Vector	None
Vehicle	Tampon (Bandage, etc)
Incubation Period	Unknown
Diagnostic Tests	Isolation of toxigenic <i>Staphylococcus aureus</i> . Toxin assay available in specialized laboratories.
Typical Adult Therapy	The role of topical (eg, vaginal) and systemic antistaphylococcal antibiotics is unclear; however, most authorities suggest intravenous administration of an anti-staphylococcal (anti-MRSA, anti-streptococcal as indicated) antibiotic.
Typical Pediatric Therapy	As for adult
Clinical Hints	- Most cases associated with "super absorbent" tampon use or staphylococcal wound infection - Fever (>38.9), hypotension (<90 mm Hg) and dermal erythema with desquamation - Respiratory, cardiac or other disease present - Case-fatality rates of 5% to 10% are reported
Synonyms	Streptococcal toxic shock syndrome, TSS. ICD9: 040.82 ICD10: A48.3

Toxocariasis

Agent	PARASITE - Nematoda. Secernentea: <i>Toxocara cati</i> and <i>T. canis</i>
Reservoir	Cat, Dog, Mouse
Vector	None
Vehicle	Soil ingestion
Incubation Period	1w - 2y
Diagnostic Tests	Identification of larvae in tissue. Serology.
Typical Adult Therapy	<p>Albendazole 400 mg BID X 5d. OR Mebendazole 100 to 200 mg PO bid X 5 days</p> <p>Add corticosteroids if eye, brain, heart or lung involvement is present.</p>
Typical Pediatric Therapy	As for adult
Clinical Hints	- Cough, myalgia, seizures and urticaria - Hepatomegaly, pulmonary infiltrates or retrobulbar lesions may be present - Marked eosinophilia is common - Symptoms resolve after several weeks, but eosinophilia may persist for years
Synonyms	Ascaris suum, <i>Toxocara canis</i> , <i>Toxocara cati</i> , Toxocarose, Toxocarosis, Visceral larva migrans. ICD9: 128.0 ICD10: B83.0

Toxocariasis in the Dominican Republic

Toxocariasis was identified in a Dominican immigrant in Spain. ¹

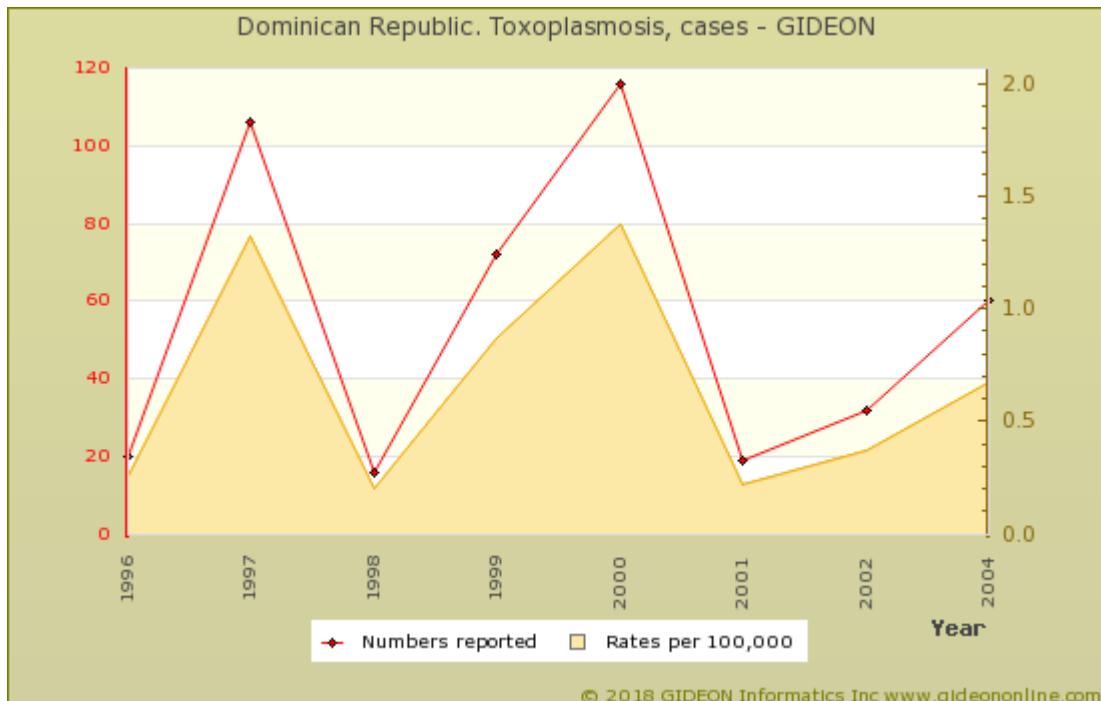
References

1. [Emerg Infect Dis](#) 2011 Jul ;17(7):1263-5.

Toxoplasmosis

Agent	PARASITE - Protozoa. Apicomplexa, Eimeriida: <i>Toxoplasma gondii</i>
Reservoir	Rodent, Pig, Cattle, Sheep, Chicken, Bird, Cat, Marsupial
Vector	None
Vehicle	Transplacental, Meat, Soil ingestion, Water , Milk, Filth flies
Incubation Period	1w - 3w (range 5d - 21d)
Diagnostic Tests	Serology. Cultivation or identification of organisms per specialized laboratories. Nucleic acid amplification.
Typical Adult Therapy	Pyrimethamine 25 mg/d + Sulfonamides 100 mg/kg (max 6g)/d X 4w - give with folinic acid. Alternatives: Clindamycin , Azithromycin , Dapsone . Spiramycin (in pregnancy) 4g/d X 4w
Typical Pediatric Therapy	Pyrimethamine 2 mg/kg/d X 3d, then 1 mg/kg/d + Sulfonamides 100 mg/kg/d X 4w - give with folinic acid. Alternatives: Clindamycin , Azithromycin , Dapsone .
Clinical Hints	- Fever, lymphadenopathy, hepatic dysfunction or chorioretinitis - Cerebral cysts often encountered in patients with AIDS - Congenital hydrocephalus associated with mental retardation - Seizures or blindness
Synonyms	Toxoplasma, Toxoplasmose, Toxoplasmosi. ICD9: 130 ICD10: B58

Toxoplasmosis in the Dominican Republic



Graph: Dominican Republic. Toxoplasmosis, cases

Trachoma

Agent	BACTERIUM. <i>Chlamydia trachomatis</i> , type A
Reservoir	Human
Vector	Fly
Vehicle	Secretions, Contact, Fly, Fomite
Incubation Period	5d - 12d
Diagnostic Tests	Culture or direct immunofluorescence of secretions. Serology. Nucleic acid amplification.
Typical Adult Therapy	Azithromycin 1 g po as single dose. OR Doxycycline 100 mg/day PO X 21 days. Also administer topical Tetracycline
Typical Pediatric Therapy	Azithromycin 20 mg/kg as single dose. Also administer topical Tetracycline
Clinical Hints	- Keratoconjunctivitis with follicular hypertrophy, palpebral scarring and pannus formation - In later stages, eyelashes may protrude inward or outward - 0.5% of infections result in blindness
Synonyms	Egyptian ophthalmia, Granular conjunctivitis, Kornerkrankheit, Trachom, Tracoma. ICD9: 076 ICD10: A71

Trichinosis

Agent	PARASITE - Nematoda. <i>Trichinella spiralis</i> (occasionally <i>T. nativa</i> , <i>T. britovi</i> , <i>T. pseudospiralis</i> , <i>T. nelsoni</i> , et al)
Reservoir	Wild carnivore, Omnivore, Marine mammal
Vector	None
Vehicle	Meat
Incubation Period	10d - 20d (range 1w - 10w)
Diagnostic Tests	Identification of larvae in tissue. Serology.
Typical Adult Therapy	Albendazole 400 mg PO BID X 14d. OR Mebendazole 200 to 400 mg PO tid X 3 days, then 400 to 500 mg PO. tid X 10 days. Give with prednisone 50 mg PO daily X 3 to 5 days (then 'taper' dosage)
Typical Pediatric Therapy	Albendazole 7 mg/kg BID X 14 d. OR Mebendazole 200 to 400 mg PO tid X 3 days, then 400 to 500 mg PO. tid X 10 days. Give with prednisone 50 mg PO daily X 3 to 5 days (then 'taper' dosage)
Clinical Hints	- Onset 1 to 4 weeks following ingestion of undercooked meat - Early diarrhea and vomiting - Subsequent myalgia, facial edema and eosinophilia - Symptoms may persist for two months - Reported case-fatality rate for symptomatic infection is 2%
Synonyms	Haycocknema, Trichinellose, Trichinellosis, Trichinose, Trikinose, Triquiniasis, Triquonosis. ICD9: 124 ICD10: B75

Trichinosis in the Dominican Republic

Dominican Republic. Trichinosis, cases: None reported between 1996 and 2004

Trichomoniasis

Agent	PARASITE - Protozoa. Metamonada, Parabasala, Trichomonadea. Flagellate: <i>Trichomonas vaginalis</i>
Reservoir	Human
Vector	None
Vehicle	Sexual contact
Incubation Period	4d - 28d
Diagnostic Tests	Microscopy of vaginal discharge. ELISA, culture, antigen detection tests available. Nucleic acid amplification.
Typical Adult Therapy	Metronidazole or Tinidazole 2g PO as single dose to both sexual partners
Typical Pediatric Therapy	Metronidazole 5 mg/kg PO TID X 7d. OR Tinidazole 50 mg/kg PO X 1 (maximum 2 grams)
Clinical Hints	- Vaginal pruritus, erythema and thin or frothy discharge - Mild urethritis may be present in male or female
Synonyms	Pentatrichomonas, Tetratrichomonas, Trichomonaden, Trichomonas, Trichomonas vaginalis, Trichomoniasis, Tritrichomonas. ICD9: 131 ICD10: A59

Trichuriasis

Agent	PARASITE - Nematoda. <i>Trichuris trichiura</i>
Reservoir	Human
Vector	None
Vehicle	Soil ingestion, Sexual contact, Flies
Incubation Period	2m - 2y
Diagnostic Tests	Stool microscopy or visualization of adult worms (adults are approximately 3 cm long).
Typical Adult Therapy	Mebendazole 100 mg PO BID X 3d. OR Albendazole 400 mg PO daily X 3 to 7 days OR Ivermectin 200 mg/kg PO daily X 3 days
Typical Pediatric Therapy	Albendazole 200 mg PO single dose OR Mebendazole 100 mg BID X 3 d (> age 2). OR Ivermectin 200 mg/kg PO daily X 3 days
Clinical Hints	- Abdominal pain, bloody diarrhea - Rectal prolapse or intestinal obstruction are occasionally encountered - The parasite may survive for as long as five years in the human host
Synonyms	Trichocephaliasis, <i>Trichuris trichiura</i> , Tricuriasis, Whipworm. ICD9: 127.3 ICD10: B79

Tropical pulmonary eosinophilia

Agent	UNKNOWN Possibly related to filarial infection
Reservoir	Unknown
Vector	Unknown
Vehicle	Unknown
Incubation Period	Unknown
Diagnostic Tests	Antifilarial antibodies may be present. Response to therapeutic trial.
Typical Adult Therapy	Diethylcarbamazine 2 mg/kg PO TID X 21d
Typical Pediatric Therapy	As for adult
Clinical Hints	- Acquired in countries known to be endemic for filariasis - Chronic cough, wheezing and dyspnea - Reticular-nodular pulmonary infiltrates and eosinophilia (over 3,000 per cu. mm.)
Synonyms	

Tropical sprue

Agent	UNKNOWN
Reservoir	Unknown
Vector	None
Vehicle	Unknown
Incubation Period	Unknown - probably at least 6 months
Diagnostic Tests	Typical functional, roentgenographic and histological changes in bowel. Prompt response to therapy.
Typical Adult Therapy	Tetracycline 250 mg PO QID + folate 5 mg PO daily. Administer for 6 months
Typical Pediatric Therapy	Nonabsorbable sulfa drug + folate. Administer for 6 months
Clinical Hints	- Chronic (months to years) diarrhea, bloating, weight loss and anemia - Occasional early fever, glossitis, neuropathy, dermatitis, nausea - Malabsorption of fats, protein and minerals
Synonyms	Hill diarrhea, Postinfectious tropical malabsorption. ICD9: 579.1 ICD10: K90.1

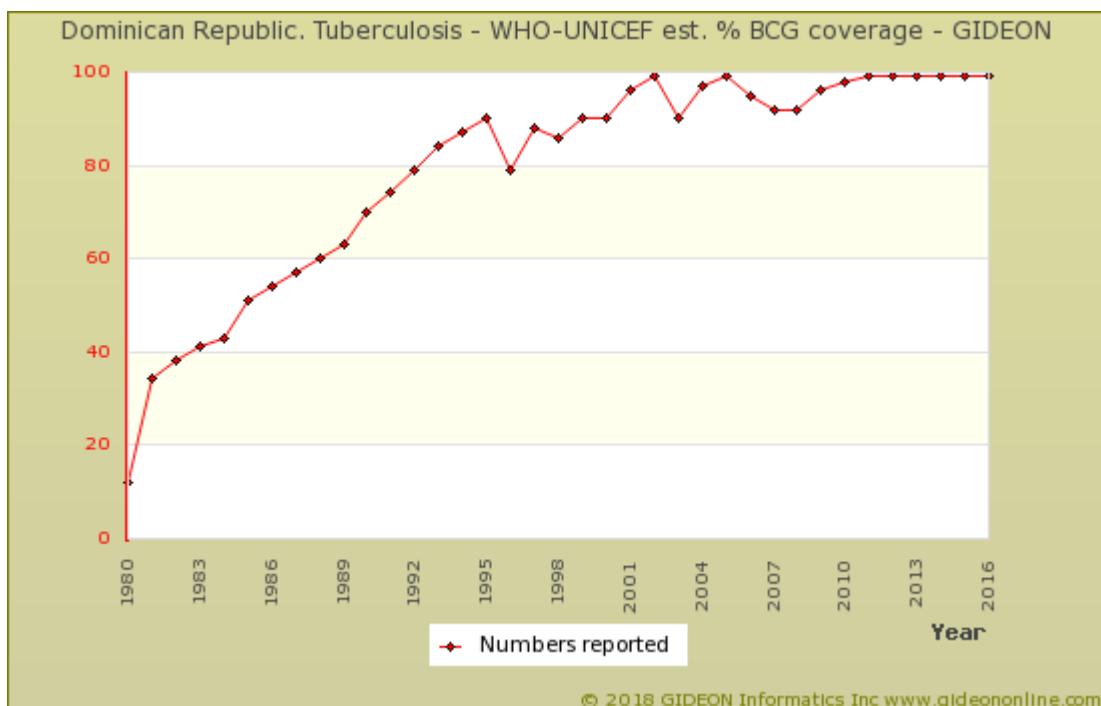
Tuberculosis

Agent	BACTERIUM. Actinomycetes, <i>Mycobacterium tuberculosis</i> An aerobic acid-fast bacillus
Reservoir	Human, Cattle
Vector	None
Vehicle	Air, Dairy products, Respiratory or pharyngeal acquisition
Incubation Period	4w - 12w (primary infection)
Diagnostic Tests	Microscopy. Culture. Nucleic acid amplification. Inform laboratory when this diagnosis is suspected.
Typical Adult Therapy	Respiratory isolation. Typical pulmonary infection is treated with 6 months of Isoniazid , Rifampin & Pyrazinamide MDR tuberculosis - 5 drugs (including pyrazinamide if possible) initially, followed by 4 drugs.
Typical Pediatric Therapy	As for adult
Vaccine	BCG vaccine
Clinical Hints	- Cough, "night sweats" and weight loss - Most infections represent reactivation of old foci in lungs, brain, bone, kidneys etc - Often presents as prolonged fever (FUO) or infection of bone, meninges, kidneys or other organs
Synonyms	Consumption, <i>Mycobacterium africanum</i> , <i>Mycobacterium bovis</i> , <i>Mycobacterium caprae</i> , <i>Mycobacterium orygis</i> , <i>Mycobacterium tuberculosis</i> , Oryx bacillus, Phthisis, TB, TB meningitis, Tuberculose, Tuberculose miliar, Tuberculosis, Tuberculous meningitis, Tuberkulose, White plague. ICD9: 010,012,013,014,015,016,017,018 ICD10: A15,A16,A17,A18,A19

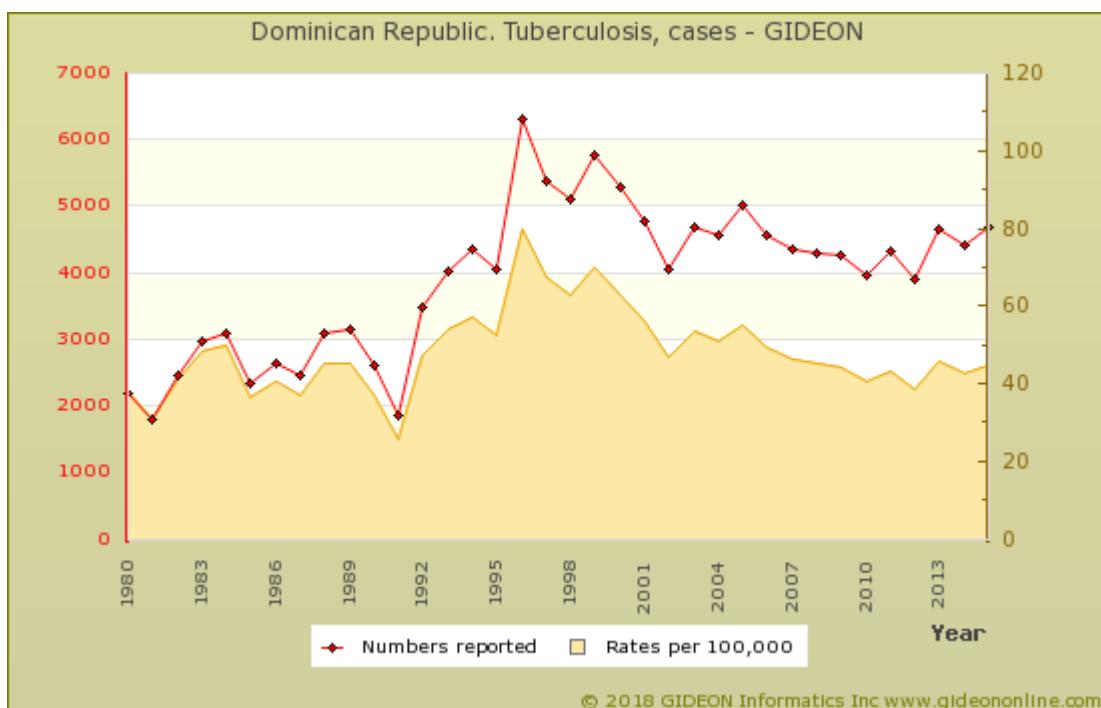
Tuberculosis in the Dominican Republic

Vaccine Schedule:

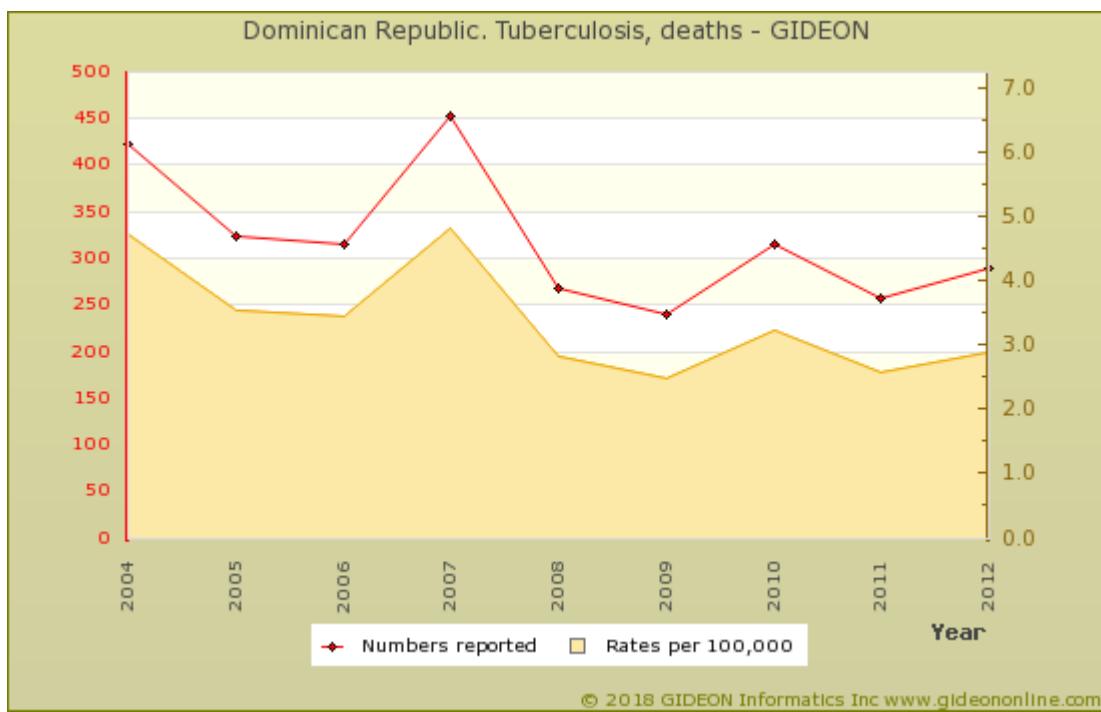
BCG - birth
 DTwP - 2,4,6,18 months; 5, 10 years
 DTwPHibHepB - 2,4,6 months
 HepB - birth
 IPV - 2 months
 MMR - 12 months
 MR - >=2 years
 OPV - 2,4,6,18 months; 5 years
 Pneumo conj - 2,4,12 months
 Rotavirus - 2,4 months
 Td - 1st contact; +4-6 weeks; +6 months; +1, +1 year; every 10 years



Graph: Dominican Republic. Tuberculosis - WHO-UNICEF est. % BCG coverage



Graph: Dominican Republic. Tuberculosis, cases

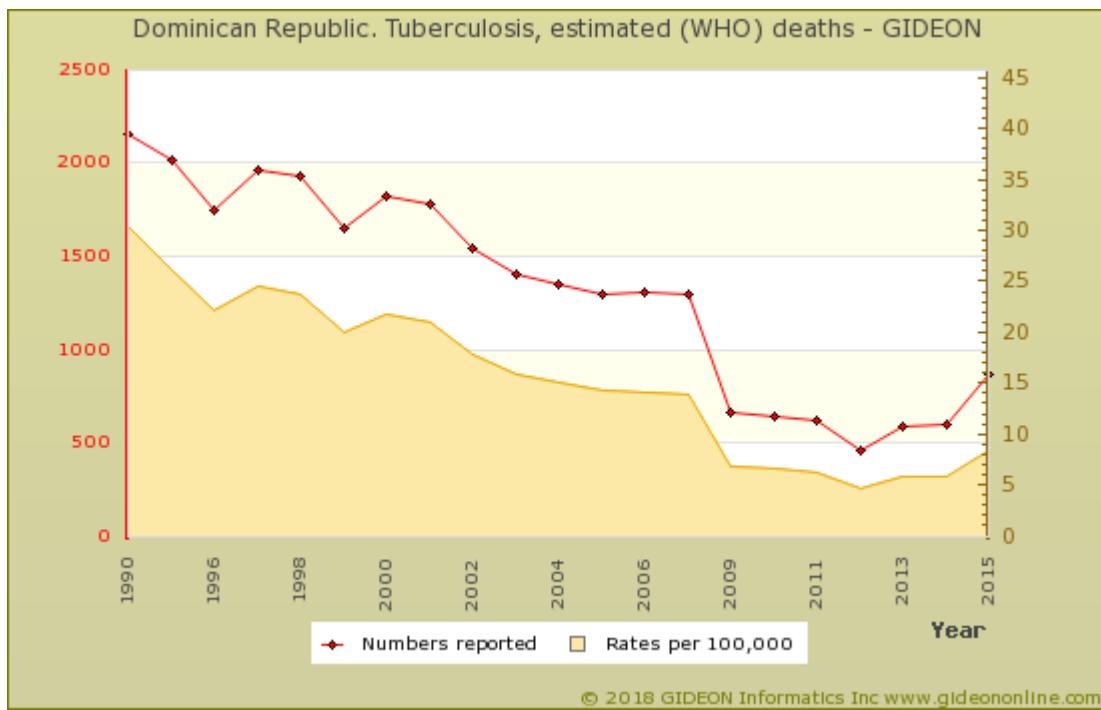


Graph: Dominican Republic. Tuberculosis, deaths

Notes:

Individual years:

1994 - Tuberculosis accounted for 2% of all diagnosed deaths and 15% of communicable disease deaths.



Graph: Dominican Republic. Tuberculosis, estimated (WHO) deaths

Notes:

1. Annual age-adjusted mortality rates are approximately 9.2 per 100,000.

Tuberculosis and HIV infection:

- Tuberculosis is found in 15.6% of AIDS patients (1994 to 1996).
- 5.8% of children below age 59 months with tuberculosis are HIV-positive.¹

A national survey (1994 - 1995) demonstrated INH resistance in 22.4% and multidrug resistance in 8.6%. [2](#)

References

1. [J Acquir Immune Defic Syndr Hum Retrovirol 1996 Oct 01;13\(2\):155-9.](#)
2. [Int J Tuberc Lung Dis 1998 Jun ;2\(6\):490-8.](#)

Tungiasis

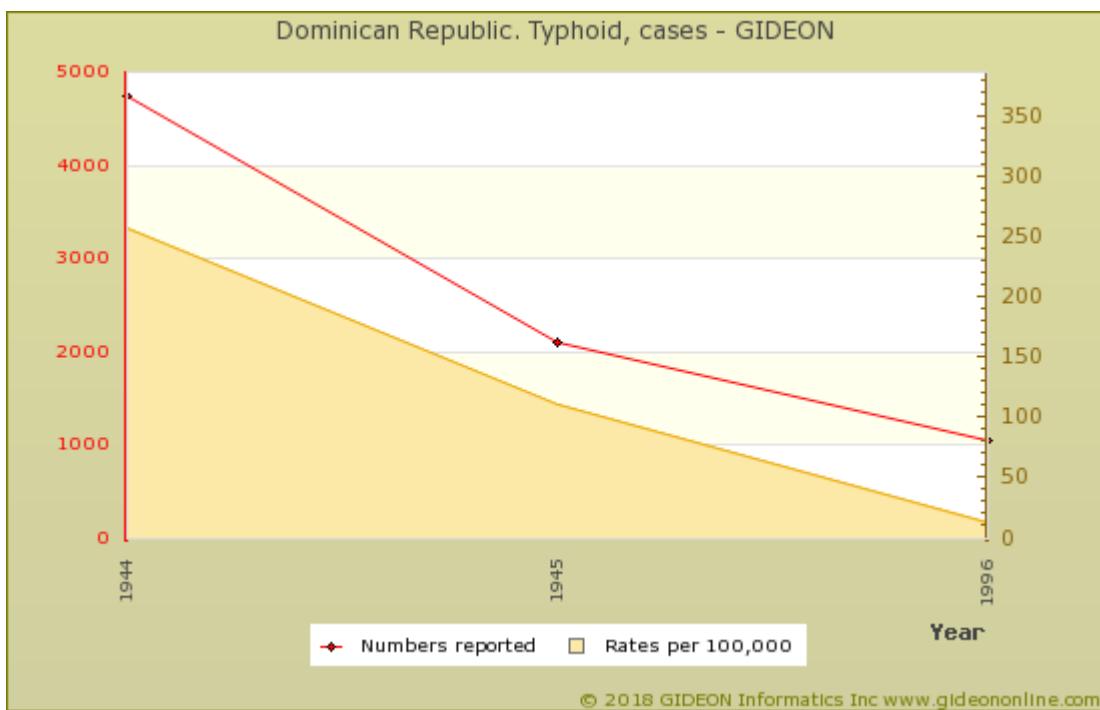
Agent	PARASITE - Insecta Siphonaptera (Flea), Tungidae: <i>Tunga penetrans</i> and <i>T. trimamillata</i> ("sand fleas")
Reservoir	Pig, Dog, Various other mammals
Vector	None
Vehicle	Contact
Incubation Period	8d - 12d
Diagnostic Tests	Identification of parasite.
Typical Adult Therapy	Extraction of parasite Ivermectin has been advocated in some publications.
Typical Pediatric Therapy	As for adult
Clinical Hints	- Painful papule or nodule, usually on the feet - may be multiple - Onset 1 to 2 weeks after walking on dry soil - Secondary infections and tetanus are reported
Synonyms	Bicho de pe, Chica, Chigger, Chigoe flea, Jigger, Nigua, Puce-chique, Tu, <i>Tunga penetrans</i> , <i>Tunga trimamillata</i> , Tungosis. ICD9: 134.1 ICD10: B88.1

Typhoid and enteric fever

Agent	BACTERIUM. <i>Salmonella</i> serotype Typhi (certain other <i>Salmonella</i> species cause 'paratyphoid' fever) A facultative gram-negative bacillus
Reservoir	Human
Vector	None
Vehicle	Fecal-oral, Food, Fly, Water
Incubation Period	15d - 21d (range 5d - 34d)
Diagnostic Tests	Culture (blood, urine, sputum culture). Stool usually negative unless late, untreated infection. Serology.
Typical Adult Therapy	Ceftriaxone 2 g IV q12h to q 24h X 5 to 7d. OR Azithromycin 1 gram PO on day 1; then 500 mg days 2 to 7. Fluoroquinolones resistance common - not recommended for empiric therapy. Add corticosteroids if evidence of shock or decreased mental status.
Typical Pediatric Therapy	Ceftriaxone 50 to 80 mg/kg IV daily X 5 to 7d. OR Azithromycin 15 mg/kg PO on day 1; then 7.5 mg/kg on days 2 to 7.
Vaccines	Typhoid - injectable vaccine Typhoid - oral vaccine
Clinical Hints	- Transient diarrhea followed by fever, splenomegaly and obtundation - Rose spots (during second week of illness), leukopenia and relative bradycardia are common - Intestinal perforation or hemorrhage may occur in third to fourth week of illness - Case-fatality rates are 0.8% (treated) to 15% (untreated)
Synonyms	Abdominal typhus, Abdominaltyphus, Buiktyphus, Enteric fever, Febbre tifoide, Febbre tifoidea, Fiebre tifoidea, Paratifoidea, Paratyfus, Paratyphoid, <i>Salmonella</i> serotype Typhi, Tyfoid, Typhoid, Typhoide. ICD9: 002 ICD10: A01

Typhoid and enteric fever in the Dominican Republic

Disease rates peak during May to August.



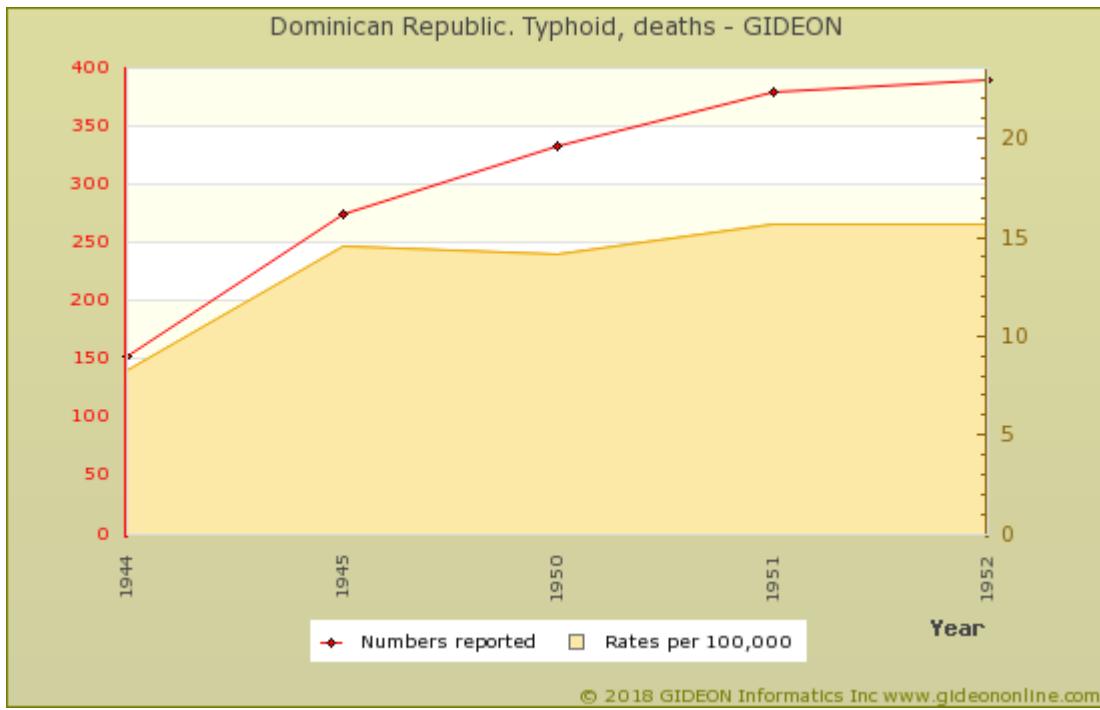
Graph: Dominican Republic. Typhoid, cases

Notes:

1. Historical data from reference [1](#)

Individual years:

1,303 cases of typhoid and paratyphoid were reported.



Graph: Dominican Republic. Typhoid, deaths

References

1. Bull World Health Organ 1955 ;13(1):173-91.

Typhus - endemic

Agent	BACTERIUM. <i>Rickettsia typhi</i>
Reservoir	Rat
Vector	Flea (<i>Xenopsylla</i> or <i>Nosopsyllus</i> spp.)
Vehicle	None
Incubation Period	10d - 12d (range 4d - 18d)
Diagnostic Tests	Serology. Identification of rickettsiae in smear or culture of skin lesions. Nucleic acid amplification.
Typical Adult Therapy	Doxycycline 100 mg BID X 7d
Typical Pediatric Therapy	Doxycycline 2 mg/kg BID X 7d (maximum 200 mg/day); or Chloramphenicol 12.5 mg/kg QID X 7d
Clinical Hints	<ul style="list-style-type: none">- Fever, headache and myalgia- Truncal maculopapular rash (present in 60%) appears on days 3 to 5 and persists for 4 to 8 days- Fever resolves after 12 to 16 days- Case fatality rate (untreated) is 2%
Synonyms	Endemic typhus, Murine typhus, Rickettsia typhi, Ship typhus, Tifo murino, Tifus pulgas, Vlektyphus. ICD9: 081.0 ICD10: A75.2

Urinary tract infection

Agent	BACTERIUM OR FUNGUS. <i>Escherichia coli</i> , other facultative gram negative bacilli, enterococci, et al
Reservoir	Human
Vector	None
Vehicle	Endogenous
Incubation Period	Variable
Diagnostic Tests	Urine culture and leucocyte count.
Typical Adult Therapy	Antimicrobial agent(s) directed at known or likely pathogen
Typical Pediatric Therapy	As for adult
Clinical Hints	- Fever, dysuria, frequency, flank pain and vomiting - Infection in children or men - and infection which relapses in women - may warrant radiological studies to rule out underlying obstruction or calculus
Synonyms	Cistite, Cistitis, Cystite, Cystitis, Pielite, Pielitis, Pielonefrite, Pielonefritis, Prostatite, Pyelitis, Pyelonephrite, Pyelonephritis, Trigonitis, Tubulointerstitial nephritis, Urethritis, Uretrite, Zystitis. ICD9: 791.9,136.9,599.0,590,601.0 ICD10: N10,N30,N41

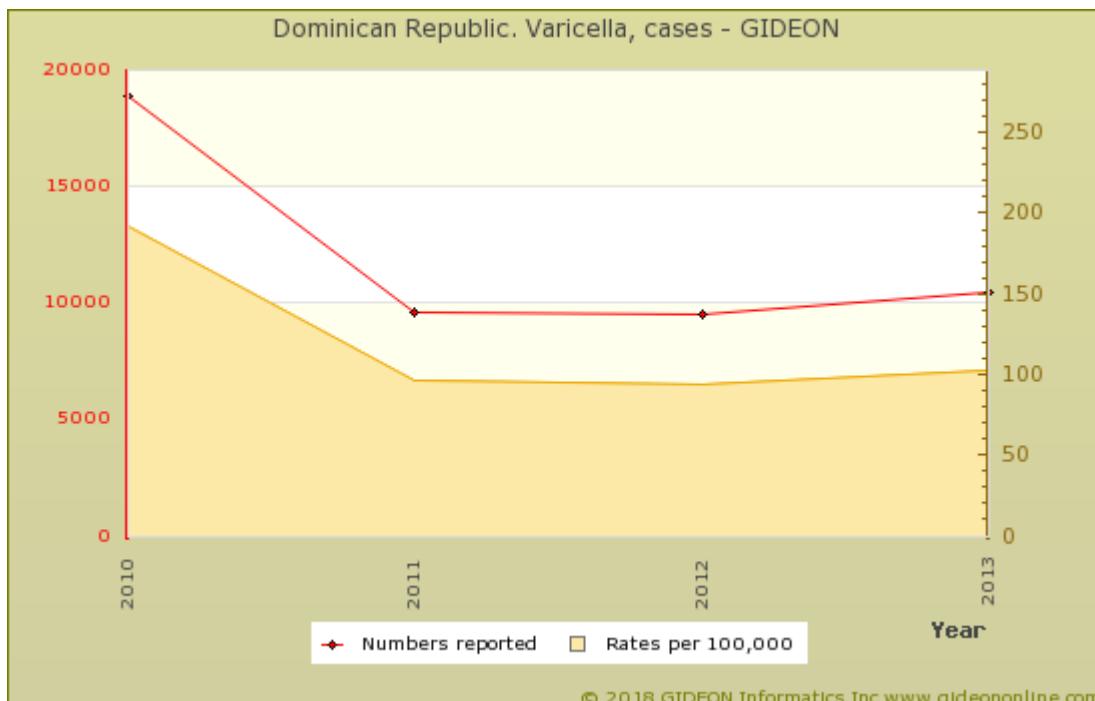
Vaccinia and cowpox

Agent	VIRUS - DNA. Poxviridae, Orthopoxvirus. Cowpox virus
Reservoir	Cattle, Cat Rodent
Vector	None
Vehicle	Cattle, Cat
Incubation Period	2d - 4d
Diagnostic Tests	Viral isolation from skin exudate or biopsy. Nucleic acid amplification. Biosafety level 3.
Typical Adult Therapy	Secretion precautions; supportive. In severe cases, Tecovirimat , 400 to 600 mg PO OD X 14 d.
Typical Pediatric Therapy	As for adult
Vaccine	Vaccinia immune globulin
Clinical Hints	- Vesicles or pustules (usually on hand) progressing to crusts - Painful regional lymphadenopathy - Follows contact with infected animals or smallpox vaccination
Synonyms	Akhmeta poxvirus, Aracatuba, Buffalopox, Camelpox, Cantagalo, Cowpox, Passatempo, Vaccinia, Vaiolo. ICD9: 051.0 ICD10: B08.0

Varicella

Agent	VIRUS - DNA. Herpesviridae, Alphaherpesvirinae: Human Herpesvirus 3 (Varicella-zoster virus)
Reservoir	Human
Vector	None
Vehicle	Air, Contact, Breastfeeding, Respiratory or pharyngeal acquisition
Incubation Period	2w - 3w
Diagnostic Tests	Viral culture (vesicles). Serology. Nucleic acid amplification.
Typical Adult Therapy	Respiratory isolation. Severe/complicated cases: Acyclovir 10 to 12 mg/kg IV q8h X 7d Adolescent / young adult: 800 mg PO X 5 per day X 7 d. Alternatives: Valacyclovir 1 g PO TID; or Famciclovir 500 mg PO TID
Typical Pediatric Therapy	Respiratory isolation. Acyclovir (severe/complicated cases) 150 mg/sq m IV q8h X 7d
Vaccines	Varicella vaccine Varicella-Zoster immune globulin
Clinical Hints	- Cough and fever followed by a pruritic papulovesicular rash after 1 to 2 days - Pneumonia is often encountered - Case fatality rate is 4.3 per 100,000 cases (7% in immune-suppressed patients)
Synonyms	Chickenpox, Lechina, Skoldkopper, Vannkopper, Varicela, Varizellen, Vattenkoppot, Waterpokken, Windpocken. ICD9: 052 ICD10: B01

Varicella in the Dominican Republic



Graph: Dominican Republic. Varicella, cases

Vibrio parahaemolyticus infection

Agent	BACTERIUM <i>Vibrio parahaemolyticus</i> A facultative gram-negative bacillus
Reservoir	Marine water, Seafood, Fish
Vector	None
Vehicle	Seafood
Incubation Period	10h - 20h (range 2h - 4d)
Diagnostic Tests	Stool culture - alert laboratory when this organism is suspected.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Onset 4 to 24 hours following ingestion of seafood (often steamed crabs) - Vomiting and explosive diarrhea - Diarrhea may persist for 7 to 10 days - Case fatality rate is 0.1%
Synonyms	Vibrio parahaemolyticus. ICD9: 005.4 ICD10: A05.3

West Nile fever

Agent	VIRUS - RNA. Flaviviridae, Flavivirus: West Nile virus A subtype of West Nile virus, Kunjin virus, is associated with human disease in Oceania and Asia
Reservoir	Bird, Horse, Bat, Tick
Vector	Mosquito (<i>Culex univittatus</i> , <i>Cx. pipiens</i> , <i>Cx. vishnui</i> , <i>Cx. naevaei</i> , <i>Coquillettidia</i> , <i>Aedes</i> and <i>Anopheles</i> spp.)
Vehicle	Blood, Breastfeeding
Incubation Period	3d - 6d (range 1d - 14d)
Diagnostic Tests	Viral culture (blood, CSF). Serology. Nucleic acid amplification. Biosafety level 3.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- Myalgia, arthralgia, lymphadenopathy, headache, conjunctivitis and a macular rash - Sporadic instances of encephalitis, meningitis and myocarditis are reported - Kunjin virus is similar, but often associated with arthralgia, myalgia and rash - Illness resolves within one week in most cases
Synonyms	Bagaza, Fiebre del Oeste del Nilo, Kunjin, Lourdige, Near Eastern equine encephalitis, Ntaya, Usutu, WNF. ICD9: 066.4 ICD10: A92.3

West Nile fever in the Dominican Republic

Seropositive birds were identified in Los Haitises National Park in 2003. [1](#) [2](#)

Evidence for infection has been found in Ruddy quail-dove (*Geotrygon montana*), Mangrove cuckoo (*Coccyzus minor*), Hispaniolan lizard cuckoo (*Saurothera longirostris*) and Red-legged thrush (*Turdus plumbeus*). [3](#)

References

1. Vector Borne Zoonotic Dis 2005 ;5(2):120-6.
2. ProMED <promedmail.org> archive: 20030315.0645
3. Emerg Infect Dis 2003 Oct ;9(10):1299-302.

Whipple's disease

Agent	BACTERIUM. Actinomycetes, <i>Tropheryma whipplei</i> A gram positive bacillus
Reservoir	Unknown
Vector	None
Vehicle	None
Incubation Period	Unknown
Diagnostic Tests	Identification of inclusions in lamina propria (other tissues). Tissue culture. Nucleic acid amplification.
Typical Adult Therapy	<p>Ceftriaxone 2.0 g IV daily X 14 days. OR Penicillin G 12 million u + Streptomycin 1 g daily X 14d. Then, Sulfamethoxazole / Trimethoprim X 1 year</p> <p>OR: Doxycycline 100 mg PO BID + Hydroxychloroquine X 1 year, followed by Doxycycline for life</p>
Typical Pediatric Therapy	Disease is rarely, if ever, encountered in children
Clinical Hints	- Chronic multisystem disorder characterized by weight loss, diarrhea, abdominal and joint pain - Dermal hyperpigmentation, fever and lymphadenopathy are often present - <i>Tropheryma whipplei</i> has recently been recovered from the blood of patients with fever, headache or cough.
Synonyms	Intestinal lipodystrophy, Lipophagic granulomatosis, Mesenteric chyladenectasis, Steatorrhea arthropericarditica, <i>Tropheryma whipplei</i> . ICD9: 040.2 ICD10: K90.8

Yaws

Agent	BACTERIUM. <i>Treponema pallidum</i> subsp. <i>pertenue</i> : microaerophilic gram-negative spirochete
Reservoir	Human, Non-human primate
Vector	None
Vehicle	Contact, Insect bite, Fomite
Incubation Period	3w - 5w (range 10d - 12w)
Diagnostic Tests	VDRL and antitreponemal tests (FTA, MHTP) positive as in syphilis.
Typical Adult Therapy	Azithromycin 30 mg/kg p.o. as single dose OR Benzathine Penicillin G 1.2 million units IM as single dose.
Typical Pediatric Therapy	Azithromycin 30 mg/kg p.o. as single dose OR Benzathine Penicillin G : Weight <14kg: 300,000u IM Weight 14 to 28kg: 600,000u IM Weight >28kg - 1.2 million u IM
Clinical Hints	- Dermal papillomata, periostitis and soft tissue suppuration - Regional lymphadenopathy is common - Relapses often seen during the initial 5 years of illness - Gummata and hyperkeratotic plaques appear in advanced stages of the infection
Synonyms	Anakhre, Bouba, Breda's disease, Charlouis' Disease, Frambesia, Gangosa, Goundou, Granuloma tropicum, Gundo, Henpue, Henpuye, Ogo Mutilans, Parangi, Patek, Pian, <i>Treponema pallidum</i> subsp <i>pertenue</i> . ICD9: 102 ICD10: A66

Yaws in the Dominican Republic

There is evidence that yaws arrived to the Dominican Republic millennia ago, mutated, and spread onward to Europe as syphilis. [1](#) [2](#)

Over 3,000 cases were reported each year during the 1950's.

- 3,827 cases were reported during 1955 to 1956.
- Nine cases were reported in 1971; 1 in 1972; 0 during 1973 to 1979.

The prevalence of yaws was 319.1 per 100,000 in 1952.

References

1. [Clin Infect Dis 2005 May 15;40\(10\):1454-63.](#)
2. [Clin Infect Dis 2000 Oct ;31\(4\):936-41.](#)

Yellow fever

Agent	VIRUS - RNA. Flaviviridae, Flavivirus: Yellow fever virus
Reservoir	Human, Mosquito, Monkey, Marsupial
Vector	Mosquito (<i>Stegomyia (Aedes)</i> , <i>Haemagogus</i> , <i>Sabettus</i>)
Vehicle	None
Incubation Period	3d - 6d (range 2.5d - 14d)
Diagnostic Tests	Viral culture (blood, liver). Serology. Nucleic acid amplification. Biosafety level 3.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Vaccine	Yellow fever vaccine
Clinical Hints	- Headache, backache, vomiting, myalgias, jaundice and hemorrhagic diathesis - Relative bradycardia and leukopenia are present - Illness is often biphasic - Case fatality rate is 10% to 60%, occurring within 7 days of disease onset
Synonyms	Bulan fever, Febbre gialla, Febre amarela, Fever of Fernando Po, Fever of the blight of Benin, Fiebre amarilla, Fievre jaune, Gelbfieber, Gele koorts, Gul feber, Gula febern, Inflammatory fever, Kendal's disease, Magdalena fever, Maladie de Siam, Pest of Havana, Stranger's fever. ICD9: 060 ICD10: A95

Although Yellow fever is not endemic to the Dominican Republic, imported, expatriate or other presentations of the disease have been associated with this country.

Yellow fever in the Dominican Republic

Of historical interest, an epidemic was recorded at Isabella in 1493, one year after the first voyage of Columbus.

Yellow fever does not occur in the Dominican Republic.

Proof of vaccination is **NOT** required for travelers arriving from countries with risk for YFV transmission.

Yersiniosis

Agent	BACTERIUM. <i>Yersinia enterocolitica</i> and <i>Yersinia pseudotuberculosis</i> A facultative gram-negative bacillus
Reservoir	Pig, Rodent, Rabbit, Sheep, Goat, Cattle, Horse, Dog, Cat, Bat
Vector	None
Vehicle	Food, Water, Meat, Dairy products, Vegetables, Fecal-oral, Blood
Incubation Period	4d - 7d (range 1d - 11d)
Diagnostic Tests	Culture stool, blood. Alert laboratory when these organisms are suspected.
Typical Adult Therapy	Stool precautions; diarrhea is self-limited. If severe disease - Ciprofloxacin 500 mg BID X 5 to 7d. OR Sulfamethoxazole / Trimethoprim
Typical Pediatric Therapy	Stool precautions; diarrhea is self-limited. If severe disease - Sulfamethoxazole / Trimethoprim 20 mg-4 mg/kg BID X 5 to 7d
Clinical Hints	- Fever, diarrhea, and right lower quadrant pain - Fecal leucocytes present - May be associated with rheumatologic manifestations such as erythema multiforme, Reiter's syndrome and chronic arthritis
Synonyms	Far East scarlet-like fever, FESLF, <i>Yersinia enterocolitica</i> , <i>Yersinia pseudotuberculosis</i> , Yersiniose. ICD9: 008.44 ICD10: A04.6,A28.2

Zika

Agent	VIRUS - RNA. Flaviviridae, Flavivirus: Zika virus
Reservoir	Human, Mosquito, Monkey
Vector	Mosquito (<i>Aedes</i> spp)
Vehicle	Sexual contact, Saliva, Blood transfusion, Breast-feeding
Incubation Period	5d - 8d (range 2d - 15d)
Diagnostic Tests	Viral isolation (blood). Serology. Nucleic acid amplification.
Typical Adult Therapy	Supportive
Typical Pediatric Therapy	As for adult
Clinical Hints	- A mild dengue-like illness with conjunctivitis and a pruritic maculopapular rash that starts on the face and spreads to the rest of the body; - Joint pain is common - Myalgia, retroorbital pain and leg edema may occur - May be associated with Guillain-Barre syndrome and congenital neurological defects
Synonyms	Zika fever. ICD9: 078.89 ICD10: A92.8

Zika in the Dominican Republic

2015 to 2016 - 18 Dutch travelers acquired Zika virus infection in Suriname and the Dominican Republic to March 2016. ¹
 2016 - A Czech traveler ² and travelers from Antigua and Barbuda ³ and Russia (4 cases) acquired Zika virus infection in the Dominican Republic. ^{4 5 6 7}

2016 - Three cases of microcephaly or other CNS malformation associated with Zika virus infection were reported to September 1. ⁸

Notable outbreaks

Years	Cases	Notes
2016 - 2017	4,919	Cases to September 7, 2017. Includes 85 cases of congenital syndrome. ^{9 10 11 12 13 14 15 16 17 18 19 20} ^{21 22 23 24 25 26 27}

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Zygomycosis

Agent	FUNGUS. Zygomycota, Zygomycetes, Mucorales: <i>Mucor</i> spp., <i>Rhizopus</i> spp., <i>Lichtheimia</i> (formerly <i>Absidia</i>) spp., <i>Saksenaea</i> spp., et al
Reservoir	Saprophytes
Vector	None
Vehicle	Air, Bandages, Contact, Respiratory or pharyngeal acquisition
Incubation Period	Variable
Diagnostic Tests	Fungal smear and culture.
Typical Adult Therapy	Amphotericin B to maximum dose 0.8 mg/kg/d; and to total dose of 3g. Excision as indicated
Typical Pediatric Therapy	Amphotericin B max dose 0.8 mg/kg/d; and to total dose of 40 mg/kg. Excision as indicated
Clinical Hints	- Occurs in the setting of preexisting acidosis (diabetes, uremia) - Periorbital pain, sinusitis, and palatal, nasal or cerebral infarcts - Pulmonary infection may complicate leukemia
Synonyms	Absidia, Actinomucor, Apophysomyces, Cokeromyces, Cunninghamella, Hormographiella, Lichtheimia, Lichtheimia, Mucor, Mucormycosis, Mycocladus, Phycomycosis, Rhizomucor, Rhizopus, Saksenaea, Syncephalastrum. ICD9: 117.7 ICD10: B46

Vaccine Schedule and coverage for The Dominican Republic

BCG - birth

DTwP - 2,4,6,18 months; 5, 10 years

DTwPHibHepB - 2,4,6 months

HepB - birth

IPV - 2 months

MMR - 12 months

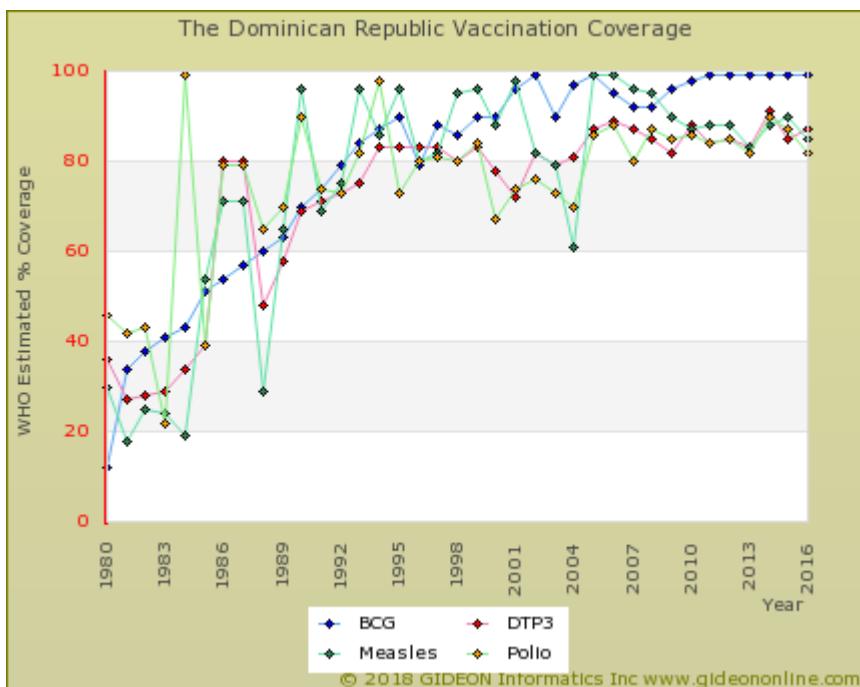
MR - >=2 years

OPV - 2,4,6,18 months; 5 years

Pneumo conj - 2,4,12 months

Rotavirus - 2,4 months

Td - 1st contact; +4-6 weeks; +6 months; +1, +1 year; every 10 years



A given generic vaccine may have multiple designations in this list due to variations in terminology used by individual countries. Vaccination policies evolve rapidly in response to changes in disease occurrence and the introduction of new vaccines. Every effort has been made to update these lists accordingly.

Vaccine Abbreviations

aP - Attenuated pertussis

ap - Attenuated pertussis

BCG - Bacillus Calmette Guerin

CBAW - Childbearing age women

D - Diphtheria

HCW - Health-care workers

Hep - Hepatitis B

HEP - Hepatitis B

HepA - Hepatitis A

HepB - Hepatitis B

Hib - Haemophilus influenzae type B

HPV - Human papillomavirus

IPV - Injectable polio vaccine

MenACWY - Meningococcus types A,C,Y and W

MenA-conj - Meningococcus type C conjugate

MenC-conj - Meningococcus type C conjugate

MR - Measles, Rubella

MMR - Measles, Mumps, Rubella

MMRV - Measles, Mumps, Rubella, Varicella

NA - Details not available

OPV - Oral polio vaccine

P - Pertussis

Pneumo - Pneumococcal vaccine
Pneumo conj - Pneumococcal conjugate
Pneumo ps - Pneumococcal polysaccharide
T - Tetanus
TBE - Tick-borne encephalitis
Td - Tetanus lower dose diphtheria
TT - Tetanus toxoid
wP - Whole-cell pertussis
YF - Yellow fever
Zoster - Herpes zoster

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