

EMERGING INFECTIOUS DISEASES

What could be emerging in North Dakota?

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OBJECTIVES

1. Identify new or re-emerging infections
2. Identify ways outside agencies can help the health department monitor for disease
3. Determine what education needs are available.

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WHAT ARE "EMERGING" INFECTIOUS DISEASES?

Infectious diseases whose incidence in humans has increased in the past two decades or threatens to increase in the near future have been defined as "emerging."

These diseases, which respect no national boundaries, include:

- New infections resulting from changes or evolution of existing organisms
- Known infections spreading to new geographic areas or populations
- Previously unrecognized infections appearing in areas undergoing ecologic transformation

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WHAT ARE RE-EMERGING INFECTIOUS DISEASES?

Any condition, usually an infection, that had decreased in incidence in the global population and was brought under control through effective health care policy and improved living conditions, reached a nadir, and, more recently, began to resurge as a health problem due to changes in the health status of a susceptible population.

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REPORTABLE CONDITIONS



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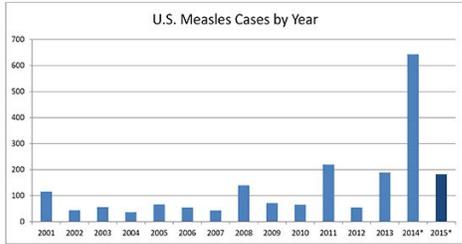
CDC'S LIST OF EIDS

- drug-resistant infections (antimicrobial resistance)
- brucella species/brucellosis (Milk cow disease) & variant Creutzfeldt-Jakob disease (vCJD)
- campylobacteriosis
- Chagas disease
- cholera
- cryptosporidiosis
- cryptosporidiosis (Crypto)
- cyclosporiasis
- cysticercosis
- dengue fever
- diphtheria
- Ebola hemorrhagic fever
- Escherichia coli infection
- group B streptococcal infection
- hantavirus pulmonary syndrome
- hepatitis C
- hepatitis virus infection
- histoplasmosis
- HIV/AIDS
- influenza
- Lassa fever
- legionnaires' disease (legionellosis) and Pontiac fever
- leptospirosis
- listeriosis
- Lyme disease
- malaria
- Marburg hemorrhagic fever
- measles
- meningitis
- monkeypox
- MRSA (Methicillin Resistant Staphylococcus aureus)
- Nipah virus infection
- norovirus (formerly Norwalk virus) infection
- pertussis
- plague
- polio (poliovirus)
- rabies
- Rift Valley fever
- rotavirus infection
- salmonellosis
- SARS (Severe acute respiratory syndrome)
- shigellosis
- shigelpon
- sleeping Sickness (Trypanosomiasis)
- tuberculosis
- tularemia
- valley fever (coccidioidomycosis)
- VISA/VISA - Vancomycin-Intermediate/Resistant Staphylococcus aureus
- West Nile virus infection
- yellow fever

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MEASLES



*Provisional data reported to CDC's National Center for Immunization and Respiratory Diseases



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MEASLES

- The United States experienced a record number of measles cases during 2014, with 667 cases from 27 states reported to CDC's National Center for Immunization and Respiratory Diseases (NCIRD). This is the greatest number of cases since measles elimination was documented in the U.S. in 2000.
- The majority of people who got measles were unvaccinated.
- Measles is still common in many parts of the world including some countries in Europe, Asia, the Pacific, and Africa.
- Travelers with measles continue to bring the disease into the U.S.
- Measles can spread when it reaches a community in the U.S. where groups of people are unvaccinated.

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EBOLA VIRUS DISEASE (EVD)

Ebola is a virus that causes hemorrhagic fever and is a severe, often fatal disease

- Sudden onset of symptoms
- Incubation period is 2-21 days (typically 8-10)

Virus from the Filoviridae family

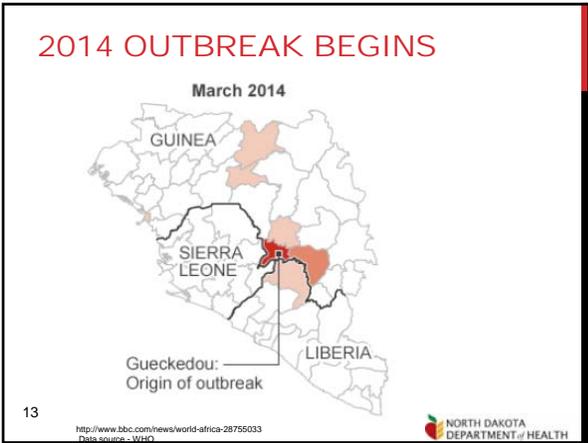
Ebola has caused sporadic outbreaks in the past

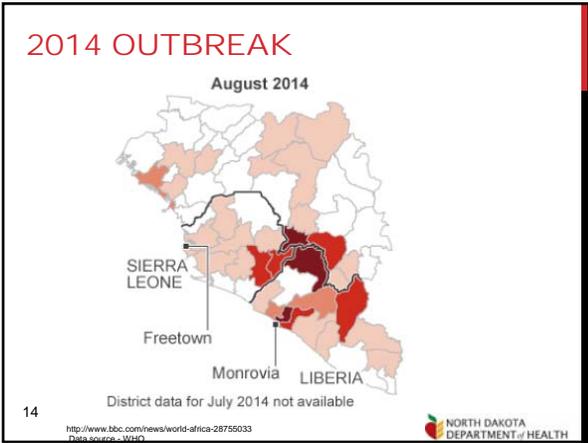
- 1st detected - Ebola River in 1976

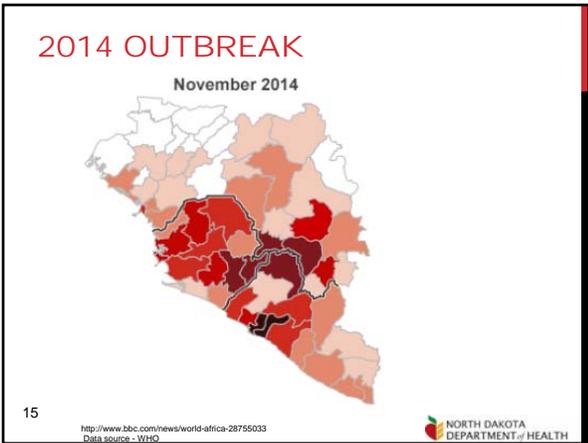


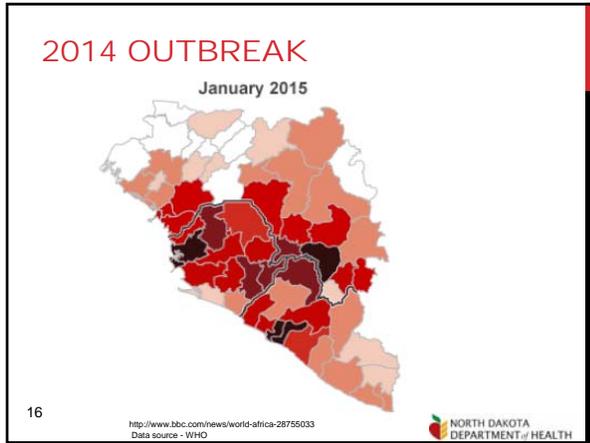
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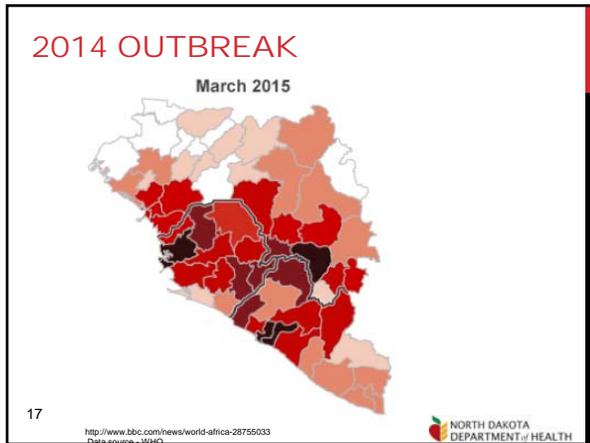














WHAT ELSE?

- Hepa **AN EMERGING EPIDEMIC: THE PUBLIC HEALTH RESPONSE TO HEPATITIS C INFECTION AMONG YOUNG PEOPLE WHO INJECT**

Emergence of Ciprofloxacin-Resistant *Neisseria meningitidis* in North America

Henry W. Hu, M.D., Brian K. Harcourt, Ph.D., Cynthia P. Hatcher, B.S., Stanley C. Hek, M.D., Ryan T. Neval, Ph.D., Yin Wang, Ph.D., Billie A. Jans, M.S., Andra Garmen, B.S., David J. Brant, M.S., Jean Barlow, M.A., M.P.H., Suzanne Schmitz, B.S., Robert D. Stan, B.S., W. Jordan Haseltine, B.S., Holly A. Garton, M.P.H., Tracy K. Miller, M.P.H., Kelly Kruger, B.S., Amanda C. Cohn, M.D., Thomas A. Clark, M.D., M.P.H., Nancy E. Messinart, M.D., Leonard W. Beyer, Ph.D., and Ruth Lynfield, M.D. *N Engl J Med* 2010; 363:888-892 | February 28, 2010 | DOI: 10.1056/NEJoa098414

Abstract | Article | References | Citing Articles (24)

We report on three cases of meningococcal disease caused by ciprofloxacin-resistant *Neisseria meningitidis*, one in North Canada and two in Minnesota. The cases were caused by the same serogroup B strain. To assess local carriage of resistant *N.*

...an alarming increase of 30 in states like Iowa, Kentucky, Maine, North Carolina, Virginia. Unlike historical i.e., concentration in Iowa, are increasingly found in Iowa. However, new well.

MEDIA IN THIS ARTICLE
FIGURE 1

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WHAT CAN WE DO?

- **Judicious antibiotic use both by human and animal care providers and the public.**
 - Reduce pressures on healthcare for antibiotics

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Infectious diseases | NBC NEWS.com

Winter Olympics gave Canada medals — and measles | Update

Foreign visitors blamed for outbreak that sickened 88; shows need for vaccination

- **Take your prev** In 2003, the U.S. experienced an outbreak of monkeypox. This was the first time human monkeypox was reported outside of Africa.

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QUESTIONS

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