Population Health Opportunity

College Immunization Requirements

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"College entrance physical examinations and routine visits provide opportunities for updating and administering immunizations.

2010 National College Health Assessment

- only 40% of college students report receiving influenza vaccinations
- only 55% report receiving meningococcal vaccinations.

Adequate pertussis immunization has also received national emphasis." (CDC)

American College Health Association

Vaccine Preventable Diseases Advisory Committee

Advisory Committee on Immunization Practices (ACIP) liaison

Documents updated regularly:

- Recommended Institutional Prematriculation Immunization Guidelines (“RIPI”)
- Sample Immunization Record

http://www.acha.org/documents/resources/guidelines/ACHA_RIPI_April_2014.pdf

ACHA Guidelines

Recommendations for Institutional Prematriculation Immunizations

Immunizations offer safe and effective protection from vaccine-preventable diseases. The United States is experiencing re-emergence of these diseases, in part due to factors such as un-immunized and under-immunized persons and global travel. The American College Health Association (ACHA) strongly supports the use of vaccines to protect the health of our individual students and our campus communities. In recognition of the vital role that vaccine coverage plays in community immunity (herd immunity), ACHA discourages use of nonmedical exemptions to required vaccines.

This guidance is provided to facilitate implementation of a comprehensive institutional immunization policy. Best practices for institutions of higher education include following Recommendations for Institutional Prematriculation Immunizations (RIPI) guidelines, encouraging students who request nonmedical exemptions to required vaccines to be counseled by a health service clinician, and considering exclusion of un-immunized students from school during outbreaks of vaccine-preventable diseases. Institutions may also be to subject to additional requirements for prematriculation vaccinations and the granting of exemptions by state law

The ACHA Vaccine Preventable Diseases Advisory Committee updates this document in accordance with changing public health recommendations. These guidelines follow Advisory Committee on Immunization Practices (ACIP) recommendations published by the U.S. Centers for Disease Control and Prevention (CDC). Links to full information regarding ACIP provisional and final recommendations, including schedules, indications, precautions, and contraindications, are available at the CDC National Immunization Program website: http://www.cdc.gov/vaccines/acip/index.htm.

ACHA Sample Document

SAMPLE IMMUNIZATION RECORD

This is a SAMPLE immunization record form. If reproduced for use by a college or university health center, please insert your health center's contact information. This form should not be returned to ACHA.

PART I

Name _____ _____
First Name Middle Name

_____
Last Name

Address _____
Street City State Zip

Date of Entry ___/_____ Date of Birth ___/___/_____ School ID# _____
M Y M D Y

Status: Part-time _____ Full-time _____ Graduate _____ Undergraduate _____ Professional _____

PART II – TO BE COMPLETED AND SIGNED BY YOUR HEALTH CARE PROVIDER.

All information must be in English.

A. MMR (MEASLES, MUMPS, RUBELLA)

(Two doses required at least 28 days apart for students born after 1956 and all health care professional students.)

1. Dose 1 given at age 12 months or later . ..... #1 ___/___/_____
M D Y

2. Dose 2 given at least 28 days after first dose . ..... #2 ___/___/_____
M D Y

College Students: A population at Risk

Congregate living, campus housing

Large classrooms and other public spaces

Social and lifestyle choices

- Alcohol and other substances
- Sleep
- Nutrition

Special populations

- Health professions students
- Immunocompromised
- Foreign-born
- Travelers
- MSM

Adult Immunization "Catch up" opportunity

- 2 MMR's
- Hepatitis B series
- TdaP booster
- HPV series
- Chickenpox
- Hepatitis A
- Pneumococcal

Quadrivalent Meningococcal Conjugate Vaccine (MenACWY)

Only vaccine recommendation that explicitly identifies college students

"First year college students up through age 21 years who are living in residence halls should be vaccinated if they have not received a dose on or after their 16th birthday."

Burden and Trends of Meningococcal Disease

- Rates of meningococcal disease have been declining in the US since late 1990's
- Now at historic low –

  2013 – 560 total cases

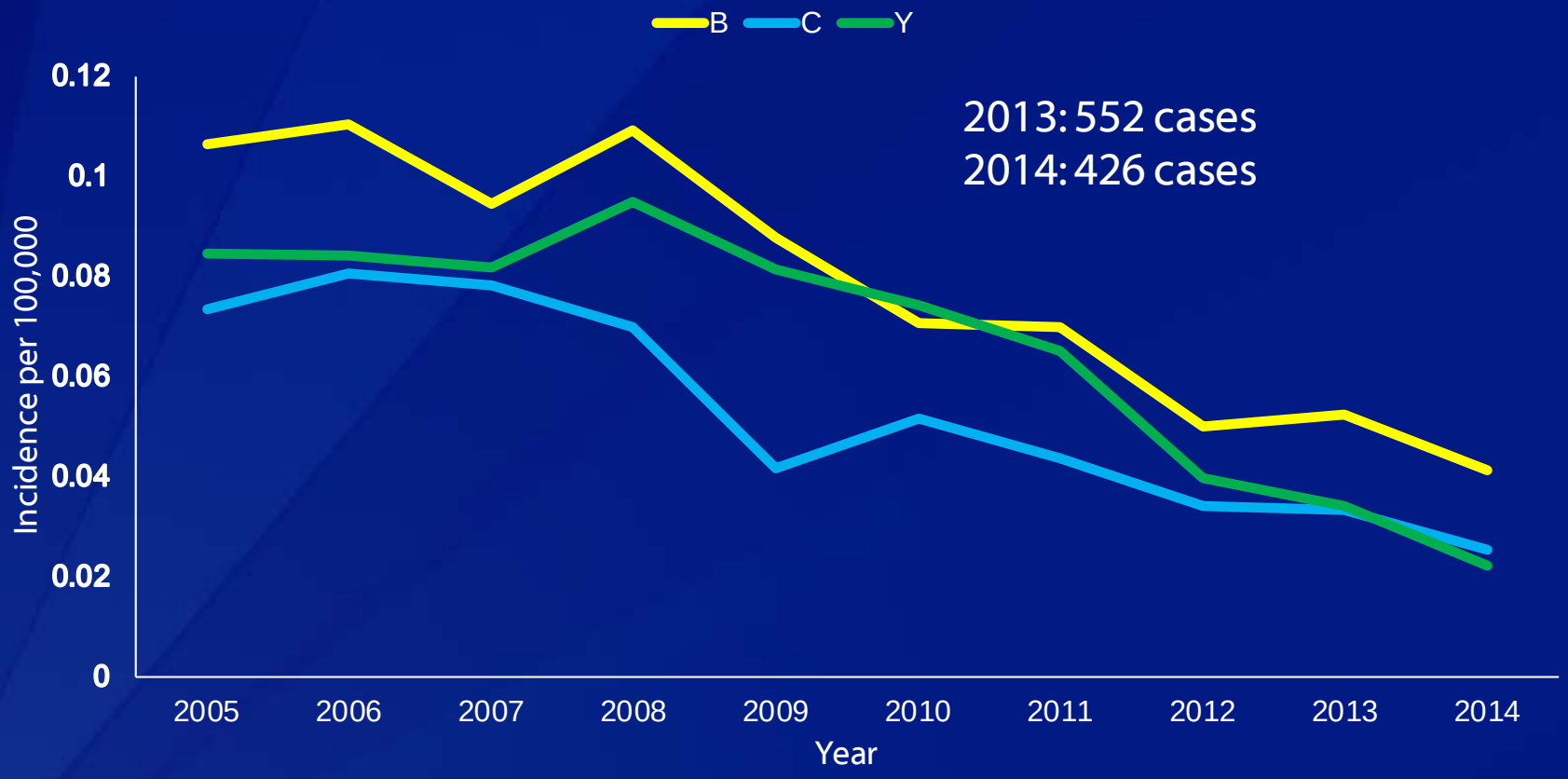
  mid 1990s – 3,000 cases

Most disease caused by 3 serogroups – B,C and Y

2013 – sero B caused 150-200 of the 560 cases

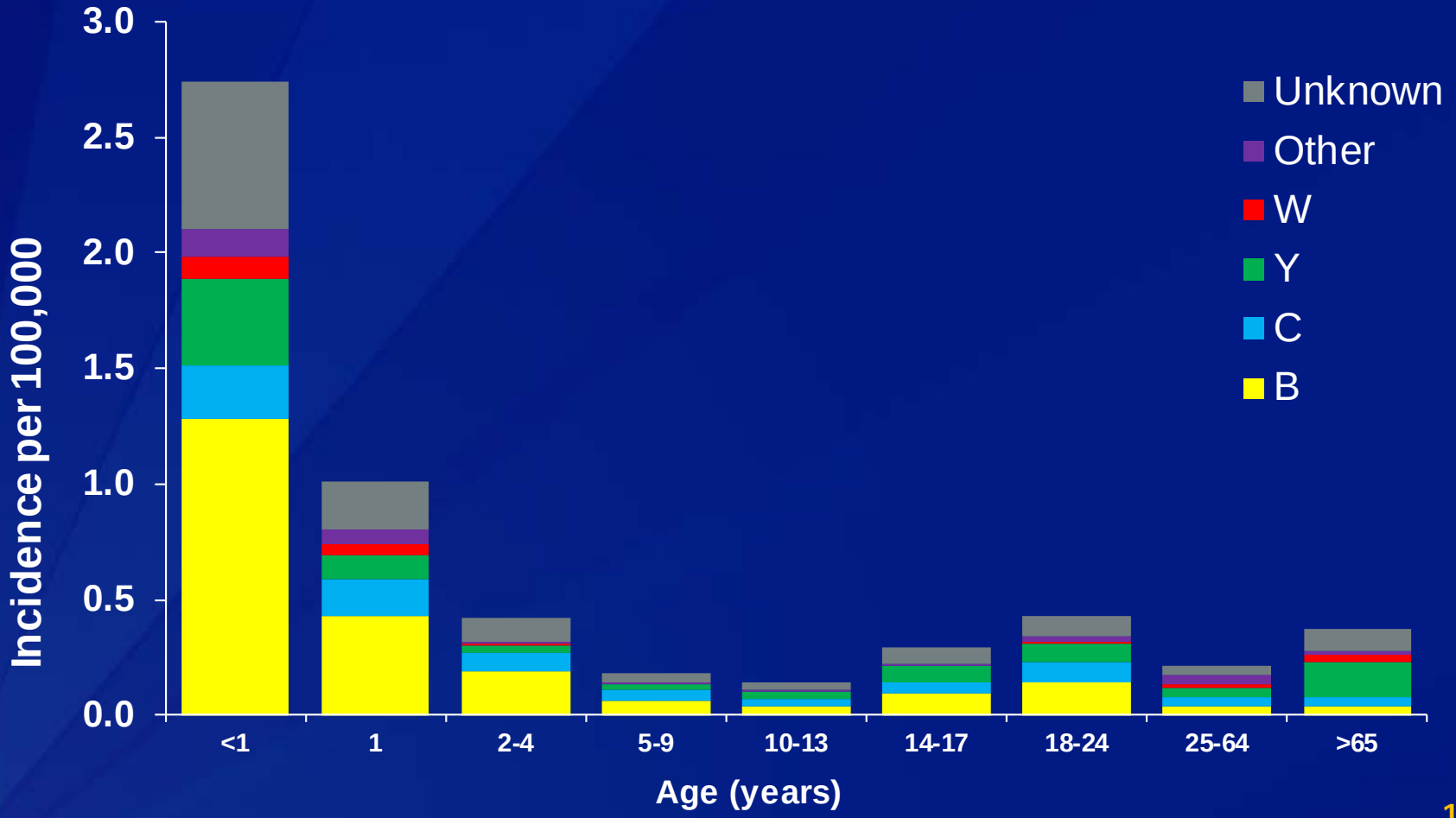
55-65 cases of B disease occur in older children, adolescents and young adults (same as C+Y)

Meningococcal Incidence in All Ages by Serogroup, United States, 2005-2014



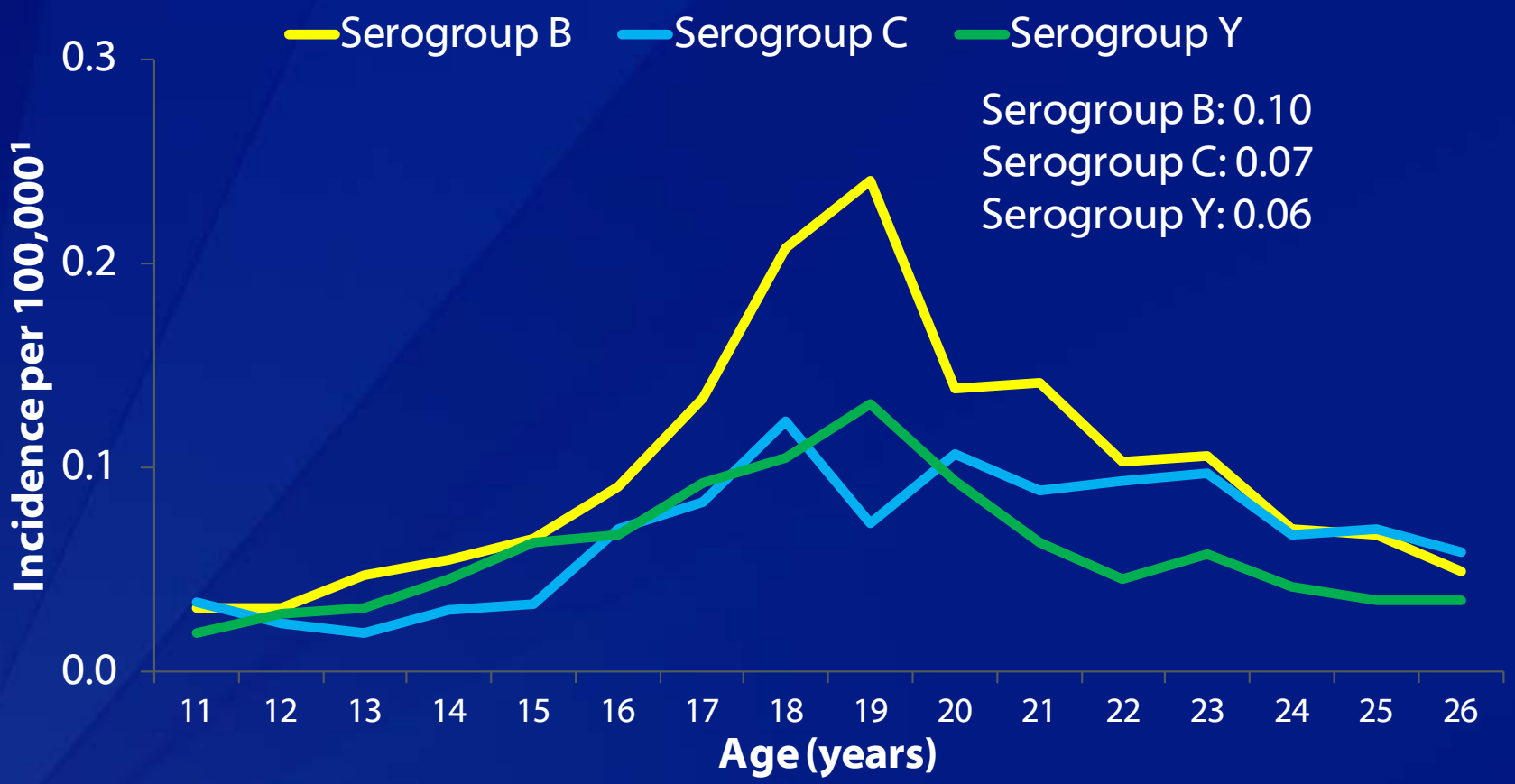
Source: National Notifiable Diseases Surveillance System (NNDSS) data with additional serogroup data from Active Bacterial Core surveillance (ABCs) and state health departments
Unknown serogroup (22%) and other serogroups (9%) excluded

Incidence of Meningococcal Disease by Age-Group and Serogroup, United States, 2005-2014



Source: National Notifiable Diseases Surveillance System (NNDSS) data with additional serogroup data from Active Bacterial Core surveillance (ABCs) and state health departments

Meningococcal Incidence in Adolescents and Young Adults by Serogroup, 2005–2014



Source: National Notifiable Diseases Surveillance System (NNDSS) data with additional serogroup data from Active Bacterial Core surveillance (ABCs) and state health departments

Unknown serogroup (21%) and other serogroups (7%) excluded

Average Annual Cases, Deaths, and Incidence from Serogroup B, 2009–2013

	Cases[1]	Deaths[1]	Incidence per 100,000[3]
All 18–23 year olds	36	5	0.14
Estimated cases:			
College students[2]	14	2	0.09
Non-college students[2]	22	3	0.21

[1]National Notifiable Diseases Surveillance System (NNDSS) data with additional serogroup data from Active Bacterial Core surveillance (ABCs) and state health departments

[2]40% of serogroup B cases in 18–23 year olds from ABCs were in college students (excluding unknown or missing), 2005–2013

[3]Assume 61% of persons age 18–23 years enrolled in college

Campus Disease Outbreaks

- Meningitis
- Mumps
- Measles

Category A vs B Recommendations

ACIP is always evaluating new data on vaccines and disease to make well informed public health recommendations

Category A – *"SHOULD"*

for ***all persons*** in an age- or risk-factor-based group

Category B – *"MAY"*

to allow individual clinical decision making

Meningococcal B Vaccines

Two newly licensed vaccines:

Bexsero (GSK) - 2 dose series

Trumemba (Pfizer) - 3 dose series

Recommendations:

Category A – High risk persons and outbreaks

Category B – for general use, allows individual clinical discretion

High Risk for Meningococcal Disease Use Men B vaccine: CATEGORY A - "Should"

- Serogroup B outbreak (part of identified risk population)
- Asplenia or functional asplenia, including sickle disease
- Complement deficiencies (inherited or chronic persistent)
  - C3, C5-9, properidin, factor H, factor D, eculizamab (Solaris)
- Laboratory workers

Meningococcal Outbreaks

- 97% or more of meningococcal cases are sporadic
- 2-3% or less are outbreaks
- Outbreaks are more common in older children and adolescents
- Outbreaks on college campuses are very visible and have significant impact on those involved

Recent University Based Serogroup B Clusters/Outbreaks†

University	Outbreak Period	Number of cases
University 1	Feb – Mar 2009	4
University 2	Nov 2011	2
University 3	Jan 2008 – Nov 2010	13
University 4	Mar 2013 – Mar 2014	9
University 5	Nov 2013 – May 2015	5*
University 6	Jan – Feb 2015	2
University 7	Jan – May 2015	7

†Where CDC consulted
*1 additional associated case identified after retrospective case review

Use of Men B vaccines in Outbreaks

Pre-licensure – special IND through CDC

- Princeton
- UC-SB

Post-licensure

- University of Oregon
- Providence College

Mumps

2 MMR's prevent most but not all cases

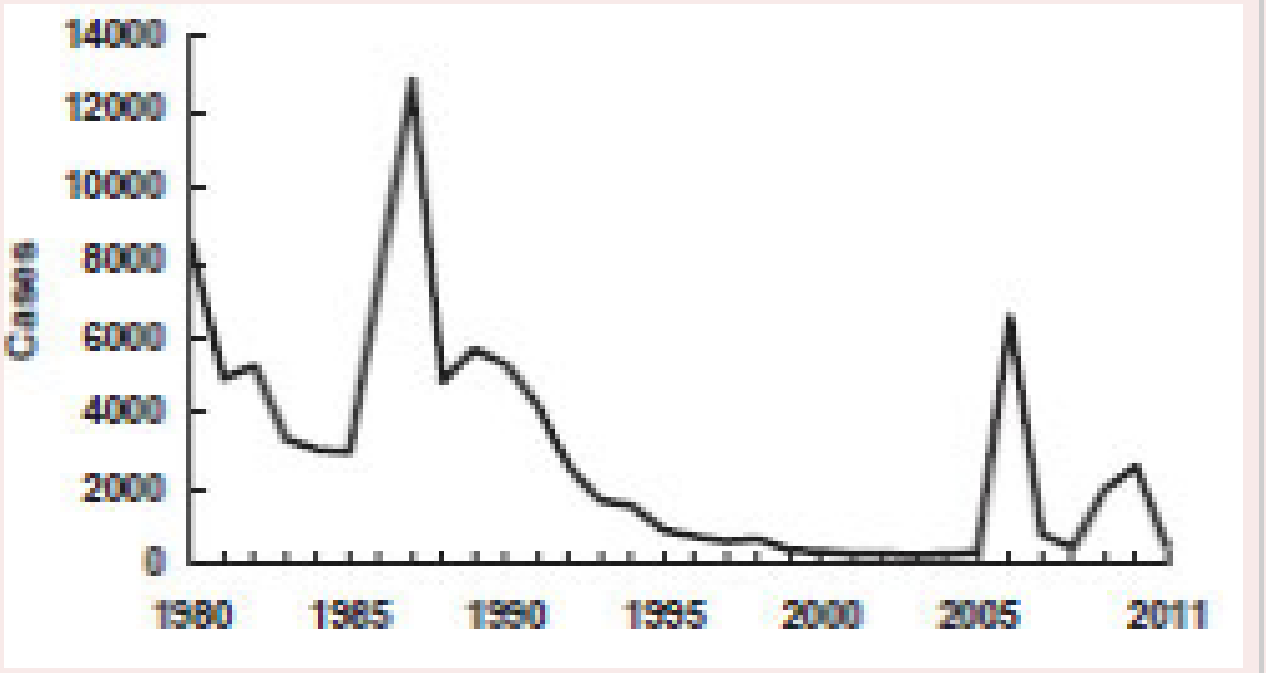
- Single dose of MMR– 78% effective
- 2 doses - 88% effective (recommended 1989)

2006 – recommendation for 2 dose MMR for school age children, college students, healthcare professionals and international travelers

Verification of immunity :

- Born before 1957
- Serologic evidence (IgG aby)
- Lab confirmation of disease

Mumps



Source: National Notifiable Disease Surveillance System, CDC

Mumps Outbreaks

Common factors in 2006, 2009-10 outbreaks

Intense exposure in congregate settings

- large urban households (religious community)
- college and universities

High level of one and two dose vaccine coverage

- helped limit the size and duration of the outbreaks
- limit spread

Number of mumps cases by year since 2010

Year	Cases
2010	2,612
2011	370
2012	229
2013	584
2014	1,151
2015*	422

*Cases as of September 18, 2015

Source: Morbidity and Mortality Weekly Report (MMWR), Notifiable Diseases and Mortality Tables

3rd MMR to Control Outbreak

Mumps diagnosis can be hard

- PCR best but can be false negative
- Serology helpful but can be confusing

3rd MMR, consult with state and CDC

- may be used to control outbreak and decrease attack rate

College summer breaks may also help "break the thread"

Travel Immunizations

Large number of college students travel abroad for study and volunteer work

Opportunity to prevent travel –related diseases and to catch up on adult immunizations

http://wwwnc.cdc.gov/travel/destinations/list

Resources

http://www.cdc.gov/meningococcal/vaccine-info.html

http://www.cdc.gov/mumps/outbreaks.html

http://wwwnc.cdc.gov/travel/destinations/list

Adolescent and Adult Vaccine Quiz,

- http://www2.cdc.gov/nip/adultimmsched/