

Source: Centers for Disease Control and Prevention (1971). *MMWR 20*:26

**Directions:**

1. Read Chapter 3 of Katz et al. and Macha & McDonough, Chapter 1.



1. Read the attached document taken from **AFMC Primer on Population Health - A virtual textbook on Public Health concepts for clinicians, sponsored by**  in the Association of Faculties of Medicine in Canada, Chapter 7, and read about varying types of epidemics and epidemic curves. You may [download the full book in PDF format](https://afmc.ca/AFMCPrimer.pdf). Also review:
	1. Website: Using the Epidemic Curve to Determine the Most Likely Period of Exposure <https://www.cdc.gov/training/QuickLearns/exposure/>
	2. CDC: INFERNO: A System for Early Outbreak Detection and Signature Forecasting <https://www.cdc.gov/mmwr/preview/mmwrhtml/su5401a14.htm>

# Analytic Methods and Public Health Monitoring Tools for Multiple Data Streams <https://www.cdc.gov/mmwr/preview/mmwrhtml/su5401a11.htm>

* 1. National Notifiable Diseases Surveillance System (NNDSS) <https://wwwn.cdc.gov/nndss/data-collection.html>
1. Study the measles epidemic curve pictured above which occurred in South Dakota in 1970-71 (published in MMWR too long ago to be available on line). Use the information in the Canada article (#1 above) and its examples to help you interpret and answer the questions below. **(8 points each)**

**Questions:**

1. What term describes the case in the South Dakota outbreak that occurred on approximately October 16th? *Epidemic*
2. Of the five types of outbreaks outlined in the Canada article (#1 above), which is this? *Disseminated Transmission*
3. From the South Dakota outbreak epidemic curve, what is your estimate of the incubation period of measles (stated in number of days)? *5-7 days*
4. Supposing the South Dakota outbreak occurred primarily in persons 5-15 years of age, give two possible explanations as to why the epidemic may have waned after the third week of December. *One explanation of why the epidemic may have waned after the third week in December could have been because children were out of school for Christmas break and therefore were not exposed to the virus as readily. A second explanation for this could be that once they returned to school after the break, those that were contagious before the break were no longer contagious and because the school was empty for several weeks, the virus that was present on surfaces was no longer viable.*
5. What would be the correct communication pathway(s) for a provider to report a suspected case of the measles? *If a provider had a suspected case of measles, the should immediately contact the department of public health in their area as well as the infection prevention nurse within their facility to figure out the best course of action to take.*
6. **For 10 points extra credit:** What epidemiological feature of measles is responsible for the occurrence of most outbreaks and (fortunately) is quite different in the case of Ebola virus? *Most measles outbreaks happen in unimmunized populations of individuals within a community. Due to the availability of immunizations against the measles virus it is usually not spread beyond the unimmunized community. However, of bigger concern are those that are unable to be immunized such as small infants and those that are immunocompromised. Ebola unfortunately does not have a vaccine and therefore, when exposed there is a higher likelihood of infection.*