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VIRGINIA DEPARTMENT OF HEALTH
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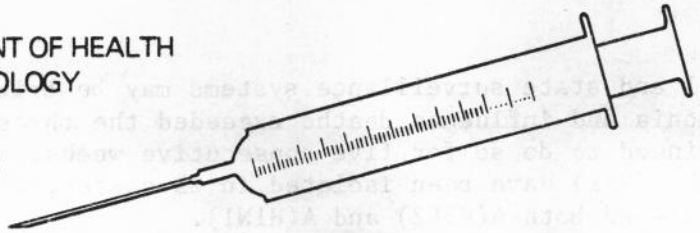

EPIDEMIOLOGY BULLETIN

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INFLUENZA 1980-81

Influenza is making its presence felt in Virginia as it has a habit of doing each winter, and the public interest has been aroused as to exactly which strain(s) might be upon us. It seems pertinent to review the influenza surveillance systems currently in effect, in order to put in perspective how much (or sometimes how little) is known about the magnitude of the influenza problem at any given point in time. Nationally, the CDC conducts mortality surveillance based on "pneumonia and influenza" deaths reported from 121 U.S. cities. When the actual number of deaths exceeds a computer forecasted "expected" number for two consecutive weeks in conjunction with other measures of influenza activity, an epidemic is considered to be taking place. Note that this mortality-based system lags several weeks behind actual outbreaks of illness. CDC also receives weekly telephonic reports from State Health Departments estimating influenza activity on a rough qualitative scale: a) no cases; b) sporadic activity (no known outbreaks); c) regional activity (outbreaks in counties whose sum <50% state population); d) widespread activity (outbreaks in counties whose sum >50% state population). Thirdly, the World Health Organization Collaborating Center for Influenza at the CDC collects virus isolation surveillance data from 58 participating laboratories in the U.S.

Individual states have different methods for attempting to monitor influenza activity. In Virginia influenza is a reportable disease, so that in theory, regular quantitative data for localities, regions, and the state as a whole, should be available. However, because influenza often is not readily differentiated clinically from many other viral infections, and because a large proportion of ill individuals do not see a physician, what "influenza" reports usually provide are a rough qualitative barometer of winter viral illness. In years when influenza is clearly epidemic, this barometer is a much more accurate reflection of true influenzal disease than it is in years when disease due to influenza virus is less frequent. To supplement that "passive" reporting system, an "active" system consisting of reports from "sentinel physicians" are coordinated weekly by several health departments in each of Virginia's 5 regions. In addition, spontaneous reports of outbreaks from school systems, institutions, and all local health departments help fill out the picture. Finally, isolation of specific influenza strains, which is a lengthy and painstaking procedure, as well as serologic identification from acute and convalescent sera, are performed by the Division of Consolidated Laboratory Services (DCLS). The DCLS is in turn dependent on individual physicians or health departments for its samples.

Results of the national and state surveillance systems may be briefly summarized. Nationally, pneumonia and influenza deaths exceeded the threshold in mid-December, and have continued to do so for five consecutive weeks. Influenza strains similar to A/Bangkok (H3N2) have been isolated in 23 states, while the District of Columbia has isolated both A(H3N2) and A(H1N1).

We have been experiencing regional outbreaks of influenza in Virginia since mid-December, with widespread outbreaks reported during the first week in January. The DCLS has identified sero-conversions to both A/Brazil(H1N1) and A/Bangkok(H3N2) in individuals who became ill in mid-December. No viral isolations have been made as of this time.

REFERENCE: MMWR - January 2, 1981/Vol. 29/No. 51
MMWR - January 16, 1981/Vol. 30/No. 1

MENINGOCOCCAL MENINGITIS IN PERSPECTIVE

The recent reports of two cases of meningococcal meningitis from Martinsville, Virginia, have raised appropriate public concern about the risk and lethality of the disease. N. meningitidis is neither the most commonly reported cause of bacterial meningitis in Virginia, nor the one with the highest case-fatality rate, as the following table helps illustrate.

Table 1
RELATIVE FREQUENCY OF MOST COMMON CAUSES OF BACTERIAL MENINGITIS REPORTED IN VIRGINIA
1973-1980

	CASES		DEATHS	
ORGANISM	NUMBER	PERCENT*	NUMBER	FATALITY RATE(%)
Hemophilus influenzae	474	32	34	7.2
Neisseria meningitidis	311	21	46	14.8
Streptococcus pneumoniae	161	11	50	31.0
Streptococcus, Group B†	39	7	10	25.6

*Of all causes of bacterial meningitis
†Based on 1977-1980 figures only.

Table 1 shows that N. meningitidis is the second most frequently reported type of bacterial meningitis behind H. influenzae, followed by the pneumococcus. These three have a simple three-two-one frequency relationship. The case-fatality rate, on the other hand, is highest for pneumococcal meningitis, being twice that for meningococcal, and four times that for H. influenzae. Strep B meningitis also has a fatality rate significantly higher than that for meningococcal meningitis.

The majority of cases of bacterial meningitis occur in the two-and-under age group although this is most striking for H. influenzae and Strep B meningitis. One-tenth of the cases of meningococcal meningitis occur in persons over 50 years old whereas 30% of the cases of pneumococcal meningitis occur in that age group. Age-specific attack rates even more strongly confirm that individuals $\leq$2 years of age are at the greatest risk from each of the four major types of bacterial meningitis.

In Virginia, as elsewhere, meningococcal infections are most common in the winter and spring months. In 1979 and 1980, 60% of cases were reported from December thru May. H. influenzae meningitis shows even a more striking seasonality with 65% of cases reported during that period. For the pneumococcus it was 54%, and strep B only 44%.

CDC GUIDELINES FOR MENINGOCOCCAL DISEASE PROPHYLAXIS[1]: Before contacts receive prophylaxis, the diagnosis should be highly suspect, if not established in the index case. This can be done by Gram stain of cerebrospinal fluid (CSF) or counter immunoelectrophoresis of blood or CSF. A patient with symptoms and signs of meningitis associated with a petechial rash should be considered highly suspect. Suspected or proven cases should be reported promptly to the local health department, and contacts should then be sought. Household and day care center[2] contacts and persons directly exposed to oral secretions of cases (e.g., mouth-to-mouth resuscitation or kissing) are considered at higher risk of contracting the disease and prophylaxis is indicated for them. Other less intimate contacts are not considered at increased risk, e.g. schoolmates[3], co-workers, etc. Throat cultures of contacts are not recommended since both non-carriers and carriers of meningococci must be treated (if contact was intimate) to prevent both acquisition and transmission of the organism. If the meningococcus is known to be sensitive to sulfonamides, then this class of antibiotic is used for prophylaxis (1 gm twice a day for adults, 500 mg twice a day for children 1-12 years of age, and 500 mg once a day for children less than one year old). Treatment is continued for two days. Protection must be provided promptly to be effective. Most secondary cases occur within two weeks, and many within a few days of the primary case. It is, therefore, not justifiable to wait for contact culture results or for antibiotic sensitivities before beginning prophylaxis of intimate contacts. If the sensitivity of the organism is not known, or if it is resistant to the sulfonamides, the drug of choice is Rifampin for two days (600 mg twice a day for adults, 10 mg/kg twice a day for children 1-12 years of age, and 5 mg/kg twice a day for children less than one year of age). In an epidemic of meningococcal disease due to serogroups A or C, the population at risk should be vaccinated with the appropriate vaccine, if it is available in sufficient quantity. We recommend that all isolates of N. meningitidis be forwarded to the state lab for serotyping.

REFERENCES: [1]JAMA, Aug. 30, 1976, p. 1053.
[2]PEDIATRICS, Feb. 1977, p. 299.
[3]AMERICAN JOURNAL OF EPIDEMIOLOGY, Nov. 1976, p. 543.

MONTH: DECEMBER

DISEASE	STATE					REGIONS				
						THIS MONTH				
	THIS MONTH	LAST MONTH	TOTAL TO DATE 1980	TOTAL TO DATE 1979	MEAN 5 YEAR TO DATE	N.W.	N.	S.W.	C.	E
CHICKENPOX	80	27	483	963	1024.8	17	28	14	2	19
MEASLES		1	339	288	1355.6					
MUMPS	13	6	87	105	302.2		1	3	1	8
PERTUSSIS		3	10	16	17.6					
RUBELLA	6	4	63	208	322.6			1		5
MENINGITIS – ASEPTIC	11	16	188	266	166.0	3		1	5	2
BACTERIAL	26	16	189	172	120.6	6	6	4	4	6
ENCEPHALITIS – INFECTIOUS	2	3	35	28	27.4					2
POST-INFECTIOUS	2		7	15	8.0	2				
HEPATITIS A (INFECTIOUS)	18	29	310	271	328.8	3	7	4		4
B (SERUM)	43	41	522	449	301.6	6	16	5	6	10
SALMONELLOSIS	104	109	1,303	1,151	818.8	15	24	5	26	34
SHIGELLOSIS	10	69	198	274	169.2		1	5	4	
TUBERCULOSIS – PULMONARY	66	16	558	621	677.2					
EXTRA-PULMONARY	13	2	107	117	109.4					
SYPHILIS (PRIMARY & SECONDARY)	48	63	591	492	560.2	1	6	5	10	26
GONORRHEA	1,887	2,502	23,415	23,016	24,455.8					
ROCKY MOUNTAIN SPOTTED FEVER	2	2	95	90	114.0			2		
RABIES IN ANIMALS	9	5	35	20	41.8	9				
MENINGOCOCCAL INFECTIONS	10	8	68	87	53.4	1		5	1	3
INFLUENZA	381	28	1,191	410	5,904.4	150	158	51	22	
MALARIA	2	6	65	30	18.6	1			1	
OTHER: KAWASAKI DISEASE	2		14	18	NA			1		1
TYPHOID FEVER	1		9	6	6.6		1			

COUNTIES REPORTING ANIMAL RABIES: Page - 9 skunks.

OCCUPATIONAL ILLNESSES: Occupational pneumoconioses 20, Occupational dermatitis 7, Occupational hearing loss 7, Asbestosis 7, Lead poisoning 3, Mesothelioma 1.

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