

Hospitalizations for Varicella in Colorado, 1996-2003
Colorado Department of Public Health & Environment
Communicable Disease Epidemiology Program
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Background:

Varicella became a reportable disease in Colorado as of February 2004. Complications (e.g. secondary bacterial skin infections, dehydration, pneumonia) of varicella may result in hospitalization for a small proportion of cases. Analysis of hospital discharge data from the Colorado Hospital Association (CHA) provides a method for monitoring hospitalization rates for varicella-related illness. These rates have decreased as a result of more widespread immunization of young children with the varicella vaccine, which was licensed in 1995 and for which a school immunization requirement took effect July 2000.

Methods:

- CHA datasets for 1996-2003 were analyzed for ICD-9 codes 052.X in any of the first three discharge diagnosis positions.
- Repeat admissions related to varicella within the same discharge year were deleted.
- Records of out-of-state residents were deleted.
- Overall and age group-specific hospitalization rates were calculated using population estimates from the Colorado Division of Local Government.

Results:

- Varicella-related hospitalizations and rates in Colorado were essentially unchanged from 1996 through 1998; the overall hospitalization rate declined 77%, however, between 1998 and 2003 (Figure 1).
- Rates are highest in the <1 year age group, followed by the 1-4 year age group (Figure 2).
- Since 1998, rates have decreased 85% in children <1 year, 89% in children 1-4 years, and 82% in children 5-9 years (Figure 2).

Conclusions:

- Varicella-related hospitalizations and rates have decreased substantially since 1998.
- The largest proportional rate decreases have been in the <1, 1-4, and 5-9 year age groups.
- The <1 year age group continues to have the highest hospitalization rate; this age group is too young to be eligible for vaccination.

Figure 1. Varicella Hospitalizations, Colorado, 1996-2003

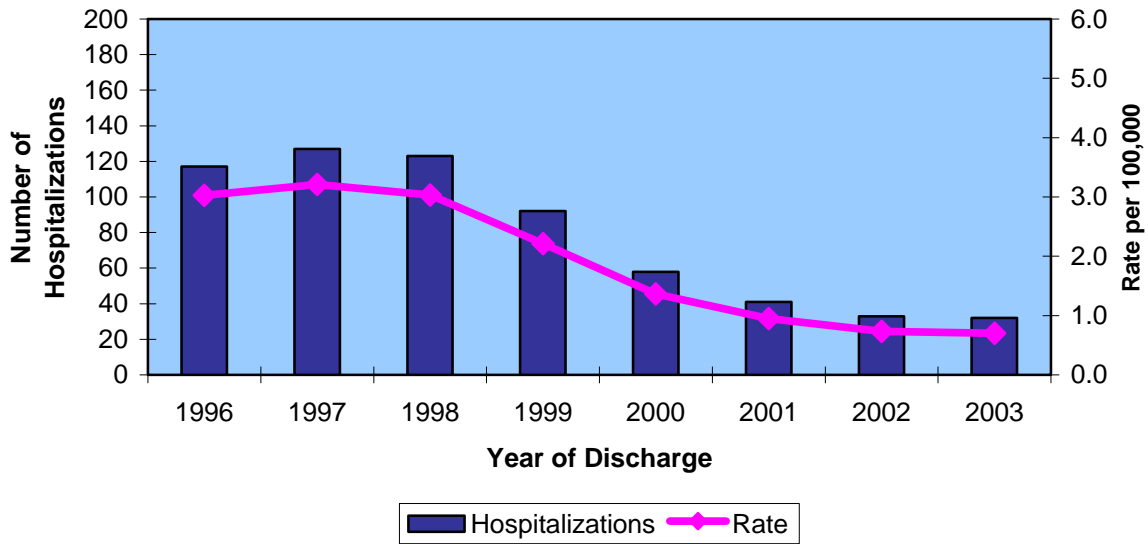


Figure 2. Varicella Hospitalization Rates by Age Group, Colorado, 1996-2003

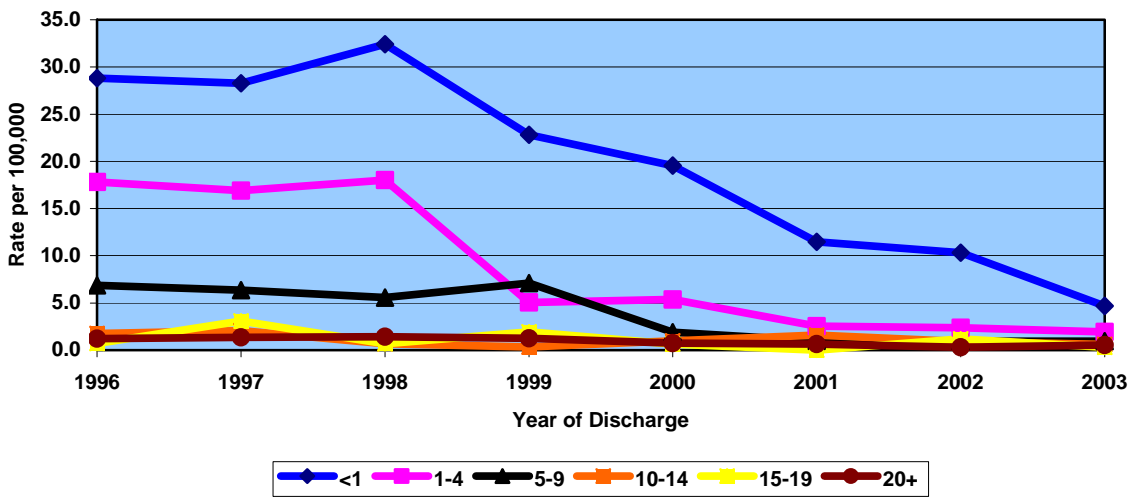


Table 1. Number of Varicella-Related Hospitalizations by Year of Discharge and Age Group, Colorado, 1996-2003

Age Group (Years)	Year of Discharge							
	1996	1997	1998	1999	2000	2001	2002	2003
<1	16	16	19	14	12	7	7	3
1-4	41	39	42	12	13	6	6	5
5-9	20	19	17	22	6	3	3	3
10-14	5	6	2	1	3	5	3	2
15-19	2	9	2	6	2	0	4	1
≥20	33	38	41	37	22	20	10	18
Total	117	127	123	92	58	41	33	32