



## COMMUNITY-ACQUIRED DISEASE OUTBREAKS

### ABSTRACT

- In 2005, 122 community-acquired disease outbreaks accounted for 1,383 cases of illness (Figure 1).
- Schools were the most common setting of community-acquired outbreaks (60%).
- The number of reported outbreaks in 2005 decreased after reaching an eight year high in 2004; a 40% swing back down to the 2003 level—the lowest mark in the same 8 year time frame.

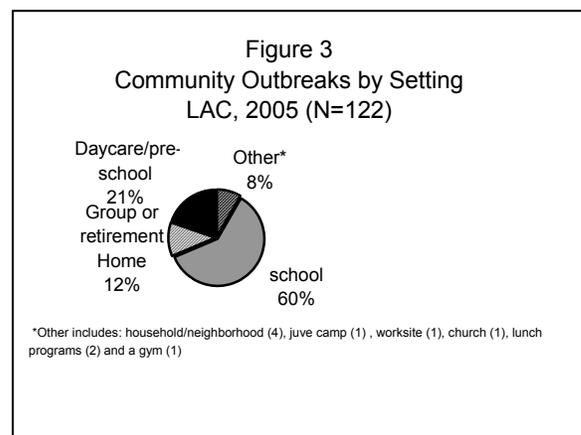
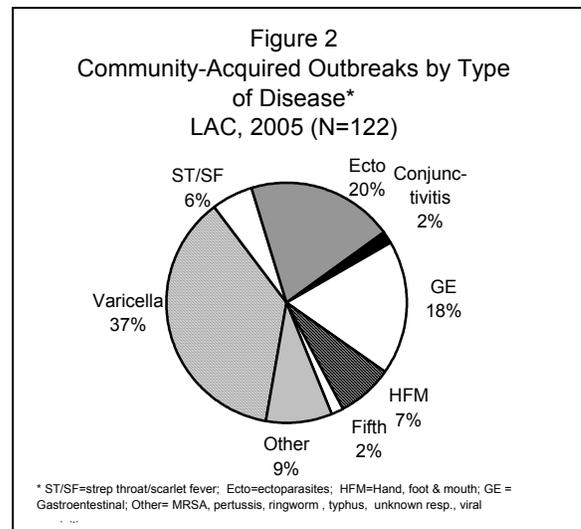
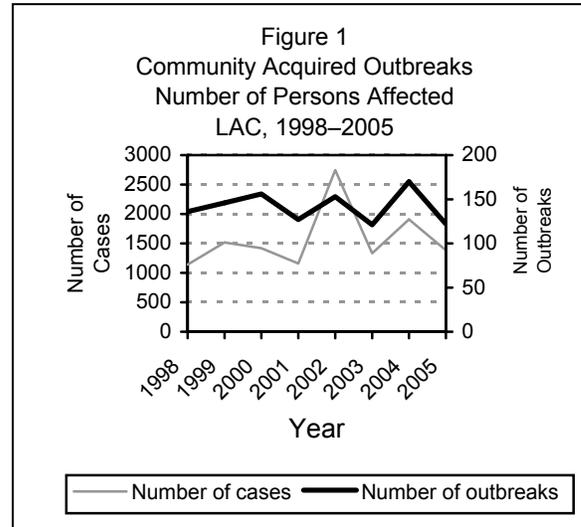
### DATA

Disease outbreaks are defined as clusters of illness that occur in a similar time or place, or unusual numbers of disease cases above baseline in a specified area. Depending on the nature of the outbreak, investigation responsibility is maintained by either ACDC or Community Health Services with ACDC providing consultation as needed. The outbreaks reported in this section do not include outbreaks associated with food (see Foodborne Outbreaks section) or facilities where medical care is provided (see Healthcare Associated Outbreaks section).

Most reported community-acquired outbreaks in LAC were due to varicella followed by ectoparasites (scabies and pediculosis)—comprising 37% and 20% of all community-acquired outbreaks, respectively. Third most common was gastroenteritis (GE) outbreaks of various causes, accounting for 18% of all outbreaks. Collectively these disease categories accounted for 75% of all community-acquired outbreaks (Figure 2, Table 1). In 2004 for comparison, these categories accounted for 72% of all outbreaks—with similar overall rankings.

The outbreaks with the most incident specific cases were due to the four norovirus outbreaks reported in 2005, with a mean size of 18 cases per outbreak—most likely reflecting how easily this agent can be transmitted from person-to-person. The largest community-acquired outbreak was a GE outbreak of unknown etiology with 83 cases reported (Table 1).

The most common settings for illness transmission were schools (elementary schools, middle schools, and high schools) accounting for 60% of all outbreaks. Settings with young children in daycare or pre-school accounted for an additional 20%. Group and retirement home settings were the third most common site of the community-acquired outbreaks reported in 2005 with 12% (Figure 3). Even with the decrease in overall





frequency of outbreaks in 2005—down from 170 in 2004—the percentage breakdown by setting remained similar to past years.

**Table 1. Community-Acquired Outbreaks by Disease— LAC, 2005**

Disease	No. of outbreaks	No. of cases	Cases per outbreak (average)	Cases per outbreak (range)
Varicella	45	518	12	5-40
Scarlet fever/strep throat	7	55	8	2-15
Scabies	7	28	4	2-6
Hand, foot & mouth disease	9	86	10	3-26
Pediculosis	17	222	13	3-34
GE illness - Norovirus	4	70	18	6-29
GE illness - Shigella	1	3	3	3
GE illness - Salmonella	2	12	6	3-9
GE illness - Giardia	1	41	41	41
GE illness - Unknown	14	232	17	3-83
Fifth disease	2	12	6	5-7
Conjunctivitis	2	13	7	2-11
Other*	11	91	8	2-17
<b>Total</b>	<b>122</b>	<b>1,383</b>	<b>11</b>	<b>2-83</b>

\* Includes: MRSA, pertussis, ringworm, typhus, unknown respiratory, viral meningitis,

**Table 2. Community-Acquired Outbreaks by Disease and Setting — LAC, 2005**

Disease	Group Home <sup>a</sup>	School <sup>b</sup>	Preschool or Daycare	Other <sup>c</sup>	TOTAL
Varicella	0	45	0	0	45
Scarlet fever/strep throat	0	5	1	1	7
Scabies	6	0	1	0	7
Hand, foot & mouth disease	0	0	9	0	9
Pediculosis	3	11	3	0	17
GE illness - Norovirus	2	0	1	1	4
GE illness - Shigella	0	0	0	1	1
GE illness - Salmonella	0	0	2	0	2
GE illness - Giardia	0	0	0	1	1
GE illness - Unknown	3	6	3	2	14
Fifth disease (Parvovirus)	0	0	2	0	2
Conjunctivitis	0	0	2	0	2
Other	0	6	1	4	11
<b>Total</b>	<b>14</b>	<b>73</b>	<b>25</b>	<b>10</b>	<b>122</b>

<sup>a</sup> Includes centers for retirement, assisted living, rehabilitation, and shelter.

<sup>b</sup> Includes elementary (n=59), middle (n=13) and high schools (n=1).

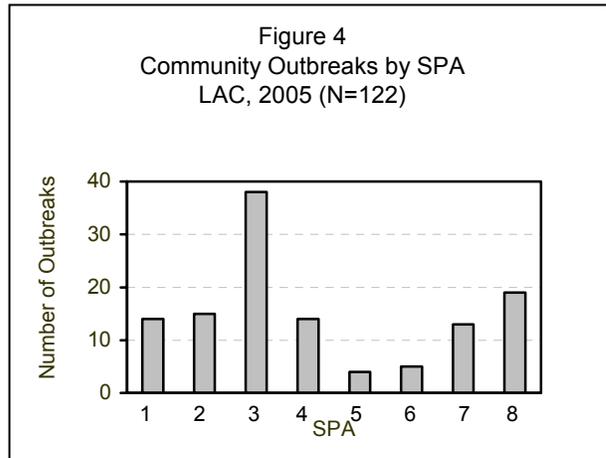
<sup>c</sup> Includes juvenile hall, workplaces, neighborhoods, and extended families.



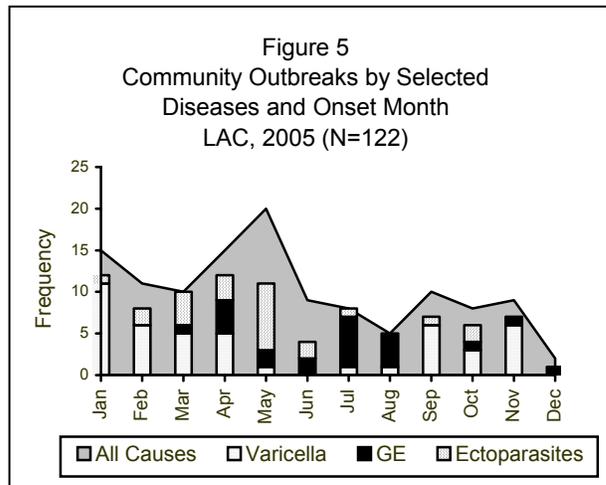
**COMMENTS**

The number of reported outbreaks in 2005 decreased after reaching a eight year high in 2004; a 40% swing back down to the 2003 level—the lowest mark in the same 8 year time frame. Varicella remained the most common cause of community-acquired outbreaks in LAC since 1999 (see summary of the Varicella Project in the Special Reports section). In 2005, eight varicella outbreaks were identified in the Antelope Valley Health District (SPA 1), where the LACDHS Varicella Surveillance Project is in place, but most outbreaks of varicella was identified in SPA 3 (n=18).

Outbreaks were reported from all 8 SPAs (Figure 4). SPA 3, in the San Gabriel Valley, clearly had the most outbreaks for 2005.



The chart of community-acquired outbreaks by onset month (Figure 5) shows a peak in the distribution in May. Varicella outbreaks tended to show a bimodal seasonality with reports occurring during the traditional school year and low numbers during the summer and winter break. GE tended towards the warmer months with outbreaks focused in the spring and summer months.



Community-acquired outbreaks tended to occur in settings associated with two age-specific groups. The clear majority of outbreaks (80%) were in school and pre-school settings among children. Varicella, HFM, and pediculosis (head lice) were most common in this young group. The second age group affected by outbreaks is in the older population associated with group-home settings. In this age category, **scabies** and gastroenteritis are the most common causes (Table 2).

In addition to the site-specific outbreaks reported in this section, a community-wide case increase was observed for hepatitis A (see the 2005 Special Reports).



## COMMUNITY-ACQUIRED DISEASE OUTBREAKS

### ABSTRACT

- In 2004, 170 community-acquired disease outbreaks accounted for 1907 cases of illness (Figure 1).
- Schools were the most common setting of community-acquired outbreaks (58%).

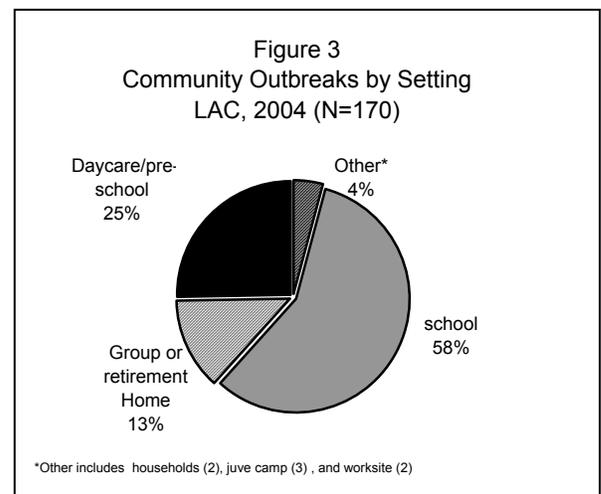
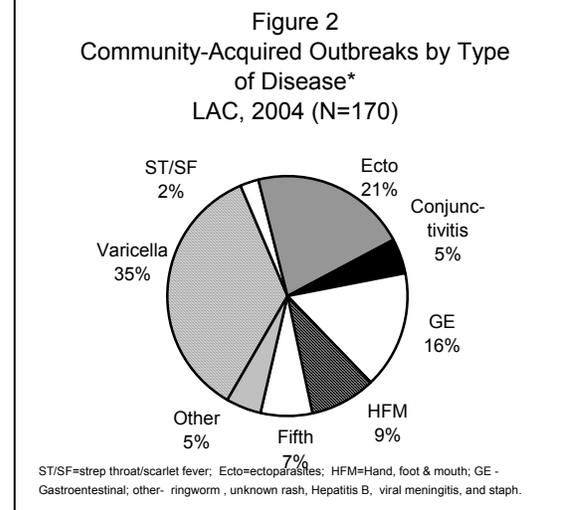
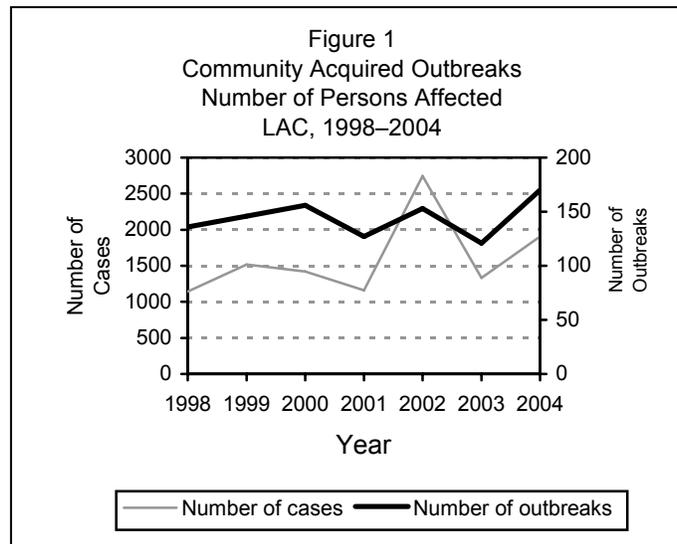
### DATA

Disease outbreaks are defined as clusters of illness that occur in a similar time or place, or unusual numbers of disease cases above baseline in a specified area. Depending on the nature of the outbreak, investigation responsibility is maintained by either ACDC or Community Health Services with ACDC providing consultation as needed. The outbreaks reported in this section do not include outbreaks associated with food (see Foodborne Outbreaks section) or facilities where medical care is provided (see Healthcare Associated Outbreaks section).

Most reported community-acquired outbreaks in LAC were due to varicella, followed by ectoparasites (scabies and pediculosis) comprising 35% and 21% of all community-acquired outbreaks respectively. Third most common was gastroenteritis (GE) outbreaks of various causes, accounting for 16% of all outbreaks. Collectively these disease categories accounted for 72% of all community-acquired outbreaks (Figure 2, Table 1).

The outbreaks with the most cases tended to be due to 11 norovirus outbreaks reported in 2004, with a mean size of 26 cases per outbreak — most likely reflecting how easily this agent can be transmitted from person-to-person. (Table 1)

The most common settings for illness transmission were schools (elementary schools, middle schools, and high schools) accounting for 58% of all outbreaks. Settings with young children in daycare or pre-school accounted for an additional 25%. Group and retirement home settings were the third most common site of the community-acquired outbreaks reported in 2004 with 13% (Figure 3). Even with the increase in overall frequency of outbreaks in 2004, the percentage breakdown by setting remained similar to past years.





**Table 1. Community-Acquired Outbreaks by Disease — LAC, 2004**

Disease	No. of outbreaks	No. of cases	Cases per outbreak (average)	Cases per outbreak (range)
Varicella	60	698	12	4–44
Scarlet fever/strep throat	4	32	8	3–12
Scabies	11	63	6	2–23
Hand, foot & mouth disease	15	102	7	2–13
Pediculosis	25	289	12	3–25
GE illness - Norovirus	11	284	26	8–82
GE illness - Shigella	3	18	10	4–10
GE illness - Salmonella	2	9	15	2–7
GE illness - Giardia	1	3	3	3
GE illness - Unknown	10	156	16	9–35
Fifth disease	12	116	10	2–27
Conjunctivitis	8	81	10	2–32
Other*	8	56	7	3–14
<b>Total</b>	<b>170</b>	<b>1,907</b>	<b>11</b>	<b>2–82</b>

\* Includes: ringworm (3), unknown rash illness (2), Hepatitis B (1), viral meningitis (1) and staph (1).

**Table 2. Community-Acquired Outbreaks by Disease and Setting — LAC, 2004**

Disease	Group Home <sup>a</sup>	School <sup>b</sup>	Preschool or Daycare	Other <sup>c</sup>	TOTAL
Varicella	1	57	2	0	60
Scarlet fever/strep throat	0	3	1	0	4
Scabies	10	0	0	1	11
Hand, foot & mouth disease	0	2	13	0	15
Pediculosis	1	20	4	0	25
GE illness - Norovirus	8	0	2	1	11
GE illness - Shigella	0	0	1	2	3
GE illness - Salmonella	0	0	1	1	2
GE illness - Giardia	0	0	1	0	1
GE illness - Unknown	0	1	7	2	10
Fifth disease (Parvovirus)	0	10	2	0	12
Conjunctivitis	0	4	4	0	8
Other	2	1	5	0	8
<b>Total</b>	<b>22</b>	<b>98</b>	<b>43</b>	<b>7</b>	<b>170</b>

<sup>a</sup> Includes centers for retirement, rehabilitation and the developmentally disabled.

<sup>b</sup> Includes elementary, middle and high schools. No high schools reported outbreaks in 2003.

<sup>c</sup> Includes jails, workplaces, universities/colleges, camp and private homes.

## COMMENTS

The number of reported outbreaks in 2004 increased to a seven year high; a 40% increase from 2003 – the lowest mark in the same 7 year time frame. Diseases which contributed to 2004 increase from the previous year were varicella (increasing from 28 to 60 outbreaks), Hand foot and mouth disease (increasing from 8 to 15 outbreaks), and Fifth (Parvovirus) disease (up from 4 to 12 outbreaks). Varicella

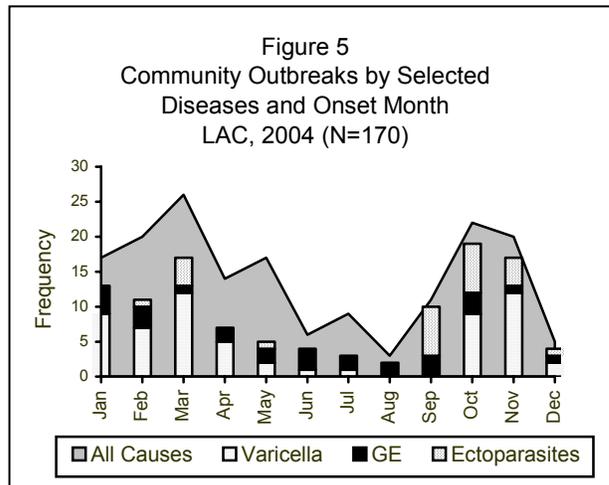
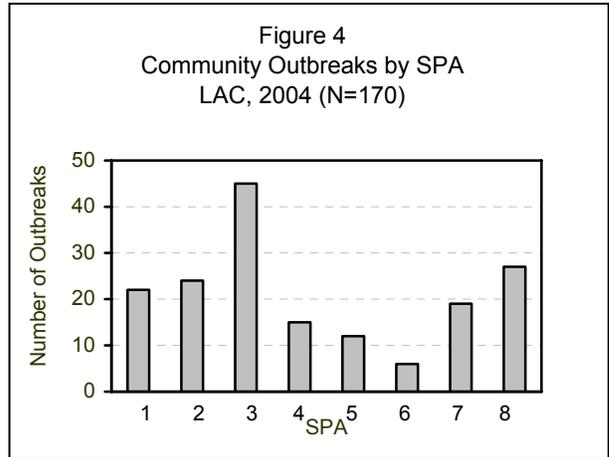


remained the most common cause of community-acquired outbreaks in LAC since 1999. (see Varicella Project special report section) In 2004, twenty varicella outbreaks were identified in the Antelope Valley Health District alone (within SPA 1), where a varicella active surveillance project is in place.

Outbreaks were reported from all 8 SPAs (Figure 4). SPA 3 which comprises the San Gabriel Valley clearly had the most outbreaks for 2004.

The chart of community-acquired outbreaks by onset month (Figure 5) shows a bimodal distribution. Months with outbreak peaks tend to be a few months into the traditional school year and a few months after Christmas break. These peaks are predominately caused by varicella and pediculosis. Gastroenteritis outbreaks occurred more evenly throughout 2004.

Community-acquired outbreaks tended to occur in settings associated with two age-specific groups. The clear majority of outbreaks were in school and pre-school settings among children. Varicella, strep throat/scarlet fever and pediculosis (head lice) are most common in this young group. Illnesses in this age group account for the increase in outbreaks from 94 in 2003 to 141 in 2004. The second age group affected by outbreaks is in the older population associated with group-home settings (n=22). In this age category, **scabies** and norovirus are the most common etiologic agents (Table 2).





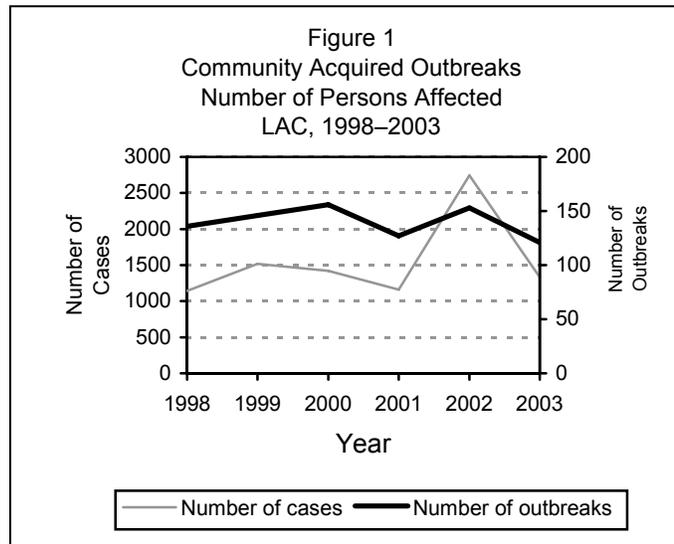
## COMMUNITY-ACQUIRED DISEASE OUTBREAKS

### ABSTRACT

- In 2003, 121 community-acquired disease outbreaks accounted for 1332 cases of illness (Figure 1).
- Schools were the most common setting of community-acquired outbreaks (59%).

### DATA

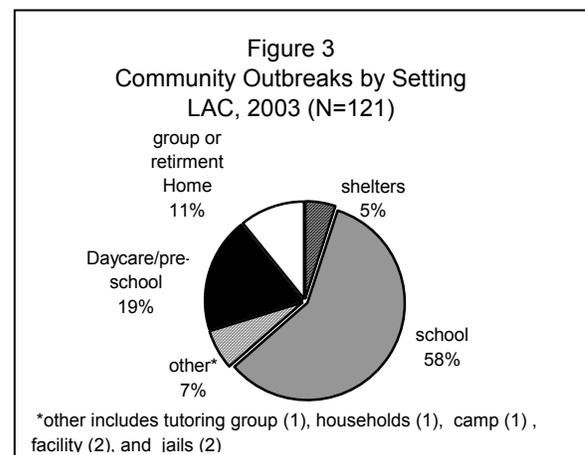
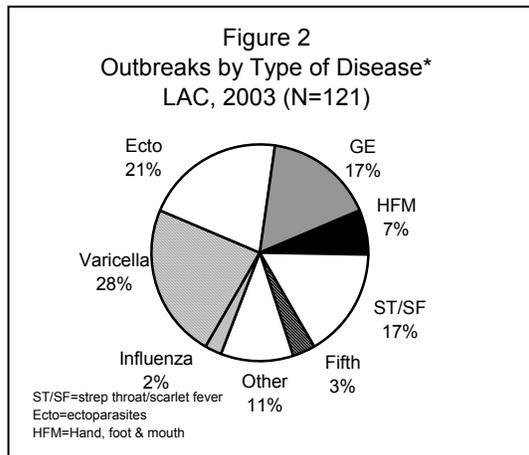
Disease outbreaks are defined as clusters of illness that occur in a similar time or place, or unusual numbers of disease cases above baseline in a specified area. Depending on the nature of the outbreak, investigation responsibility is maintained by either ACDC or by Community Health Services, with ACDC providing consultation as needed. The community outbreaks reported in this section do not include outbreaks associated with food (see Foodborne Outbreaks) or facilities where medical care is provided (see Healthcare Associated Outbreaks).



Most reported community outbreaks in LAC were due to varicella, followed by ectoparasites (scabies and pediculosis) comprising 23% and 21% of all community outbreaks respectively. Third most common were strep throat/strep and gastroenteritis (GE) outbreaks of various causes, each accounting for 17% of all outbreaks. Collectively these diseases accounted for 77% of all community outbreaks (Figure 2, Table 1).

The most common settings for illness transmission were schools—elementary (n=68) and middle schools (n=3), accounting for 59% of all outbreaks. Settings with young children in daycare or pre-school accounted for 19% (n=23) of all outbreaks. Group and retirement home settings were the third most common site of the community outbreaks reported in 2003 with 11% (Figure 3).

The outbreaks with the most cases tended to be due to norovirus and influenza—most likely reflecting how easily these etiologies can be transmitted from person-to-person. While the overall number of varicella outbreaks went down from 2002 to 2003, the size of the outbreaks that occurred remained the same with 10 cases per outbreak.





**Table 1. Community Outbreaks by Disease—LAC, 2003<sup>a</sup>**

Disease	No. of outbreaks	No. of cases	Cases per outbreak (average)	Cases per outbreak (range)
Varicella	28	268	10	4–28
Scarlet fever/strep throat	20	196	10	2–28
Scabies	12	71	6	2–23
Hand, foot & mouth disease	8	43	5	2–11
Pediculosis	13	101	8	3–26
GE illness - Norovirus	8	209	26	6–61
GE illness - Shigella	3	30	10	5–19
GE illness – Other, unknown	9	134	15	4–38
Fifth disease	4	46	12	7–17
Influenza	3	94	31	22–37
Other <sup>b</sup>	13	140	11	3–22
<b>Total</b>	<b>121</b>	<b>1,332</b>	<b>11</b>	<b>2–61</b>

<sup>a</sup> Excludes foodborne outbreaks.

<sup>b</sup> Includes conjunctivitis, herpes simplex, ringworm, unknown respiratory illness and unknown rash.

**Table 2. Community Outbreaks: Disease by Setting—LAC, 2003**

Disease	Group Home <sup>a</sup>	School <sup>b</sup>	Preschool or Daycare	Shelter	Other <sup>c</sup>	TOTAL
Varicella	0	25	0	0	3	28
Scarlet fever/strep throat	0	15	5	0	0	20
Scabies	5	0	4	1	2	12
Hand, foot & mouth disease	0	3	5	0	0	8
Pediculosis	2	9	0	1	1	13
GE illness – Norovirus	4	2	1	1	0	8
GE illness – Shigella	1	1	0	1	0	3
GE illness – Undetermined	0	1	4	2	2	9
Fifth disease	0	4	0	0	0	4
Influenza	0	2	1	0	0	3
Other	1	9	3	0	0	13
<b>Total</b>	<b>13</b>	<b>71</b>	<b>23</b>	<b>6</b>	<b>8</b>	<b>121</b>

<sup>a</sup> Includes centers for retirement, rehabilitation and the developmentally disabled.

<sup>b</sup> Includes elementary, middle and high schools. No high schools reported outbreaks in 2003.

<sup>c</sup> Includes jails, workplaces, universities/colleges, camp and private homes.

## COMMENTS

In contrast to 2002 with a reported 153 outbreaks, the year 2003 had the lowest level of outbreaks reported in the last 5 years. The decrease in outbreaks from the previous year occurred across the diseases categories. Varicella had the most noticeable decrease from 43 outbreaks to 28—a 35% drop. Varicella remained the most common cause of community-acquired outbreaks in LAC since 1999. Overall GE illness outbreaks went down, yet increase lab capabilities allowed improved diagnosing abilities and more GE outbreaks were recognized as norovirus. Only the disease category of scarlet fever/strep throat increased from the previous year—16 to 20 reported outbreaks.

Community-based outbreaks tended to occur in settings associated two age-specific groups. The clear majority was in pre-teen aged children in elementary schools (n=71) or in pre-school/daycare settings



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(n=23). Varicella, strep throat/scarlet fever and pediculosis (head lice) are most common in this young group. The second group is in the older population in group-home settings (n=13). In this age category, scabies and norovirus are most common (Table 2). The incidence of norovirus has increased in the last two years with additional reports from long-term medical care institutions (see Healthcare Associated Outbreaks and Special Reports).



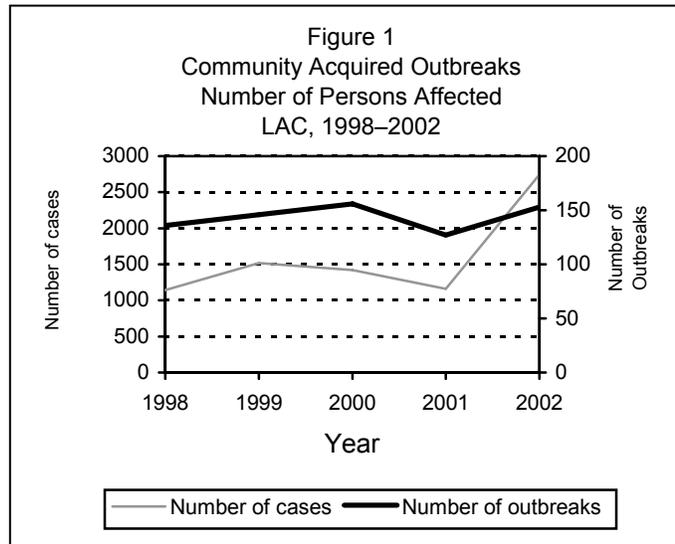
## COMMUNITY-ACQUIRED DISEASE OUTBREAKS

### DISEASE ABSTRACT

- In 2002, 29 of 182 (16%) reported and investigated community-acquired outbreaks were foodborne (see Foodborne Outbreak section). The remaining 153 community outbreaks accounted for 2,745 cases of illness.
- Schools were the most common setting of community-acquired outbreaks (54%).

### DATA

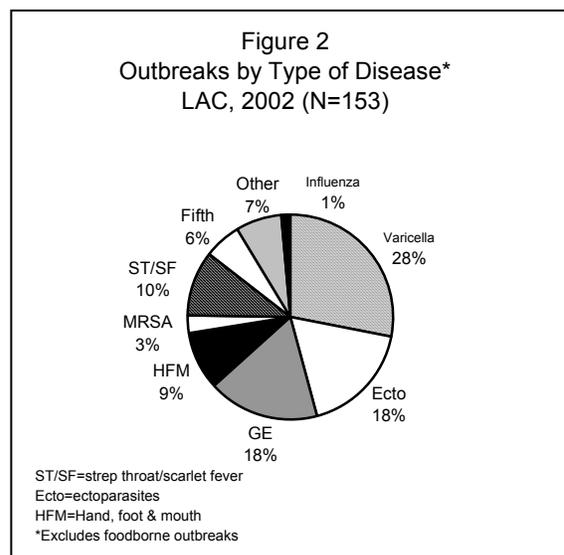
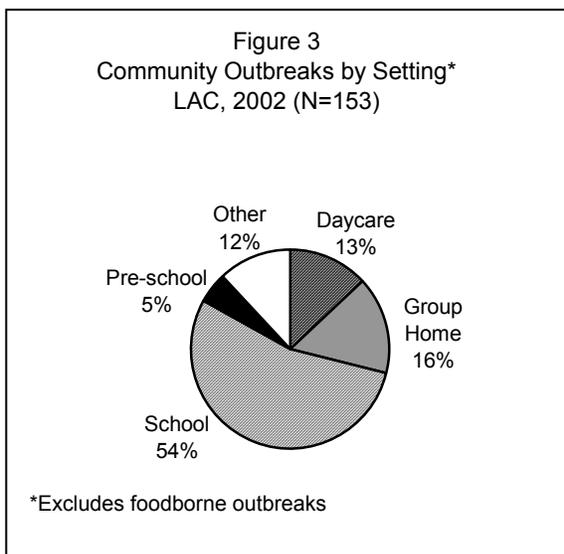
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Most reported community outbreaks in LAC were due to varicella (28%), followed by ectoparasites (scabies and pediculosis) and gastroenteritis (GE), each of these two diseases account for 18% of all outbreaks (Figure 2).

During 2002, methicillin-resistant *Staphylococcus aureus* (MRSA) and varicella were diseases with the highest number of total cases. The two diseases with the highest number of cases per outbreak were MRSA and influenza (Table 1).

The most common settings for illness transmission were schools (elementary through high school), accounting for 54%, and group homes (16%, Figure 3).





**Table 1. Community Outbreaks by Disease—LAC, 2002<sup>a</sup>**

Disease	No. of outbreaks	No. of cases	Cases per outbreak (average)	Cases per outbreak (range)
Varicella	43	412	10	3–29
Scarlet fever/strep throat	16	138	5	2–30
Scabies	16	88	6	2–9
Hand, foot & mouth disease	14	72	5	2–12
Pediculosis	11	92	8	2–22
GE illness - Norovirus	5	87	17	7–30
GE illness - Shigella	6	72	12	5–22
GE illness - Undetermined	16	328	21	5–62
Fifth disease	9	115	13	2–30
MRSA	4	938	235	2–920
Influenza	2	240	120	53–187
Other <sup>b</sup>	11	163	15	2–108
<b>Total</b>	<b>153</b>	<b>2,745</b>	<b>18 (avg.)</b>	<b>--</b>

<sup>a</sup> Excludes foodborne outbreaks.

<sup>b</sup> Includes conjunctivitis, herpes simplex, impetigo, psittacosis, ringworm, rotavirus, typhoid fever, unknown respiratory illness and unknown rash.

**Table 2. Community Outbreaks: Disease by Setting—LAC, 2002**

Disease	Group Home <sup>a</sup>	School <sup>b</sup>	Preschool	Daycare	Other <sup>c</sup>	TOTAL
Varicella	2	38	0	1	2	43
Scarlet fever/strep throat	0	13	0	3	0	16
Scabies	10	1	0	2	3	16
Hand, foot & mouth disease	0	3	3	7	1	14
Pediculosis	4	5	1	1	0	11
GE illness – Norovirus	4	0	0	0	1	5
GE illness – Shigella	1	1	0	0	4	6
GE illness – Undetermined	2	7	4	2	1	16
Fifth disease	0	8	0	1	0	9
MRSA	1	0	0	0	3	4
Influenza	0	2	0	0	0	2
Other	0	4	0	3	4	11
<b>Total</b>	<b>24</b>	<b>82</b>	<b>8</b>	<b>20</b>	<b>19</b>	<b>153</b>

<sup>a</sup> Includes centers for retirement, rehabilitation and the developmentally disabled

<sup>b</sup> Includes elementary, middle and high schools.

<sup>c</sup> Includes jails, workplaces, universities/colleges and private homes.



## COMMENTS

Varicella has remained the most common cause of community-acquired outbreaks in LAC since 1999, when it surpassed ectoparasites. However, the number of varicella outbreaks dropped from 35% of total outbreaks in 2001 to 28% in 2002. This may be due in part to the mandated use of varicella vaccine among school-aged children. Although varicella was the most common cause of outbreaks in 2002, it did not account for the most cases of illness. The sizable increase in the total number of cases in 2002 is mainly due to a large outbreak of MRSA in a jail (920 cases).

In 2002, the number of community-acquired outbreaks increased 20% from the previous year (2001 had 127 outbreaks, 2002 had 153 outbreaks) the average number of cases per outbreak also increased (2001 had an average of 8.6 cases per outbreak, 2002 had an average of 18 cases per outbreak). Schools have continued to be the most common location for community outbreaks (54%); however, during 2002 group-homes (16%) have replaced pre-schools as the second most common site.