ALLEGHENY COUNTY

CHILD DEATH REVIEW

2002 - 2004

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Allegheny County Child Death Review Team

2002 - 2004

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Introduction

The death of a child is a tragedy. It is a loss of a future. It contradicts our view of nature. It's not supposed to happen. Words like "widow" or "orphan" don't even exist to describe the parents or siblings of a child who dies. Even more tragic is the death of a child due to abuse, neglect, ignorance or unknown cause. While some deaths are natural and, in spite of today's medical marvels, unavoidable, such as a baby born much too early or a child's life lost as a result of some cancers, each year many innocent lives are lost that could have been saved.

The following report provides a review of child fatalities in Allegheny County for the period 2002 to 2004. The characteristics of these deaths, such as age, race, gender, manner, cause, and location, and the relationships among these factors are presented.

The analysis of child deaths by these factors provides valuable information about child well-being. To better understand why and how our children die, the Allegheny County Child Death Review Team (CDRT) was formed in 1997. The primary goal of the CDRT is to prevent child fatalities. This will be accomplished by developing methods of prevention through: systematic multidisciplinary review in order to understand the factors pertaining to child fatalities; sharing information and enhancing cooperation between professionals who deal with child deaths; education of legislators, professionals and the general public; and recommending legislation and public policy. Developing an understanding of the number and nature of child deaths is vital to preserving our future.

A preventable death is one in which an individual or a community could have reasonably done something that would have changed the circumstances that contributed to death.

The CDRT considers all accidents and homicides preventable through active intervention (improved parental supervision, enactment of laws, education). Deaths due to suicide or medical conditions may be prevented through timely and appropriate interventions to combat depression, bullying, and disease. SIDS and other sudden unexpected infant deaths may be prevented by improving education for parents and caregivers about the risk factors identified by organizations such as CDRT and Perinatal Periods of Risk (PPOR), Healthy Start, and Home Visiting Network (HVN). Natural deaths, which include causes such as premature birth, birth defects and cancer, are more difficult to prevent; however, reducing second hand smoke exposure, prenatal smoking, and alcohol and illicit drug use by pregnant women would appreciably decrease the number of natural deaths.

The method of team review has some limitations. Not all certificates are reviewed. Assessing change at the county level based on small numbers could be affected by the missing data from unreviewed certificates. The CDRT will always strive to review 100% of child deaths.

This report relies heavily on visual representation of data to convey findings. There were 530 deaths reviewed for this period. Five hundred were able to be mapped by location of residence, not by location of incident. Scale for all maps is 1:300,000 except for map 2 where scale is 1:450,000.

The initial preparation of this report and its data commenced a few years ago by a researcher who resigned before completion. Questions about the data necessitated a restart of the assignment from the beginning. Information was culled together from various spreadsheets and databases. In the future more data detail on environment and relationships may yield insight through such methods as the portrayal of representative cases.

The “Accomplishments”, “Recommendations” and “Executive Summary” were provided by Roy Sterner. The maps, charts, tables, graphics, layout and “Data” section were provided by Thom Stulginski. John Kokenda formatted and provided the source data and gave much help and insight on interpreting the data. Some data, particularly the ‘Circumstance’ data for individual manners of death, and the “References” section came from Soni Elliot’s unfinished report. Also the “Special Infant Death Report” written by Robert Cicco, M.D. and Margaret Watt-Morse M.D. was taken verbatim from Soni Elliot’s report.

Many of the recommendations to help reduce child deaths have been suggested before by this and other CDR teams. Because of the complex nature of child death, there is no single or easy cure for this problem. Rather, it will be an ongoing process of review, action and assessment resulting in the evolving of goals and activities of the team.

Accomplishments

The Allegheny County Child Death Review Team continues to make progress in understanding why children are dying in Allegheny County and is actively engaged in promoting initiatives for prevention in our communities. Highlighted below is the list of accomplishments reported for 2002-2004:

- CDRT established a sub-committee of medical providers and other professionals to work on prevention of infant mortality focusing on prematurity and Sudden Infant Death Syndrome issues.
- Worked with City and County Police, Medical Examiner's office, Emergency Services, Department of Human Services, District Attorney Office, and SIDS Alliance, to improve death scene investigation.
- Changes were made in procedures to improve assessment of abuse and neglect referrals for young children.
- Enhanced forensic investigation on all sudden infant deaths, by including additional testing for environmental contaminants, as well as developing a specific interview tool.
- Supported in writing to the Secretary of U.S. Consumer Product Safety Commission a petition to ban all-terrain vehicles for use by children under age 16 years.
- Worked with the Allegheny County Health Department Public Information Office on new releases regarding CDRT findings focusing on bed sharing as an associated risk factor for SIDS.
- Acquired a mini-grant to local SIDS prevention program to increase awareness of risk factors associated with unsafe sleep practices.
- Alerted the Consumer Product Safety Commission on product safety concerns identified from the reviews.
- Improved confidentiality of reviews by improving confidentiality consent form and protocol.

- Worked with Health Department Injury Prevention program to write a proposal for birthing hospitals regarding instructions on proper installation and use of infant car seats and booster seats for infants upon discharge after delivery.

- Alerted the State Bureau of Drug Control of concerns identified in reviews regarding dispensing drugs.

- Alerted the State Child Death Review and Child Welfare of concerns regarding expunging records of abuse when a perpetrator is not identified in the home.

- Worked with the State Child Death Review Director to participate in the National Child Death Review database.

Recommendations

1. To reduce the number of infant deaths:

   CDRT recommends that medical providers and outreach programs working with families of newborns utilize the 1997-2001 SIDS report located on www.achd.net to educate consumers and medical providers regarding risk factors associated with SIDS in Allegheny County. Ongoing education regarding safe sleep practices should remain a priority in our efforts to reduce preventable infant deaths in the coming years.

   The Medical community should focus on the complications of prematurity as the primary cause of infant deaths. Premature rupture of membranes/chorio, idiopathic pre-term labor and multiple gestations have consistently been the leading problems resulting in pre-term labor. Efforts to reduce these deliveries should be addressed.

   Continue to identify preventable factors and strategies to prolong pregnancies to a more viable gestation. Encourage smoking cessation during pregnancy and after delivery. Screen for substance abuse and refer for treatment. Conduct SIDS prevention initiatives. Encourage ongoing preventive health care for women prior to pregnancy.

   Target at risk infant mortality populations to assure education on pre-conception, pregnancy and well baby care.

   Expand successful outreach home visiting programs that target populations at high risk for infant mortality.

   The Bureau of Health Statistics and Research, PA Department of Health should promote efforts to assure accurate completion of both birth and death certificates, especially providing complete birth data on infant deaths.

2. To reduce the number of fatalities resulting from homicides, including child abuse:

   CDRT recommends that protective services, law enforcement and hospitals should work together utilizing emergency room data on injuries and fatalities to identify “high risk for violence” communities. Enhance police surveillance and preventive outreach efforts in those communities.

The Office of Children Youth and Services should continue to educate providers involved with services to families of young children on mandating reporting requirements.

Prevention programs should promote best practices for violence prevention education in high crime areas of Allegheny County.

Government and private funding resources should support positive youth development programs in at-risk for violence communities.

Law enforcement agencies and social services agencies should support food for guns and similar programs aimed at eliminating firearms in high-risk communities.

3. To reduce the number of deaths due to suicide:

   CDRT recommends that school personnel and social service organizations working with children, families and friends are educated about the warning signs of suicide in youth.

   CDRT recommends that medical providers utilize depression-screening instruments for adolescent patients in primary health care settings.

   CDRT recommends parents with children with mental health problems restrict access to lethal means of suicide in their homes.

4. To reduce the number of motor vehicle crashes by teens:

   CDRT recommends that parents become involved with educating their teenagers regarding good youth driving practices and restrict access to vehicle when their children are non-compliant.

   Support legislation mandating that wearing seat belts becomes a primary, rather than a secondary law.

   Encourage car manufacturers to create safer cars.

   Target adolescents for education on seat belt use.

5. To reduce the number of accidental drug poisoning:

CDRT recommends that law enforcement enhance police presence in drug trafficking hot spots to reduce the supply of illegal drugs.

CDRT recommends medical providers, schools and social service agencies educate parents to monitor their child's activities and be aware of behavioral changes and physical symptoms that may indicate their child is using drugs and get them help.

6. To reduce the number of fire deaths of children:

CDRT recommends to parents that smoke alarms should be installed on every floor of their residence and checked frequently to assure they are operating.

CDRT recommends to fire prevention programs that smoke alarm distribution is available in areas where fires are more frequent.

CDRT recommends programs in schools, pre-schools and child care settings to teach fire prevention and home fire escape planning.

7. To reduce the number of drowning deaths:

CDRT recommends to parents that home pools should be secure by fencing and locked gates, including both in-ground and aboveground pools.

Lifeguards at public pools should be well trained in water safety and pools must have appropriate staffing at all times.

Educations should be provided to parents regarding bathtub safety.

Young children must have constant adult supervision and use approved personal flotation devices.

Executive Summary

Based on total official certificate count (2000-2004), an average of 191 children, from birth to age 19, die each year in Allegheny County. For various reasons not all child death records are available for review. The mean number of cases not available for review was 18 for the time period 2000 to 2004, with a range of 12-31 cases. The Child Death Review Team (CDRT) and the Office of Epidemiology and Biostatistics continue to work with Pennsylvania Department of Health, Bureau of Health Statistics and Research to assure that all death certificates in Allegheny County 0-19 years are available for review.

By understanding how and why children die, action can be taken to prevent other similar deaths. Thus, monthly reviews provide the opportunity to carefully examine detailed information on each occurrence. Analysis of these data on an annual or aggregate basis provides the ability to detect existing patterns and emerging trends in child deaths, which will support efforts to prevent further child deaths.

A descriptive assessment of reviewed deaths for the 2002-2004 calendar years including reference data since 2000 follows. Most reported child deaths were from natural causes: 373 or 70% of the total number of child deaths reviewed. Natural causes of death by age and condition were reported for 2002, 2003 and 2004. Infants represent the greatest majority (76%) of death by natural causes. A majority of these infants die due to complications from prematurity. The Child Death Review team continues to study risk factors related to these deaths, hoping to improve birth outcomes. The CDRT is also working collaboratively with the Maternal Child Health Program's initiative "Perinatal Periods of Risk" (PPOR). The PPOR approach analyzes infant mortality to mobilize and prioritize prevention efforts.

This report only includes SIDS deaths reviewed by CDRT and does not include other unintentional sleep related deaths. Although, the etiology of SIDS is unclear, there appear to be factors such as co-sleeping, and sleep position associated with the outcome of Sudden Infant Death. Establishing Infant safe sleep practices may be the best prevention.

Deaths due to homicides and suicides continue to fluctuate from year to year. Of those reviewed, 23 homicides occurred in 2002, 26 homicides in 2003 and 13 homicides in 2004. There were 11 suicides in 2002, 9 suicides in 2003 and 4 suicides in 2004. Seventy-six percent of reviewed homicides occurred in the 15-19 year age range. Seventy nine percent of these deaths were male and 84% were among blacks. Of reviewed homicide deaths, 50 (81%) were committed with firearms.

Suicides decreased from 11 in 2002, to 9 in 2003 and 4 in 2004. Males reported higher numbers than females. White children have a higher number of suicides reflecting their population majority but the ratios per population group are roughly equal. Whites make up 77% of child population and 79% of reviewed child suicides; blacks comprise 18% of child population and 21% of child suicides. Firearms and hanging were the most common method of committing suicide. The CDRT will continue to monitor teen homicide and suicide. It appears that most victims have been involved to some extent in County services. Earlier intervention services for high risk families may be a prevention action needing further emphasis.

Accidental deaths accounted for 23 in 2002, 16 in 2003 and 18 in 2004. For all years except 2004, motor vehicle crashes were the leading cause of accidental death. In 2004, deaths related to poisoning (including overdose) led the numbers. Accidental deaths include motor vehicle crashes, drowning, fires, poisonings, suffocation, accidental firearm deaths, and falls. In Allegheny County, deaths from motor vehicles were lower than the state and national levels for every age group. In 2004, for 15-19 year olds, Allegheny County death rates were 4.5 times lower than Pennsylvania. Numbers of deaths reported for other accidental deaths such as fires, poisonings, drowning and falls are relatively small. However, poor judgment and lack of adult supervision make these occurrences more predictable than by chance. Children drowning in bathtubs, swimmers not wearing floatation devices, children playing with matches and young people taking illegal drugs all have led to deaths that are preventable.

The following report depicts the unfortunate statistics of the worst possible outcome to our most valuable resource, our children. Hopefully, through monitoring and analysis of mortality and as well as morbidity, we can continue to collaboratively create a safety net environment to protect our children.

Data

Child Death Review Count: Trends

From 2000 to 2002 the ratio of child death records reviewed compared to the total count of child deaths showed a rise from 92% to almost 94%. An aberration in 2003 (85% reviewed) contributed to a 5 year average of 91%. For the 5 years shown, there were 956 total child deaths and 867 were reviewed.
The CDR Team is committed to achieving a 100% record review rate.

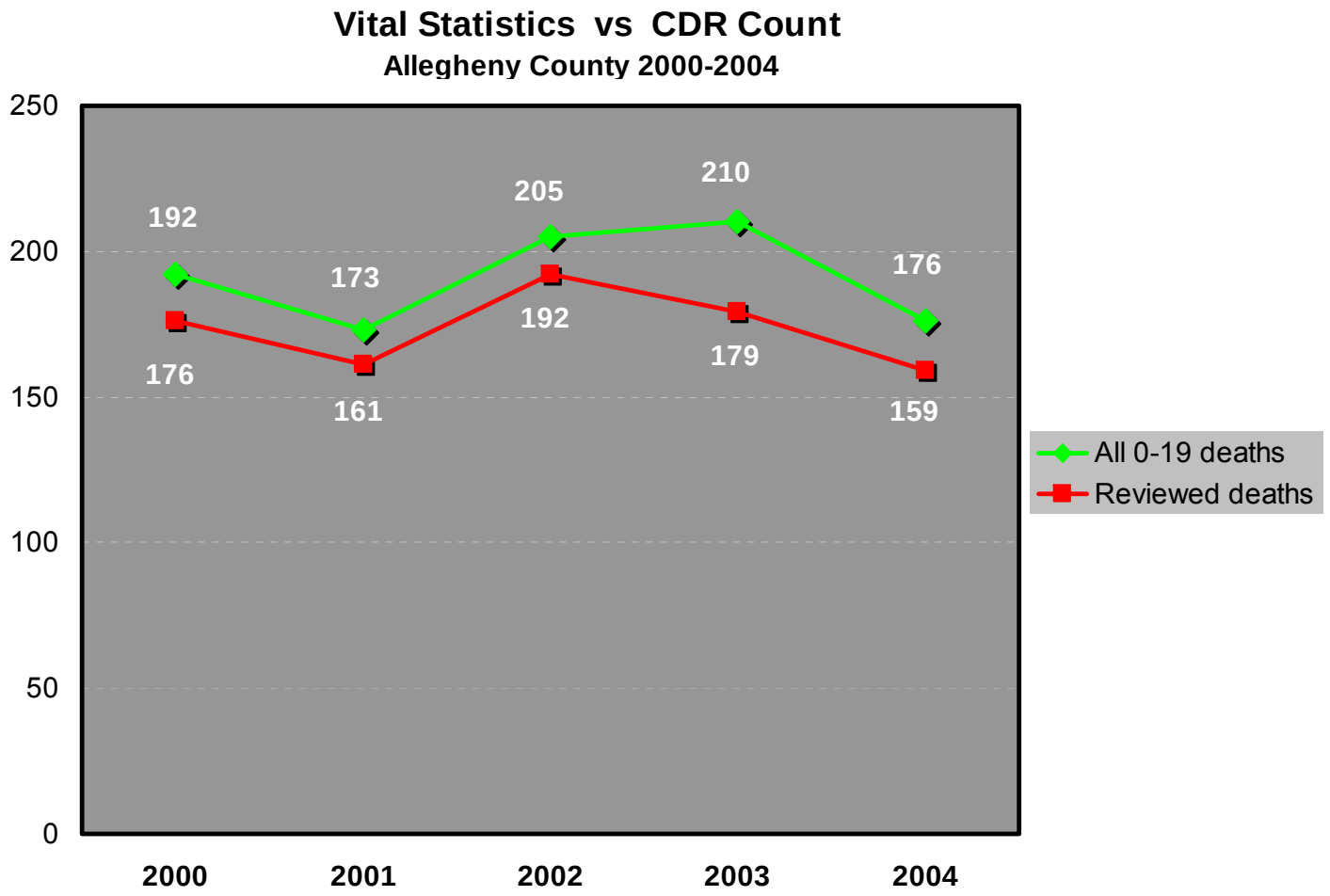


Figure 1: This chart tracks progress toward a goal of reviewing records for all child deaths. The average difference for the 5 year period is 18 missed records per year, or about 9%.

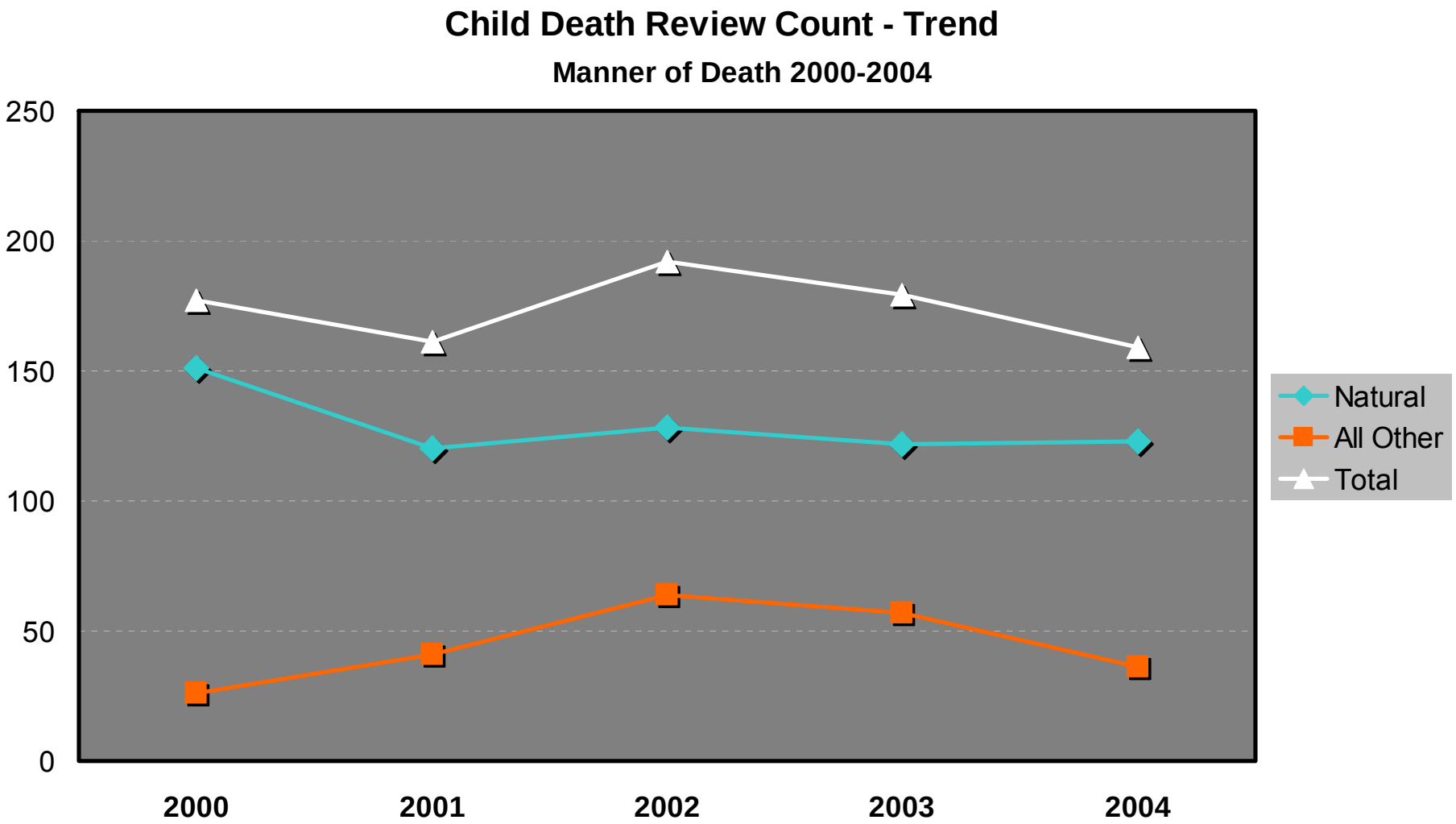


Figure 2: The annual count of "Natural" causes appears steady, except for 2000. The variation in total count follows that of "All Other" causes. If this trend continues, it could justify a focus of prevention efforts on accidents, homicide and suicide.

A majority of reviewed child deaths were due to natural causes (373 of a total 530 from 2002 to 2004) and a majority of those were infants (285). Of these infants the CDRT notes mention "prematurity" and "immaturity" for 199 cases. Some may consider these deaths "non-preventable" but many of these deaths might be prevented through better counseling, regular care and risk reduction. The Perinatal Periods of Risk (PPOR) efforts, cited in the Executive Summary, target this group.

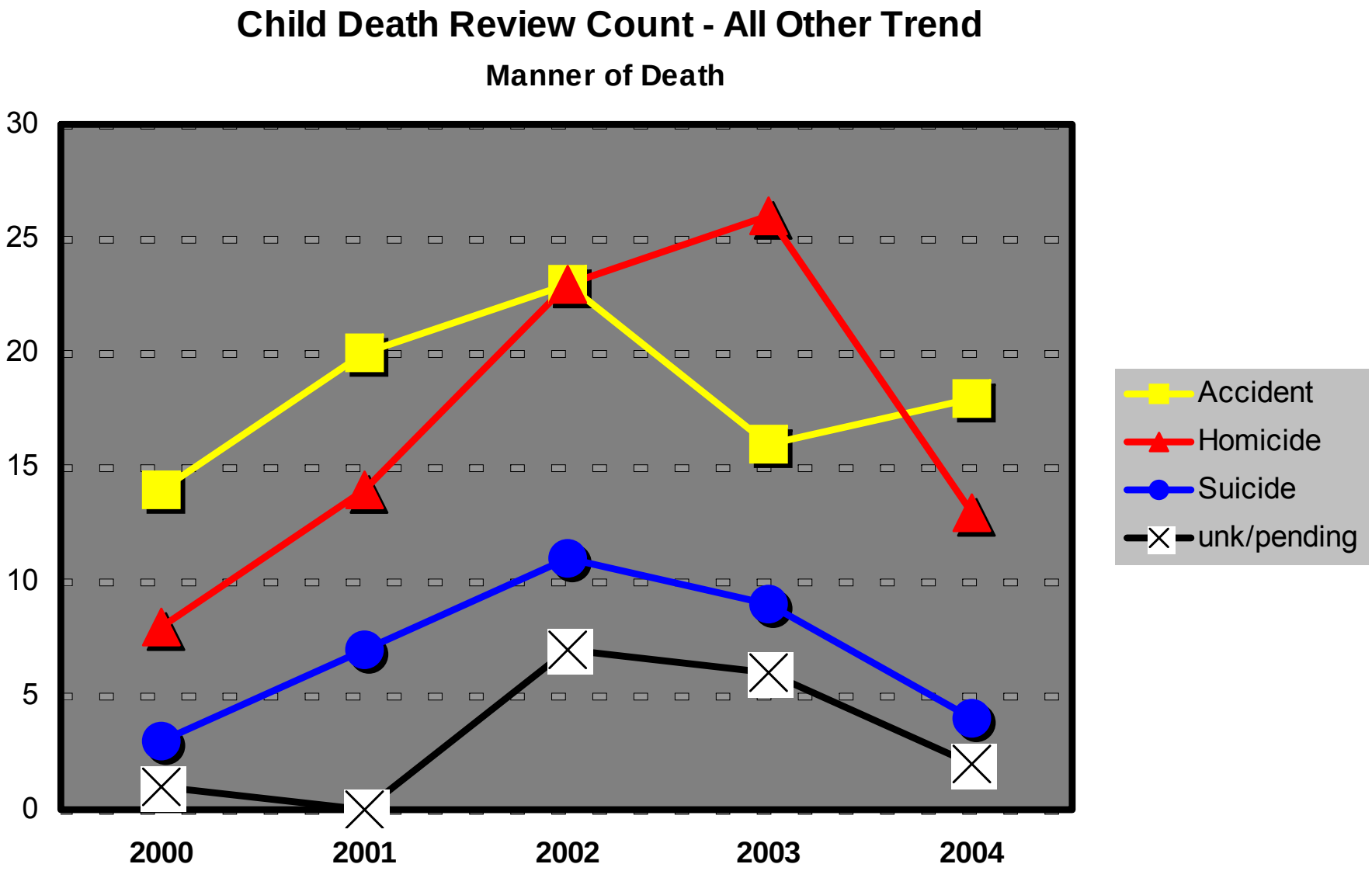


Figure 3: This breakdown of "All Other" causes roughly implies a peak and decline over 5 years. It also suggests that a larger reduction of child deaths may result if prevention plans prioritize activities addressing accidents and homicides.

When the County data for reviewed child deaths are broken down by gender, race, age and manner, the resulting numbers can be small. Caution should be exercised when determining trends from such data.

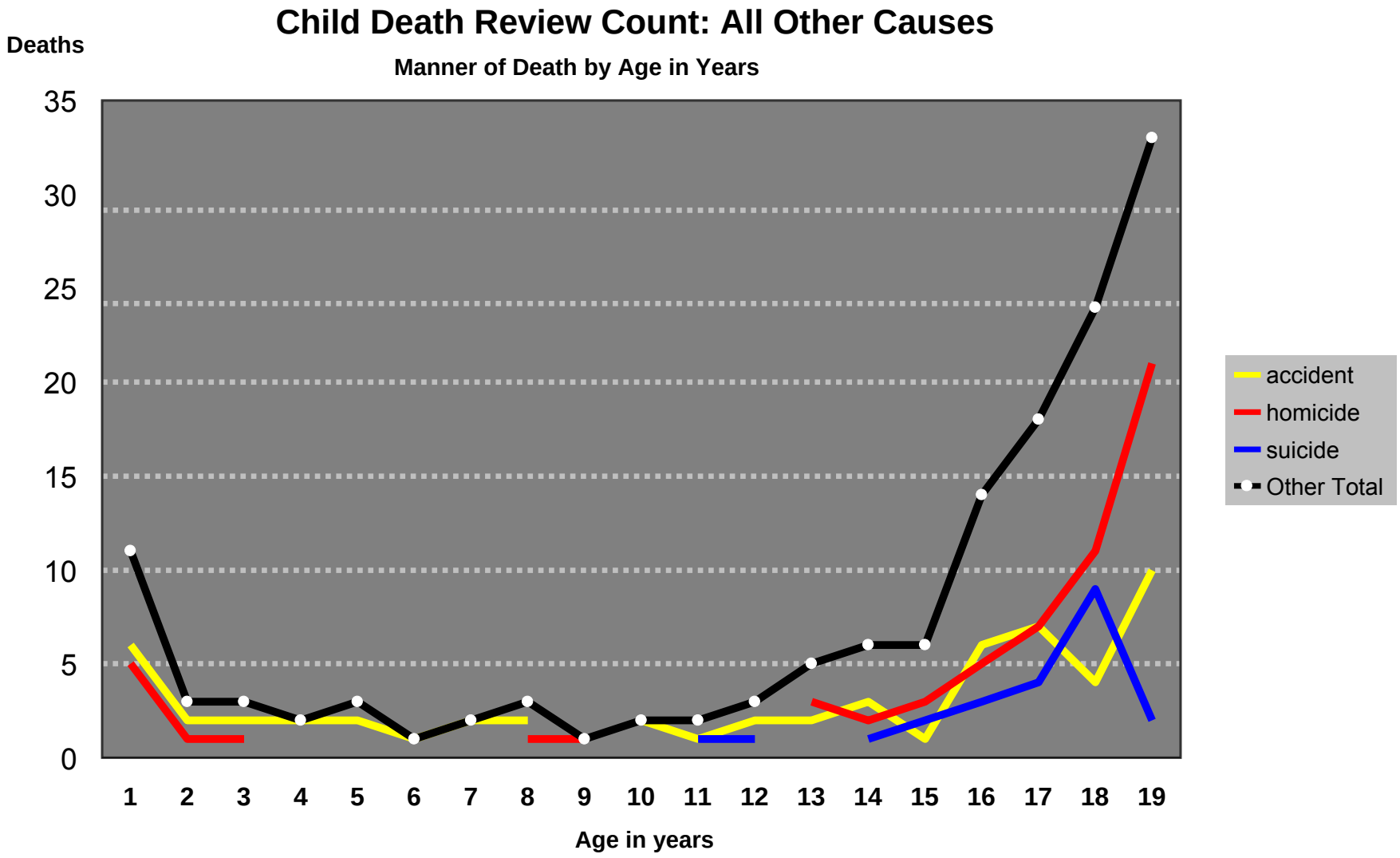


Figure 4: This breakdown of "All Other" causes by age illustrates a strong concentration of these deaths among teens and suggests that a larger reduction of child deaths may result if prevention plans prioritize activities addressing older children.

Child Death Review Count by Age, Race & Gender

Table 1: 2002-2004 CDR Total by Race and Gender

Race	Gender		Grand Total	% of Total
	female	male		
white	115	167	282	53.2
black	89	148	237	44.7
Chinese	2		2	0.4
other Asian	2	1	3	0.6
other nonwhite		1	1	0.2
unknown	3	2	5	0.9
Grand Total	211	319	530	100.0

Table 2: 2002-2004 CDR Neonatal by Race and Gender

Race	Gender		Grand Total	% of Total
	female	male		
white	59	71	130	53.1
black	50	58	108	44.1
Chinese	1		1	0.4
other Asian	2	1	3	1.2
other nonwhite		1	1	0.4
unknown	1	1	2	0.8
Grand Total	113	132	245	100.0

In Allegheny County a total of 591 children, aged birth through 19 years, died from 2002 to 2004. The CDR Team reviewed 530 cases. The age classifications in this demographics section are neonatal (birth to 28 days), post-neonatal (29 to 364 days) and child (1 through 19 years). The race categories are white, black, Chinese, other Asian, other nonwhite and unknown.

The majority of deaths (53.2%) occurred among whites. Because the County population is primarily white, these results are to be expected. However, when race ratios for child death are compared to population ratios, a clear disparity is detected. In 2000 whites accounted for 77% of the County's child population but only 53.2% of CDR's child deaths. Blacks made up 18% of the child population and 44.7% of child deaths.

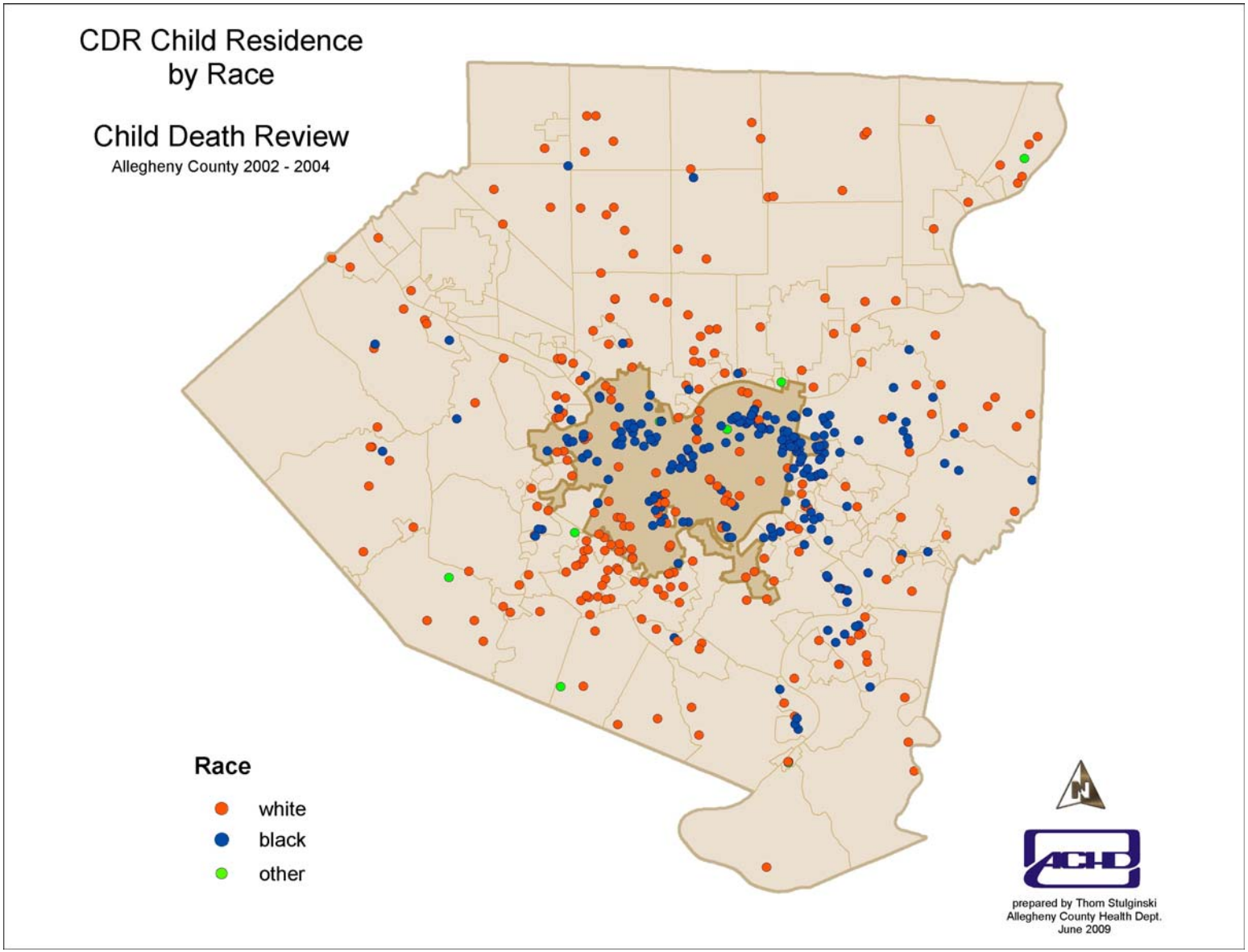
Table 3: 2002-2004 CDR Post-Neonatal Deaths by Race and Gender				
	Gender			
Race	female	male	Grand Total	% of Total
white	11	13	24	38.7
black	13	24	37	59.7
unknown		1	1	1.6
Grand Total	24	38	62	100.0

Table 4: 2002-2004 CDR Child (1-19yr) Deaths by Race and Gender				
	Gender			
Race	female	male	Grand Total	% of Total
white	45	83	128	57.4
black	26	66	92	41.3
Chinese	1		1	0.4
unknown	2		2	0.9
Grand Total	74	149	223	100.0

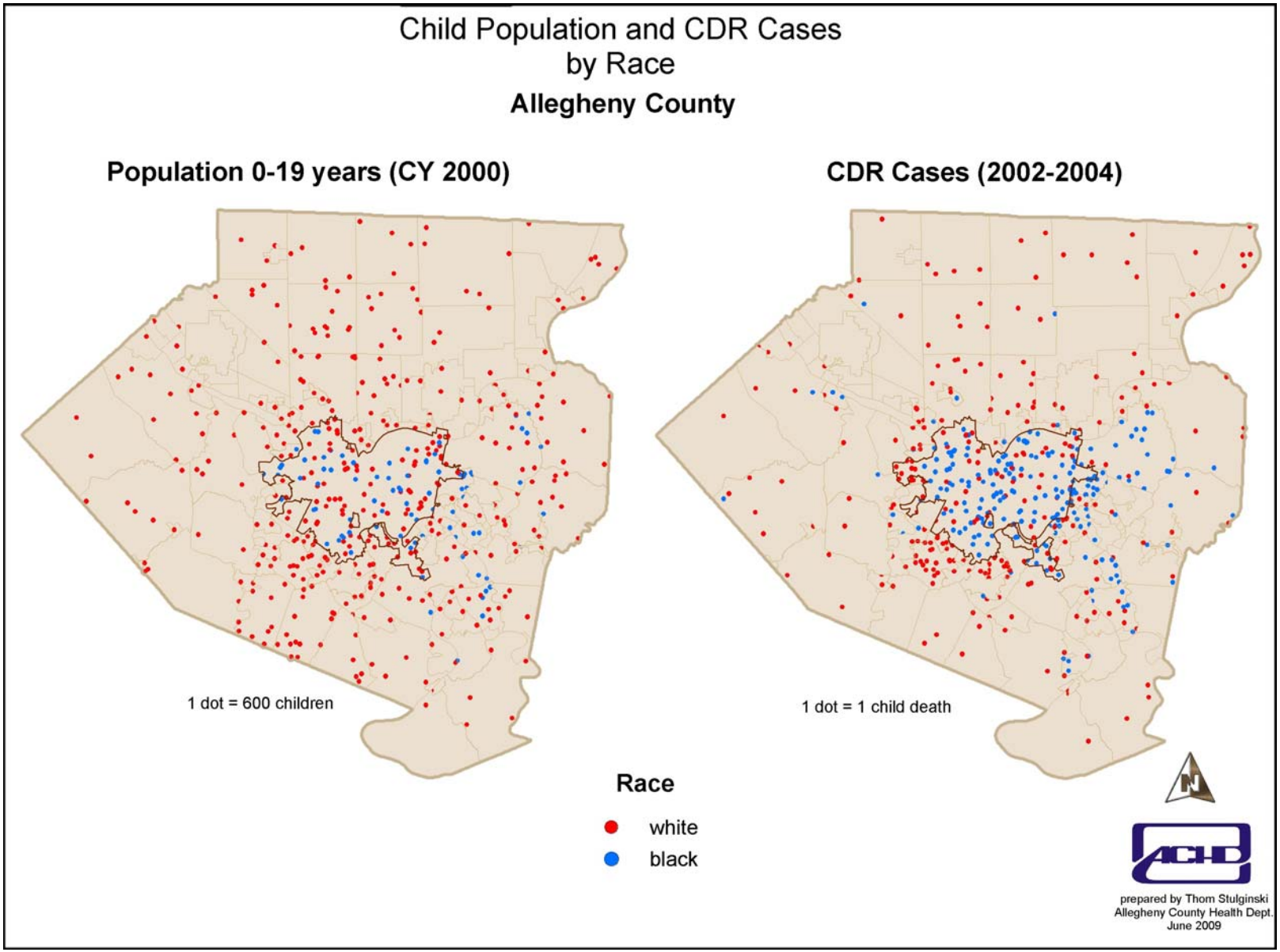
Racial disparity is evident in every age group but none as much as in the post-neonatal age group.

Females account for fewer child deaths in every age group presented here.

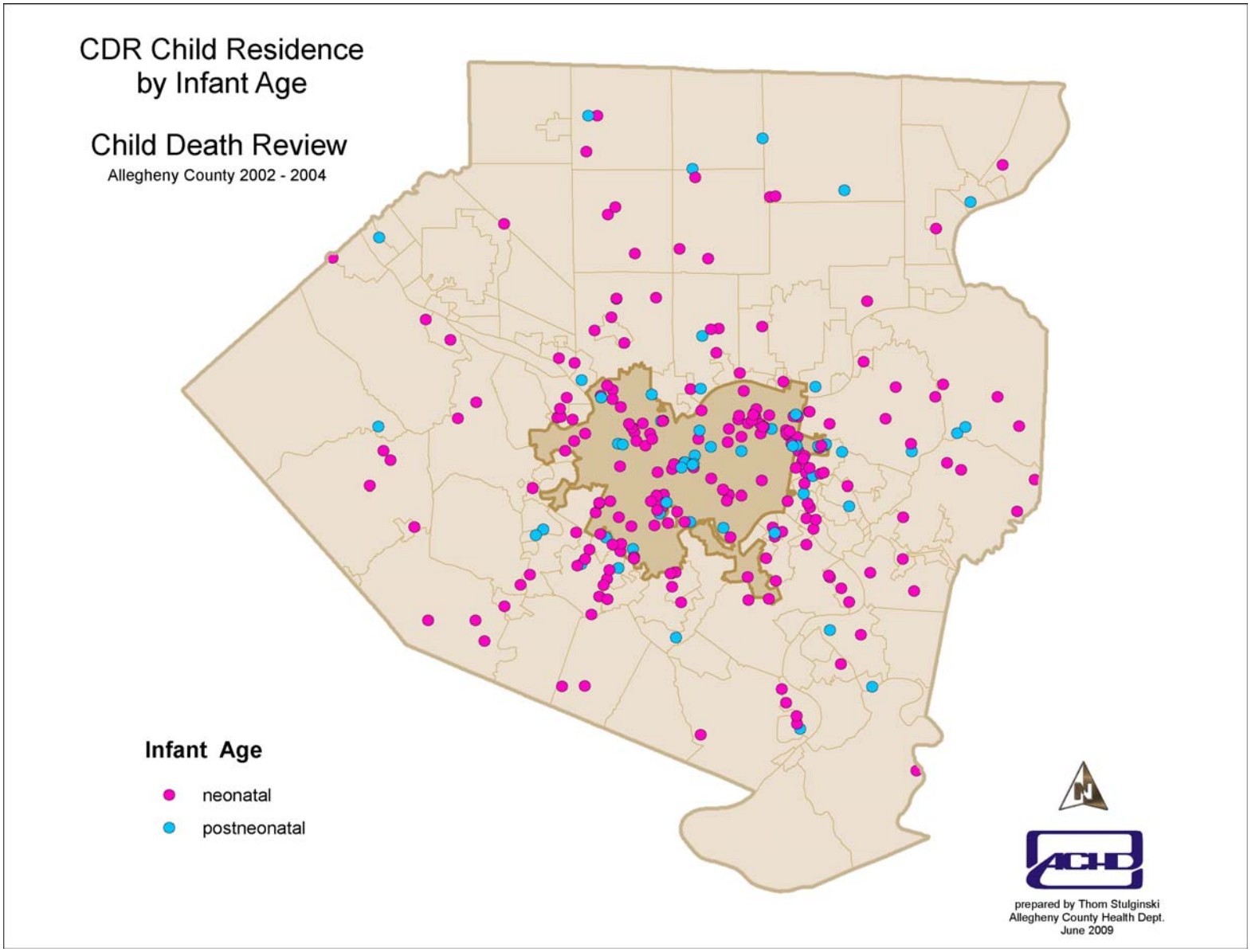
While prevention efforts should be prioritized to address disparities and obtain maximum results, they must target all cultural and ethnic groups in the manner most accessible to each group.



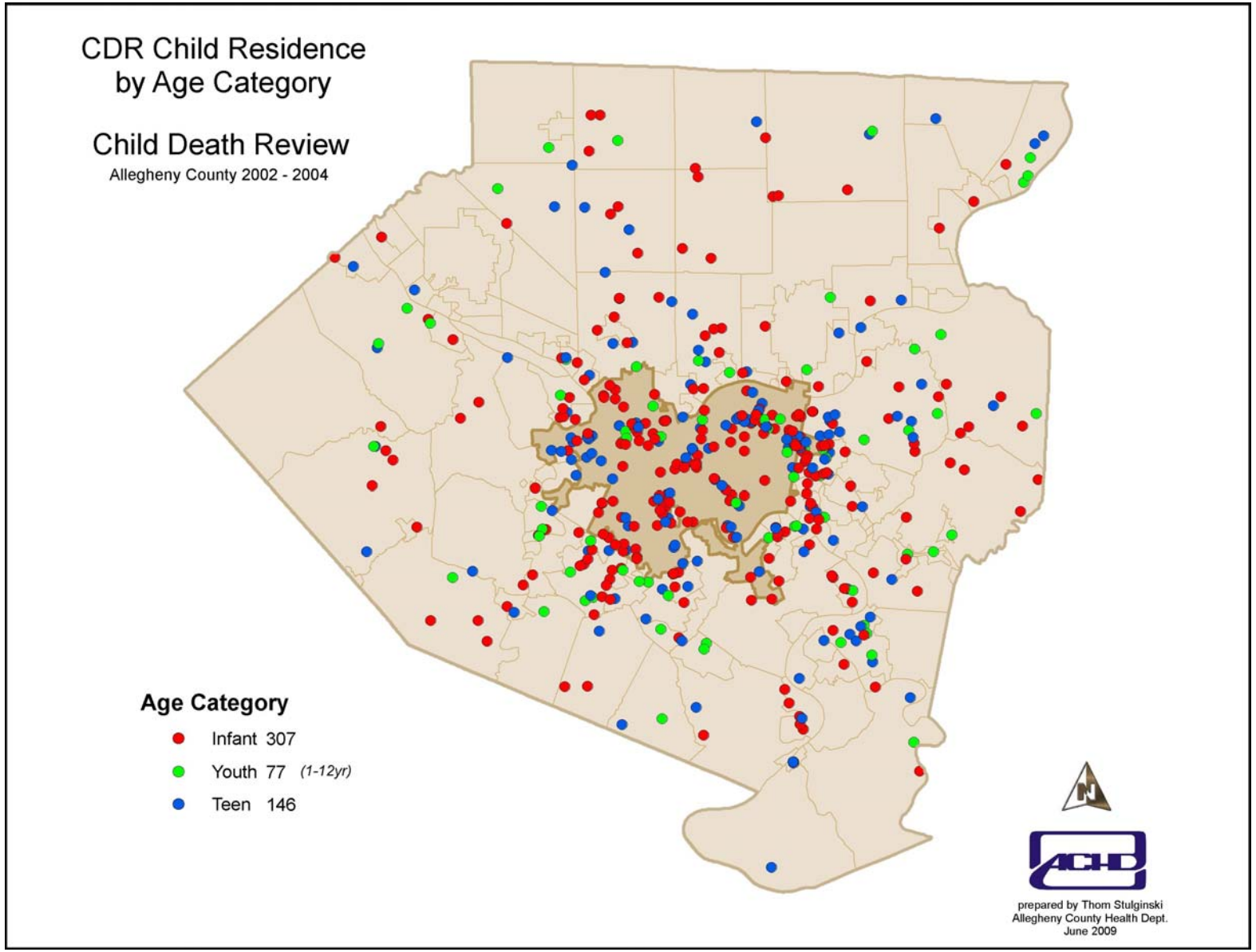
Map 1: While the County's white child population accounts for a higher percentage of reviewed child deaths (53.2% as opposed to 44.7% for black), the ratio is highly disproportionate compared to the County's respective child populations (ages 0-19yr, CY 2000: white=81%, black= 19%). This map shows the racial breakdown of child deaths, geocoded by residence.



Map 2: To further illustrate the racial disparity shown in Map 1, these two County maps use dot density. Each map contains roughly 500 dots classified by race. In the population map each dot represents 600 children; a dot in the CDR map stands for one child death. In both maps dots are randomly distributed within each municipality, unlike map 1 where deaths are geocoded.



Map 3: A distinct majority (80%) of infant deaths occurs in the first month (28 days) of life. While the causes of death are similar for both age groups, the postneonatals account for more "ill-defined" causes and all SIDS and externally caused deaths. Racial disparity persists in the infant age group (see tables 2 & 3).



Map 4: Rankings of child death causes tend to break into 3 age ranges; infant, youth and teen.

Child Death Review Count by Manner of Death

The manner of death is recorded on each certificate by an attending physician or a medical examiner. A child death can be categorized according to 5 general manners of death: natural, accident, homicide, suicide and undetermined.

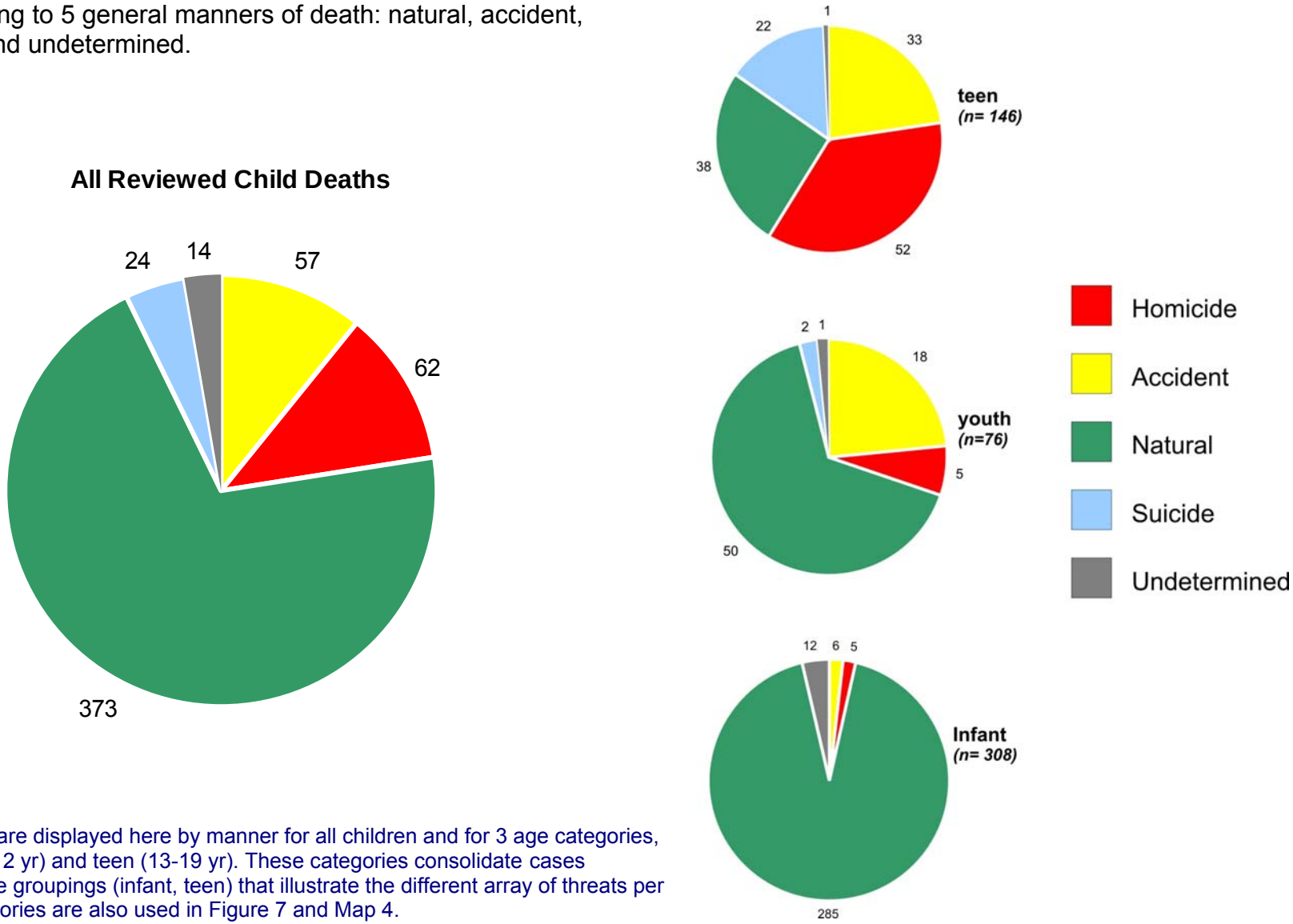


Figure 5: Child deaths are displayed here by manner for all children and for 3 age categories, infant (<1 yr), youth (1-12 yr) and teen (13-19 yr). These categories consolidate cases according to familiar age groupings (infant, teen) that illustrate the different array of threats per group. These age categories are also used in Figure 7 and Map 4.

NATURAL	white		white	black		black	other	Grand
AgeGroup	male	female	Total	male	female	Total	Total	Total
<1yr	82	66	148	73	57	130	7	285
1-4yr	10	3	13	4	3	7	0	20
5-9yr	8	7	15	2	2	4	1	20
10-14yr	7	6	13	2	3	5	1	19
15-19yr	13	9	22	3	3	6	1	29
Grand Total	120	91	211	84	68	152	10	373

ACCIDENTS	white		white	black		black	other	Grand
AgeGroup	male	female	Total	Male	female	Total	Total	Total
<1yr		2	2	2	1	3	1	6
1-4yr	2	2	4	4		4	0	8
5-9yr	1	1	2	1	2	3	0	5
10-14yr	3	4	7	1	2	3	0	10
15-19yr	17	7	24	4		4	0	28
Grand Total	23	16	39	12	5	17	1	57

HOMICIDE	white		white	black		black		Grand
AgeGroup	male	female	Total	male	female	Total		Total
<1yr	1	1	2	2	1	3		5
1-4yr	1	1	2	0	1	1		3
5-9yr	0	0	0	1	1	2		2
10-14yr	0	0	0	2	3	5		5
15-19yr	5	1	6	37	4	41		47
Grand Total	7	3	10	42	10	52		62

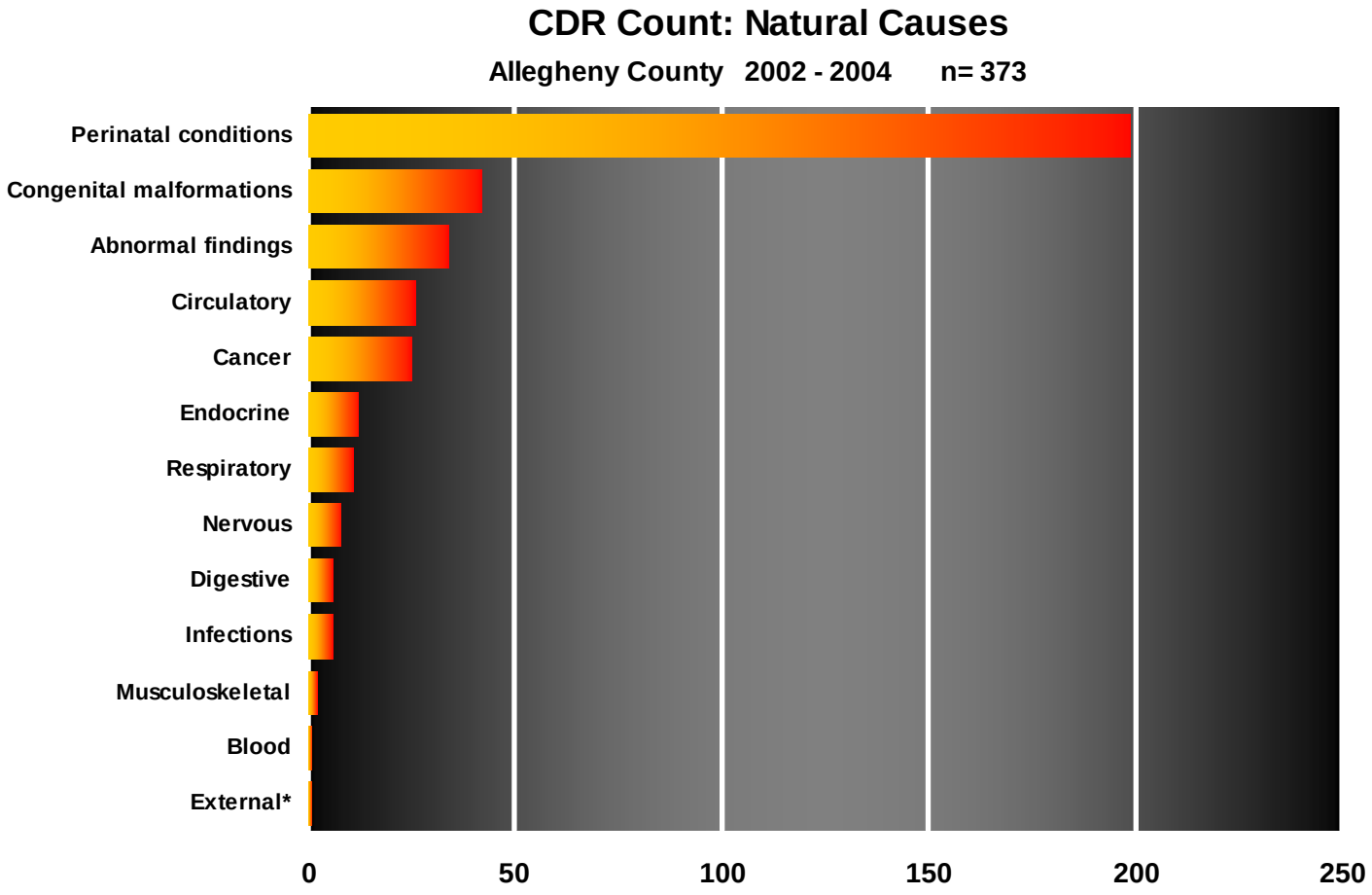
SUICIDE	white		white	black		black		Grand
AgeGroup	male	female	Total	male	female	Total		Total
10-14yr	1	0	1	1	1	2		3
15-19yr	15	3	18	3	0	3		21
Grand Total	16	3	19	4	1	5		24

UNDETERMINED	white		white	black		black		Grand
AgeGroup	male	female	Total	male	female	Total		Total
<1yr	2	1	3	5	4	9		12
1-4yr	0	1	1	0	0	0		1
15-19yr	0	0	0	1	0	0		1
Grand Total	2	2	4	6	4	10		14

Table 5: 2002-2004 CDR Count of Manner of Death by Age Group, Race and Gender. The age groups are standard SEER (Surveillance Epidemiology & End Results) age ranges.

Natural causes dominate the infant category and, to a lesser extent, the youth group where accidental deaths comprise a large portion. Homicides account for over one-third of teen deaths.

"Natural" describes a death that results from a process such as disease or defect. A large majority of child deaths are infants and some may question the preventability of these. However counseling, testing, regular care and risk reduction can have a tremendous affect on infant viability



	Number	% of Natural	% of all CDR
Perinatal conditions	199	53.4	37.5
Congenital malformations	42	11.3	7.9
Abnormal findings	34	9.1	6.4
Circulatory	26	7.0	4.9
Cancer	25	6.7	4.7
Endocrine	12	3.2	2.3
Respiratory	11	2.9	2.1
Nervous	8	2.1	1.5
Digestive	6	1.6	1.1
Infections	6	1.6	1.1
Musculoskeletal	2	0.5	0.4
Blood	1	0.3	0.2
External*	1	0.3	0.2
	373	**100**	**70.4**

Figure 6: Natural causes above are tallied according to their ICD10 chapter codes. The data, right of chart, show ratios per Natural and All child deaths. The term "Cancer" is used instead of "Neoplasms" because ICD10 codes indicate malignancy.

**Note: One death where a 7 year old had an ICD10 code for an external cause, also had manner of death coded "natural". The reviewer's notes indicated "prematurity", "anoxic brain injury" and "aspiration of vomitus". Despite this contradiction the case is counted here as "natural", per coding from the attending physician or M.E.*

Circulatory disease and cancer cause roughly equal numbers of deaths to children (26 and 25 reviewed, respectively). Infants, youths and teens account for equal portions of the circulatory deaths but cancer deaths are more numerous in the 2 older age groups.

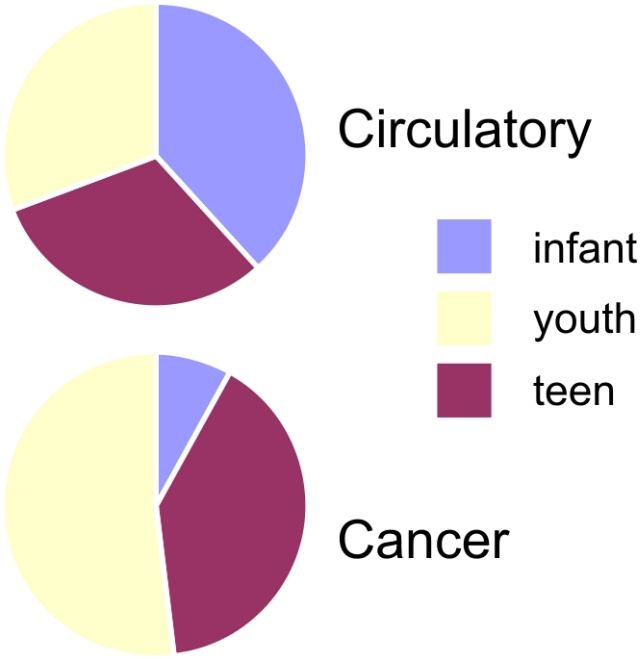


Figure 7: Natural causes, Circulatory and Cancer, by age categories.

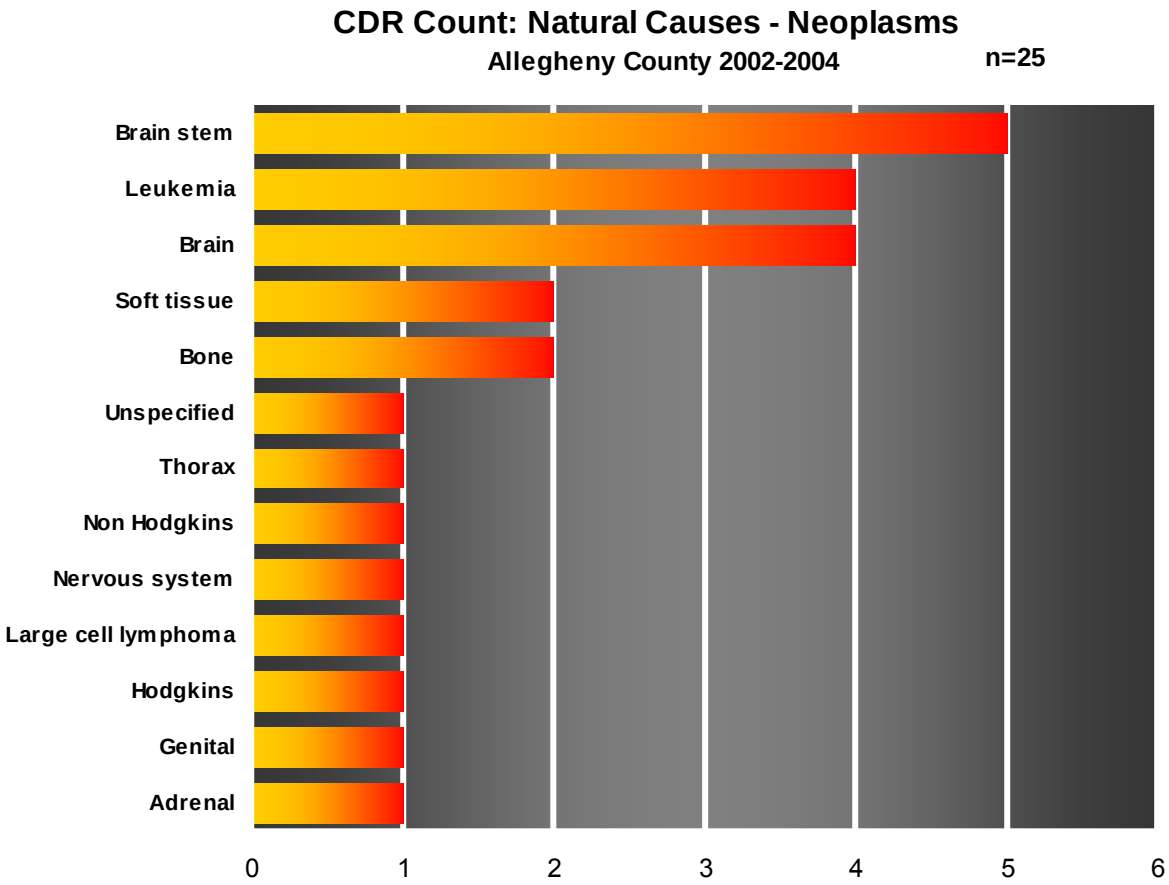
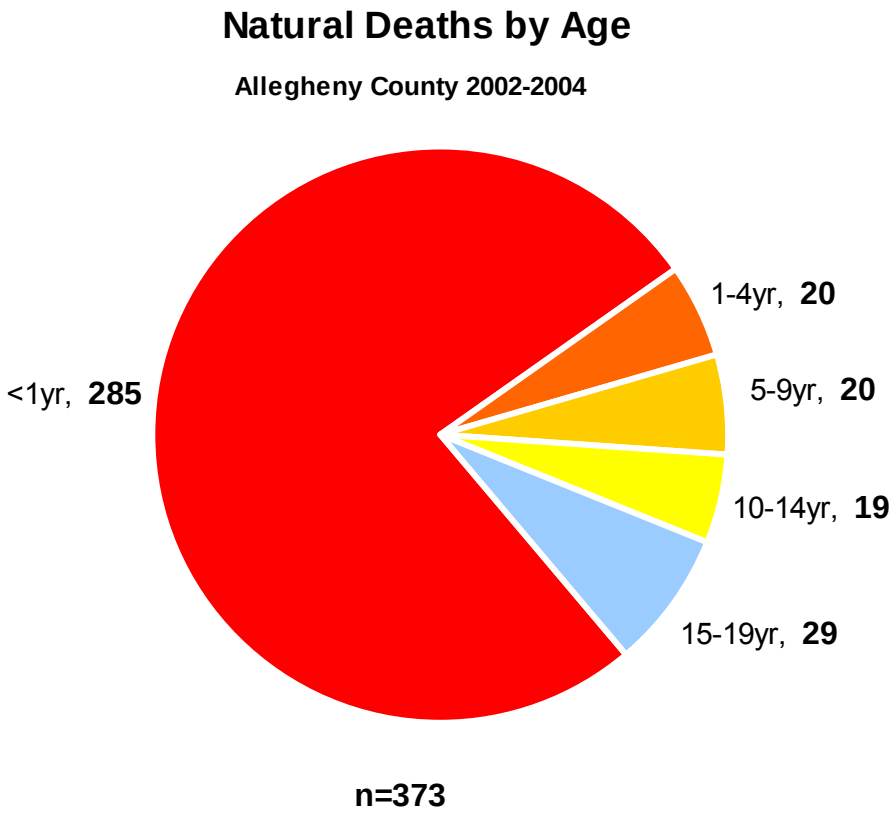


Figure 8: Natural causes above are tallied according to their type of cancer. Cancers of brain stem and brain combine for over one-third of all child cancer deaths reviewed.



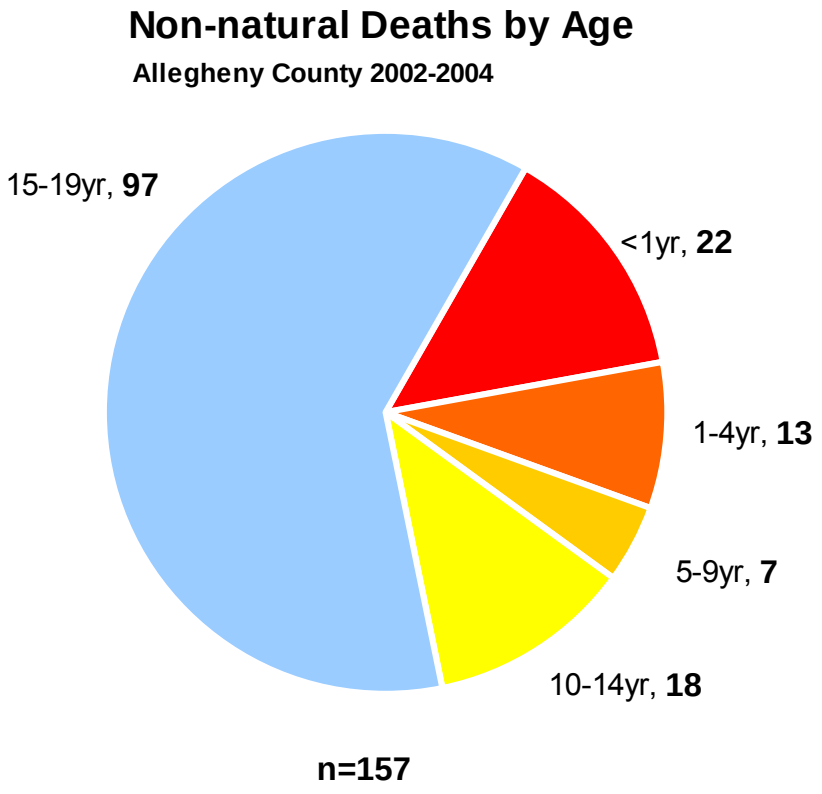


Figure 9: The causes above are grouped by nature of cause – Natural and Non-natural – by age group. The pies demonstrate the stark difference in causes that afflict the youngest and oldest children. The term "Non-natural" is used here to simply emphasize the mutual exclusivity of the groups. The age groups are standard SEER age ranges.

"Accidental" deaths are those that resulted from some unintentional act. They include car crashes, overdoses, fires, drowning and any other non-natural deaths that are absent of malice or intent. This manner of death can best be reduced through education and encouragement of parents and care providers to provide a safe environment with adequate supervision.

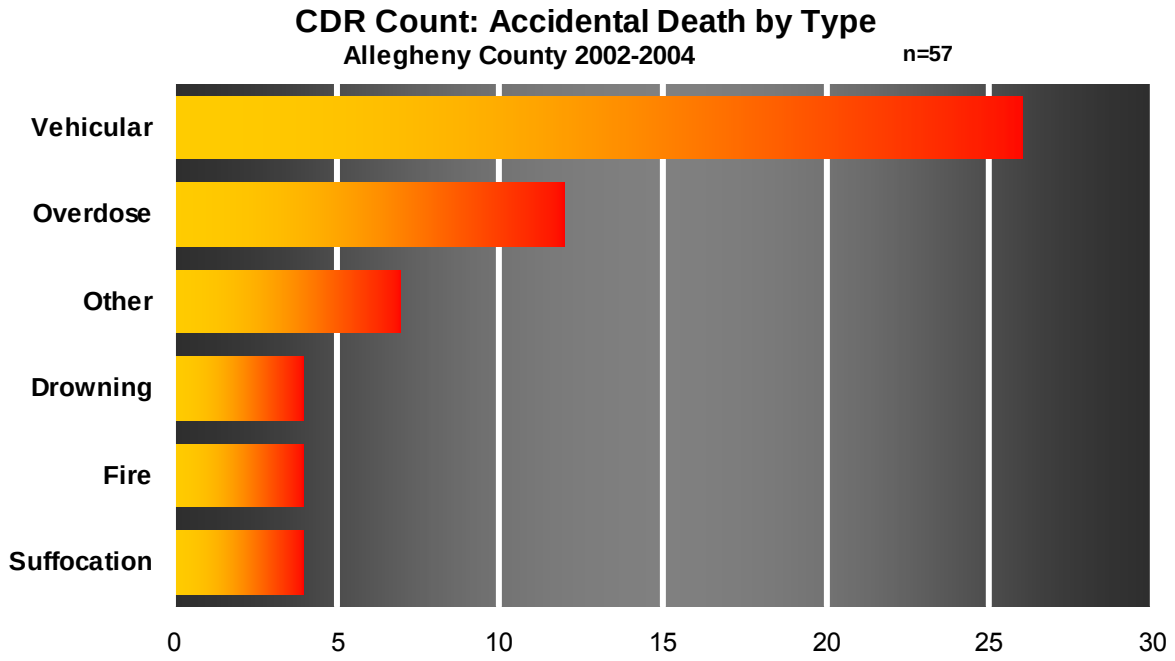


Figure 10: Fifty-seven children died due to accidents over the 3 year period. Most cases were from the older age groups (see Fig.5). The chart above shows the predominance of vehicle-related death. It outnumbers the next 3 leading accidental causes combined. "Other" includes falls, blunt force, choking, firearm and ill-defined.

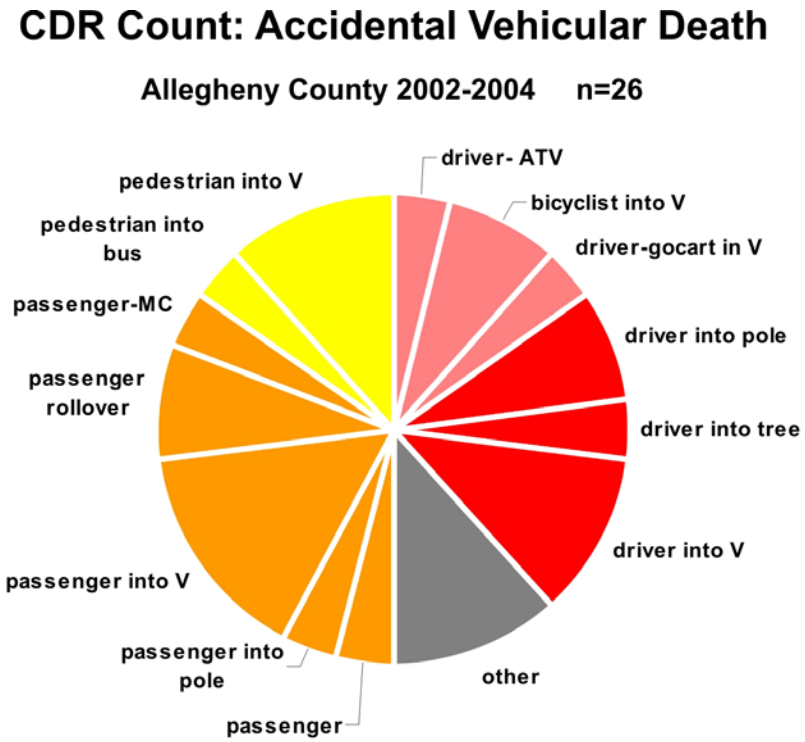


Figure 11: Vehicular death victim types are lead by total **driver** deaths (10), followed by total **passenger** (9) and **pedestrian** (4) and **other** (3).

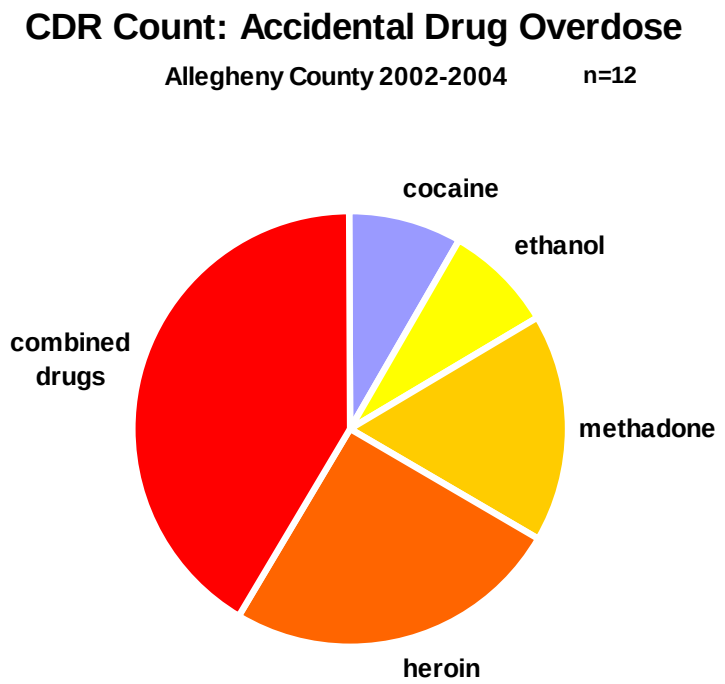


Figure 12: Of the 12 accidental overdose deaths, a majority involved more than one drug.

Motor Vehicle Summary 2002-2004

- There were a total of 26 deaths related to motor vehicles during the three year period.
- Of those deaths, 21 (81%) were white.
- Males accounted for 58% (15) of the deaths.
- Of the 26 deaths, 20 were related to or caused by cars, trucks, or buses.
- Driver deaths totaled 10 for the three year period.
- In five deaths, there was positive detection of alcohol or drugs.
- Fourteen motor vehicle deaths involved speeding or reckless driving.
- The most likely time of death related to motor vehicles was 6am-7pm, with 17 of 26 occurring during this time.
- Only three deaths occurred where drivers/passengers were using seat belts.

Table 6: 2002-2004 CDR Risk Factors Related to Motor Vehicle Deaths			
Associated Factor	**2002 (n=15)**	**2003(n=7)**	**2004 (n=4)**
Driver			
Positive Drug/Alcohol	4	1	0
Seat Belt Use	3	0	0
Passenger			
Positive Drug/Alcohol	0	0	0
Seat Belt Use	3	1	0
Pedestrian			
Positive Drug/Alcohol	0	1	0
Seat Belt Use	N/A	0	0
Other Related Factors			
Airbag Deployment (reported)	4	0	0
Speeding/reckless driving	9	4	1
Inclement weather	6	0	0
Helmet use by motorcycle/bicycle (victim)	1	0	0
Driving without License	4	1	0
Roll Over	5	1	0
Racing	2	1	0
Time of Occurrence *			
> 7:00 PM to 12:00AM	3	2	2
>12:00 AM to 6:00AM	1	1	0
> 6:00 AM to 7:00PM	11	4	2

"Homicide" refers to deaths caused by another individual by act or omission but not necessarily with the intent to kill. Where there is intent or negligence, the homicide is criminal (e.g., murder, manslaughter). Most of these deaths appear criminal based on the content of the member notes. Three deaths were noted as "pending", all infants. Of the 5 very young homicides 3 were committed by the father, 1 by the mother and 1 by parent's partner. More information about surrounding circumstances could be useful for designing prevention measures.

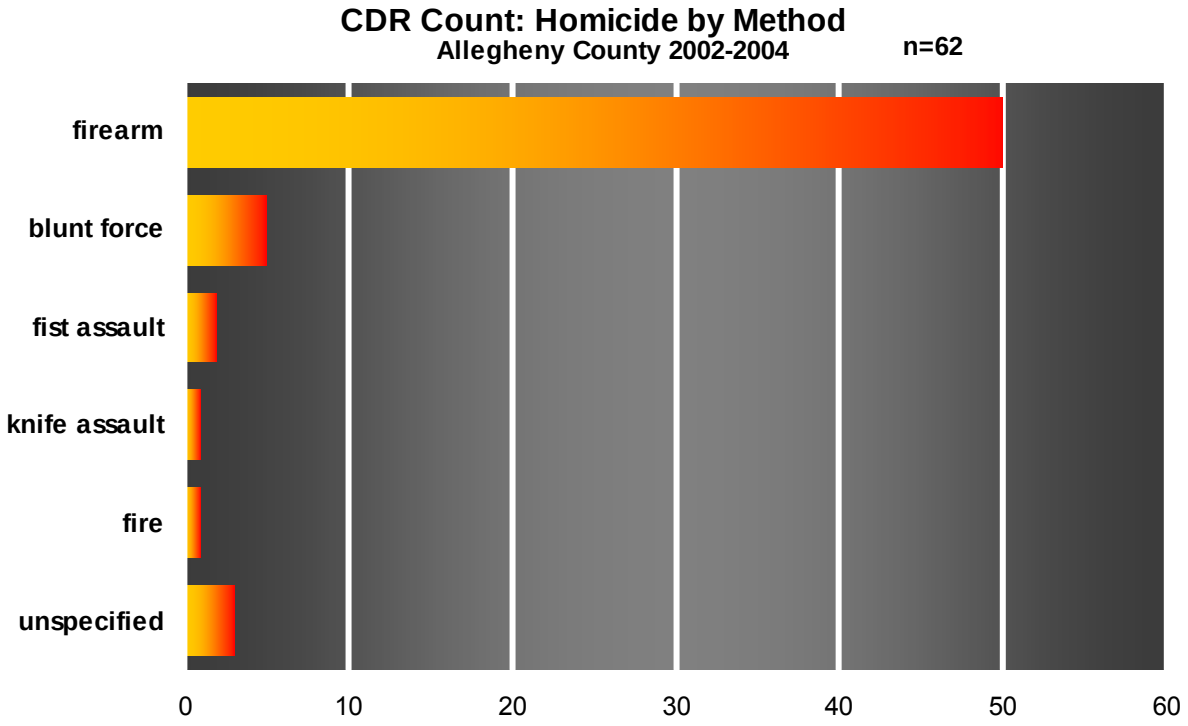


Figure 13: Of all child homicides, 81% were committed with a firearm. That is 4 times greater than all other child homicides combined.

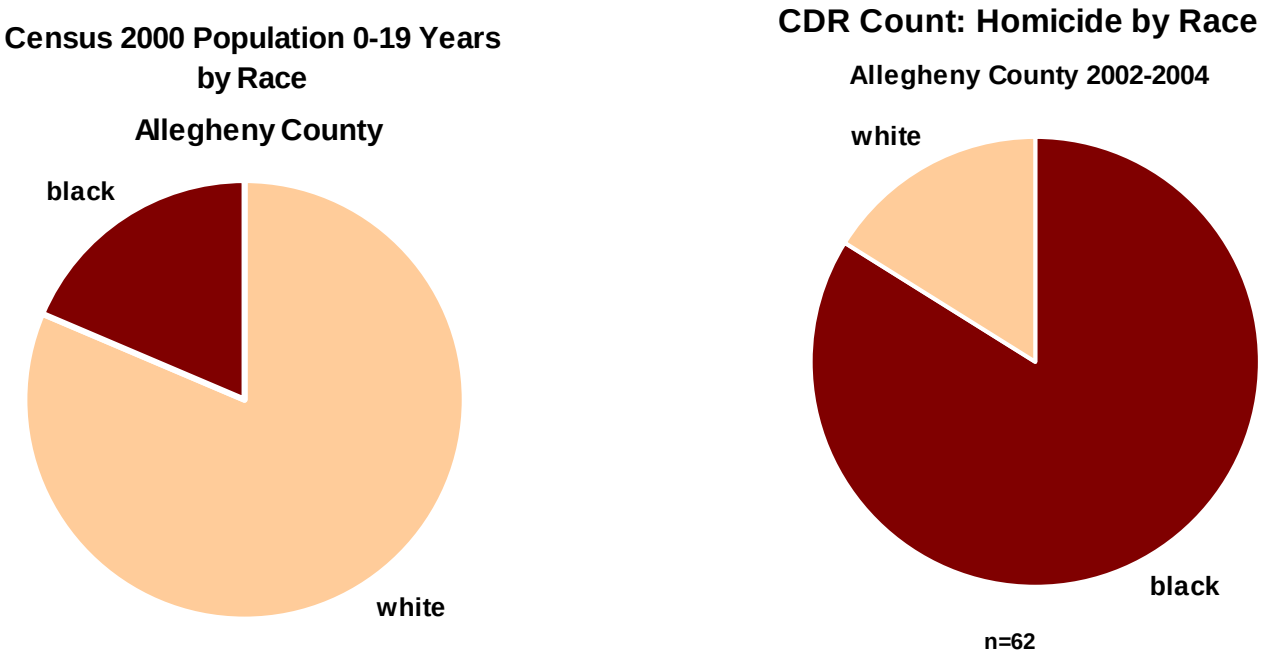


Figure 14: These pie charts together graphically depict the extremely disproportionate ratio of race to child murder. Even if the County's child population totals by race were equal, the homicide chart would still represent a tremendous disparity.

Homicide Associated Risk Summary, 2002-2004

- Homicides occur more frequently in males than females (49 vs.13) respectively.
- Children/adolescents between the ages of 15-19 have higher frequencies of reported homicides.
- There is a higher incidence of homicides in the young black population.
- Of all child homicides, 50 (81%) were committed with firearms.
- Gang violence accounted for 18 of the 62 homicide related deaths from 2002-2004.
- Drugs were involved in 20 of the homicide deaths, or 32.3%.
- For all homicide related deaths from 2002-2004, 36 victims were already known to the Court system.
- For all homicide related deaths from 2002-2004, 35 victims were known to Children Youth Families.
- Thirty one deaths (52%) resulted from altercations.

Juvenile

and

Table 7: CDR Methods of Homicide: 2002-2004						
Methods	**2002 (n=23)**	**%**	**2003 (n=26)**	**%**	**2004 (n=13)**	**%**
Firearm involved						
Handgun	18	78.3	17	65.4	13	100
Rifle	0	0	2	7.7	0	0
Non-Firearm related						
Battery	4	17.4	5	19.3	0	0
Vehicle	0	0	1	3.8	0	0
Suffocation	0	0	0	0	0	0
Piercing Instrument	0	0	1	3.8	0	0
Other	1	4.3	0	0	0	0

Related Conditions*	**2002**	**2003**	**2004**
Drugs	7	9	4
Child Abuse/Neglect	4	3	1
Gang Violence	8	5	5
Altercations	5	21	5
Positive Toxicology D/A	4	2	2
Cases Presented to Prosecution	13	17	5
Known to Juvenile Court System	12	17	7
Known to Children Youth & Families	12	15	8

**Not mutually exclusive*

"Suicide" means that evidence exists that the child intentionally caused his or her own death.

From 2002 through 2004, 24 children died from suicide. Over 4 times as many males as females committed suicide. The youngest victim was eleven years old. Three were under 15 years and nine (39%) were age 18. The ratio of methods used to commit suicide is illustrated in Figure 15. Nine records indicate an occurrence of loss (death or separation) of friend or family.

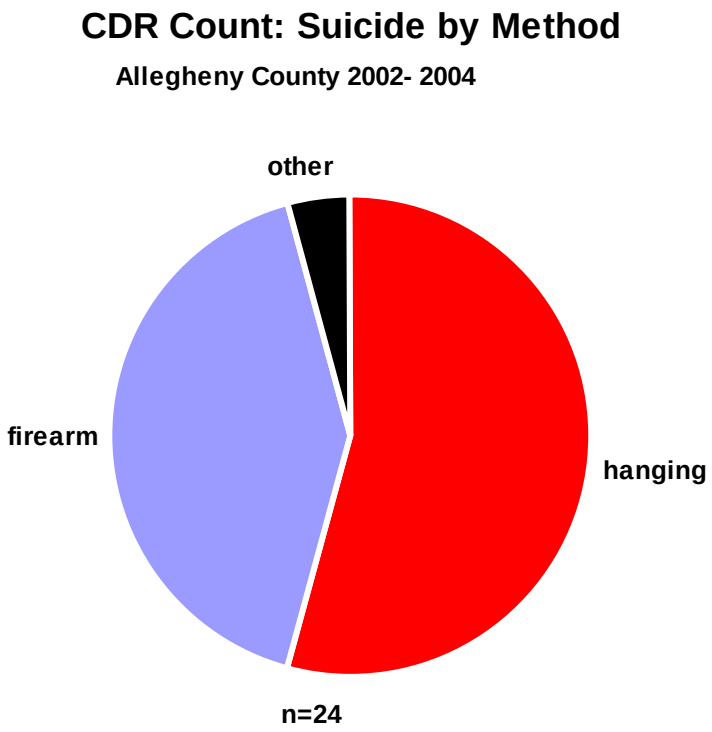


Figure 15: Of the 24 suicides, the methods of hanging (13) and firearms (10) lead. Three are age 10-14 years and 21 are 15-19 years. Five are black and 19 are white.

Table 8: CDR Risk Factors Related to Suicides: 2002-2004			
* Risk Factors	2002	2003	2004
Known to Mental Health System	11	7	3
Depression	10	6	3
School Problems	2	3	2
Drug & Alcohol	2	3	2
Family discord	7	3	3
Argument/girlfriend	2	5	1
Previous attempts	7	3	0
Left note	5	3	0

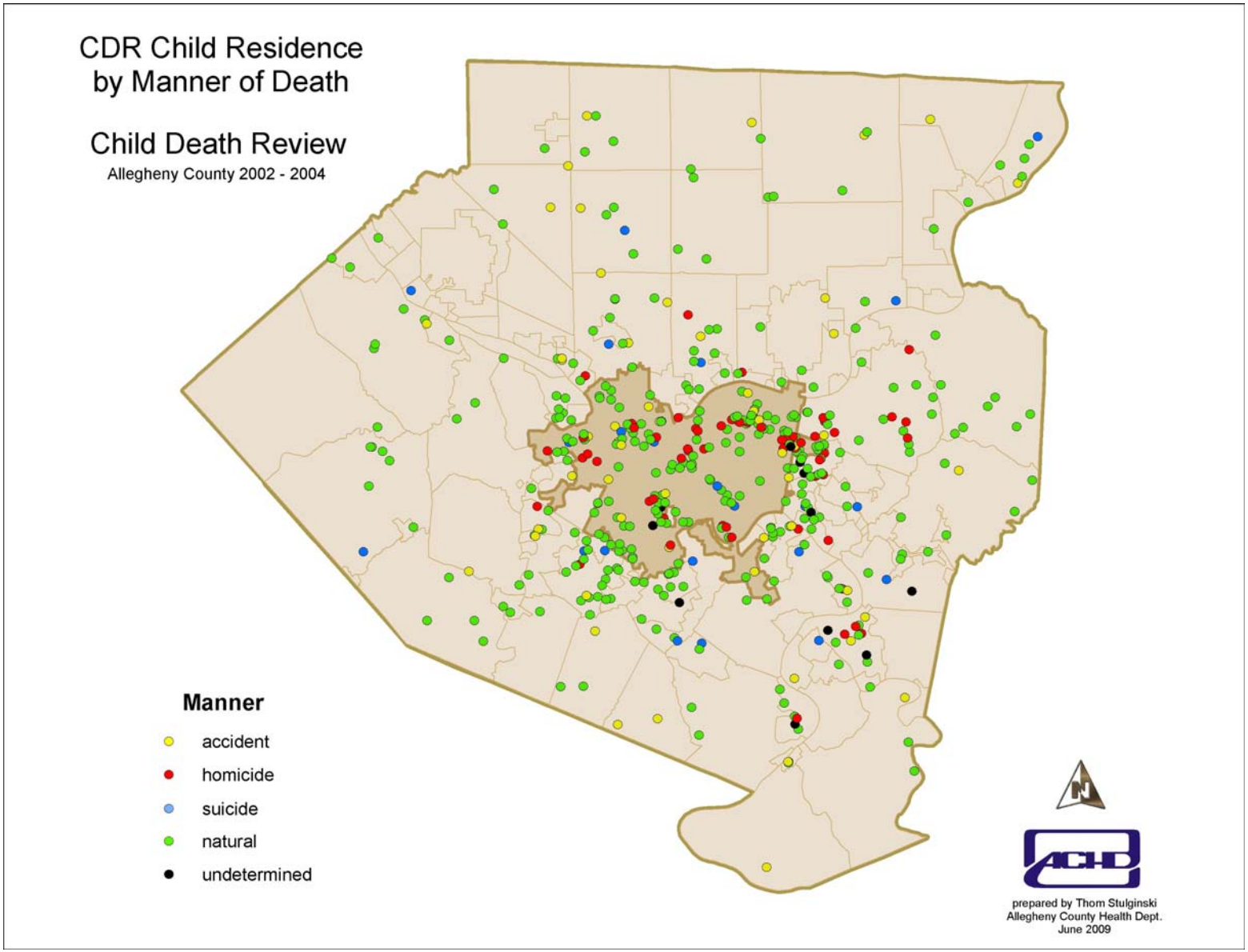
** Not mutually exclusive*

Suicide Risk Factor Summary 2002-2004

- For the period of 2002-2004, suicides decreased from 11 in 2002, to 9 in 2003, and 4 in 2004.
- The 15-19 year age group has the highest proportion of suicides among children. This age group comprises 88% of all child suicides.
- Males reported higher numbers than females overall, 20 to 4, respectively.
- In reviewing the table above, whites have a higher occurrence of suicide, 19 out of 24 cases.
- Firearms and hanging were the most common method of suicide, 23 of 24cases.
- For the suicides occurring from 2002-2004, 21 of the 24 total suicides were known to the mental health system. This includes 19 that were known to suffer from depression.
- Drugs and alcohol were risk factors for 7 of the 24 (29%) suicide deaths.
- For all suicide related deaths only 8 left a note behind.
- Thirteen (54%) had family discord.

“Undetermined” means that investigation of the circumstances and possible examination through autopsy did not clearly identify the way in which the death occurred.

From 2002 through 2004, 14 child deaths could not be attributed to a specific cause. Undetermined manner of death includes any death that cannot be classified as natural, accident, suicide or homicide.



Map 5: Seventy percent of child deaths were due to natural causes during the report period. Seventy-six percent of those natural deaths were infants. Homicides and accidents account for roughly 11% each and predominantly afflict older children. Homicides appear to occur mainly in or near the Pittsburgh area.

SUDDEN INFANT DEATH SYNDROME

Sudden Infant Death Syndrome (SIDS) is defined as the sudden death of an infant less than one year of age that cannot be explained after a thorough investigation is conducted, including a complete autopsy, examination of the death scene, and review of the clinical history. SIDS is a diagnosis of exclusion; there are no pathological markers that distinguish SIDS from other causes. SIDS is classified as a natural manner of death by the National MCH Center for Child Death Review but is presented here separately. Risk factors for SIDS include tobacco, alcohol or drug exposure, NOT sleeping on back, inappropriate sleep environment and room temperature.

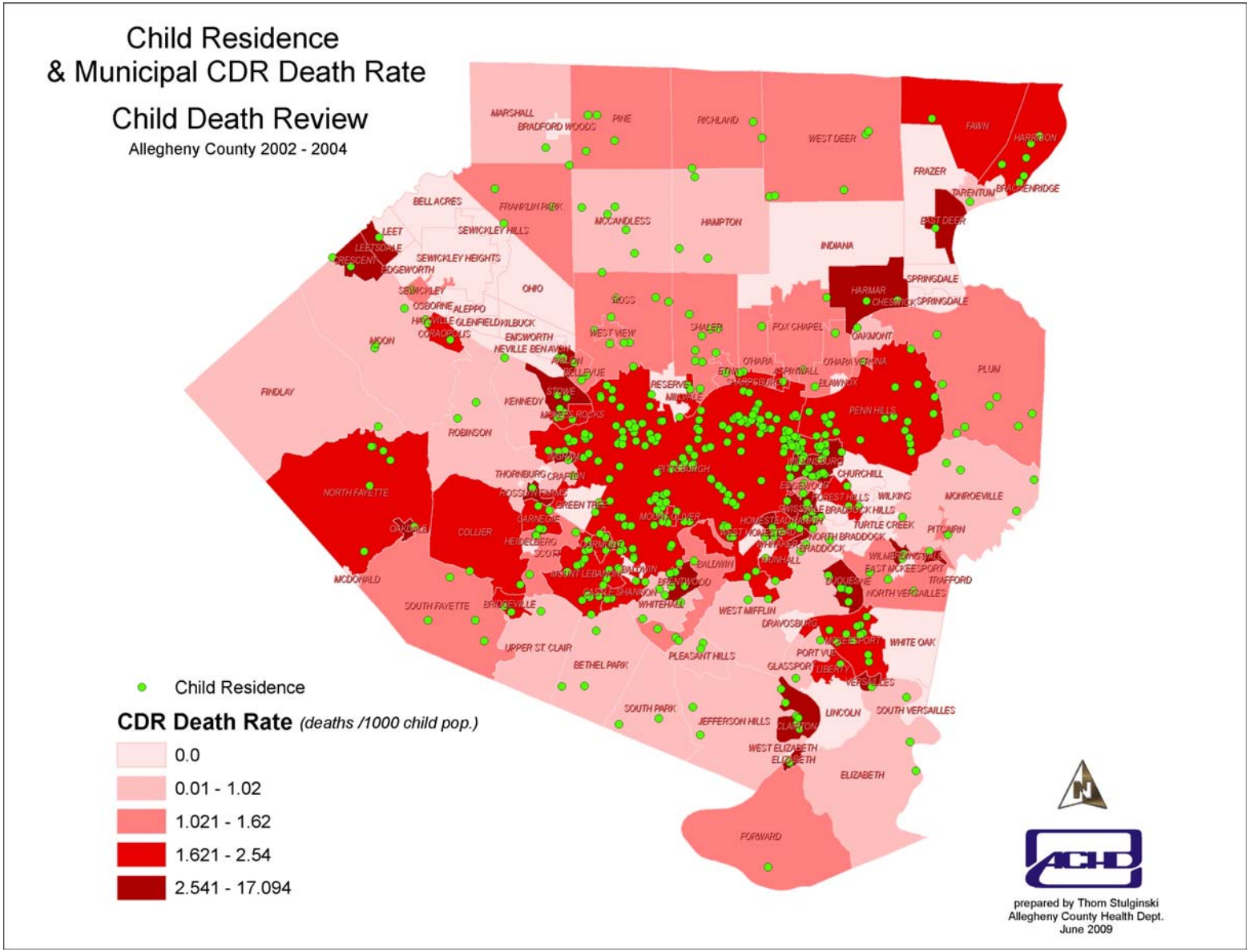
From 2002 to 2004, SIDS was identified as the cause of death of 22 infants* in Allegheny County that were reviewed by the CDRT. All records indicate referral to coroner and autopsy performed. The recurring racial imbalance is reflected in Table 6. All but one of these deaths occurred from 0-6 months of age. Twelve of the twenty-two, 55%, were deaths in males. Just over half, 55%, were black infants. With twelve of the deaths, the infant was sleeping in an adult bed or on a couch with at least one adult. Thirteen of the deaths occurred during the daytime, 8am -4pm.

Table 9: SIDS gender	age months	race black	race white	Grand Total
female	2.3	1		1
	2.5	1		1
	2.7	1		1
	2.8	1		1
	3.0	1		1
	3.4	1	1	2
	6.5		1	1
	14.3*		1	1
female Total		**6**	**3**	**9**
male	1.0	1		1
	1.5		1	1
	1.7		1	1
	1.8	1		1
	1.9	1		1
	2.3	1		1
	2.8	3		3
	3.0	1		1
	3.1	1		1
	3.3	1		1
	5.6		1	1
male Total		**10**	**3**	**13**
Grand Total		**16**	**6**	**22**

Table 6: 2002-2004 CDR Count Sudden Infant Death Syndrome.
*Over one year of age yet member notes indicate SIDS.

Table 10: Allegheny County CDR SIDS* Associated Risk Factors: 3 Year Summary 2002-2004						
Associated Risk Factor	**2002 (n=10)**	**%**	**2003 (n=7)**	**%**	**2004 (n=5)**	**%**
Position of infant at discovery						
On stomach	5	50	2	29	1	20
On back	3	30	3	43	2	40
On side	0		1	14	0	0
Unknown-not reported	2	20	1	14	2	40
Smoking in household						
Yes	3	30	2	28.5	3	60
No	3	30	3	43	1	20
Not reported-unknown	4	40	2	28.5	1	20
Sleeping location						
Playpen	0	0	0	0	0	0
Bassinet	0	0	2	29	1	20
Infant sleeping alone on sofa/couch	0	0	0	0	0	0
Crib	3	30	1	14	0	0
Infant sleeping alone in adult bed	1	10	0	0	0	0
Infant sleeping with someone in adult bed	3	30	3	43	4	80
Infant sleeping with someone on sofa/couch	1	10	1	14	0	0
Unknown/Other	2	20	0	0	0	0
Time of Death						
>12AM-8AM	2	20	3	43	2	40
>8AM-4PM	6	60	4	57	3	60
>4PM-12AM	2	20	0	0	0	0

**Only SIDS deaths reviewed by CDR, does not include other unintentional sleep related deaths*



Map 6: In this map, child residence overlays a municipal child death rate: (2002-2004 reviewed child deaths) / (CY2000 child pop.) X 1,000 for each municipality.

SPECIAL INFANT DEATH REPORT

Robert Cicco, M.D., and Margaret Watt-Morse M.D. reviewed linked death and birth certificates on all infant deaths occurring in Allegheny County in 2002 and 2003. The following tables represent data for 2002 and 2003. 2004 review was not conducted. A summary of the data has been prepared by the physicians and follows the data findings recorded below. Information on infant deaths include: gestational age distribution, age of death, demographics and causes of death. Note; there may be minimal number discrepancies in these reports compared to previous tables due to these reports completed before late filing of pending causes of death.

Table 11: Allegheny County Child Death Review: All Infant Deaths for 2002 – 2003

All Infant Deaths	2002 (n=106)	2003 (n=106)
Infant Deaths (<1 year)	106	106
Neonatal Deaths (<28 days)	83	83
Deaths to Infants (< 30 Weeks)	65	73
Total child deaths reviewed	**106**	**106**

Table 12: Summary for All Infant Deaths for 2002 – 2003				
Gestational Age	**2002 (n=106)**	**%**	**2003 (n=106)**	**%**
<23 weeks	32	30.2%	42	39.6%
23-30 weeks	33	31.1%	31	29.2%
31-35 weeks	10	9.4%	13	12.3%
>35 weeks	29	27.4%	18	17.0%
Unknown	2	1.9%	2	1.9%
Age at Death	**2002**	**%**	**2003**	**%**
<3 days	62	58.5%	73	68.9%
3-7 days	6	5.7%	4	3.8%
8-30 days	15	14.2%	8	7.5%
31-90 days	18	17.0%	13	12.3%
91-180 days	2	1.9%	3	2.8%
181-365 days	3	2.8%	5	4.7%
Unknown	0	0.0%	0	0.0%
Birth Weight Distribution	**2002**	**%**	**2003**	**%**
<500	36	34.0%	43	40.6%
500-749	25	23.6%	19	17.9%
750-999	3	2.8%	6	5.7%
1000-1499	4	3.8%	3	2.8%
≥1500	36	34.0%	28	26.4%
Unknown	2	1.9%	7	6.6%

Table 13: Summary for All Infant Deaths for 2002 – 2003				
Maternal Age	**2002 (n=106)**	**%**	**2003 (n=106)**	**%**
<15	1	0.9%	1	0.9%
15-19	22	20.8%	9	8.5%
20-24	22	20.8%	29	27.4%
25-29	17	16.0%	29	27.4%
30-34	25	23.6%	12	11.3%
>/=35	16	15.1%	23	21.7%
Unknown	3	2.8%	3	2.8%
Gender	**2002**	**%**	**2003**	**%**
Male	57	53.8%	61	57.5%
Female	49	46.2%	45	42.5%
Race	**2002**	**%**	**2003**	**%**
Caucasian	48	45.3%	56	52.8%
African American	54	50.9%	46	43.4%
Asian	4	3.8%	1	0.9%
Biracial	0	0.0%	2	1.9%
Multiracial	0	0.0%	0	0.0%
Unknown	0	0.0%	1	0.9%

Table 14: Summary for All Infant Deaths for 2002 – 2003

Causes of Death	2002 (n=106)	%
Complications of Prematurity	60	56.6%
Severe IUGD	2	1.9%
Anomalies	13	
- Pulmonary Hypoplasia	2	1.9%
- Congenital Heart Disease	1	0.9%
- Dev. Brain Anomaly	3	2.8%
- Diaphragmatic Hernia	2	1.9%
- Trisomy 18	1	0.9%
- Cong. Hypotonia	1	0.9%
- Teratoma	1	0.9%
- Skeletal Dysplasia	2	1.9%
Sudden Infant Death Syndrome#	9	8.5%
Perinatal Asphyxia	6	5.7%
Infection	6	5.7%
Accidental Rollover	2	1.9%
Homicide	2	1.9%
Other	6	
- Metabolic Enceph.	2	1.9%
- Non Immune Hydrops	1	0.9%
- Glycogen Storage Dis.	1	0.9%
- Congenital Spinal Atrophy	1	0.9%
- Metabolic Dis (CPTD)	1	0.9%
Undetermined	0	0.0%
Unknown	0	0.0%
Total	106	

Causes of Death	2003 (n=106)	%
Complications of Prematurity	65	61.3%
Severe IUGD	2	1.9%
Anomalies	17	
- Pulmonary Hypoplasia	1	0.9%
- Congenital Heart Disease	6	5.7%
- Trisomy 18	3	2.8%
- Skeletal Dysplasia	2	1.9%
- Multiple Anomalies	2	1.9%
- Myelomeningocele	1	0.9%
- Teratoma	1	0.9%
- Osteogenesis Imperfecta	1	0.9%
Sudden Infant Death Syndrome#	6	5.7%
Perinatal Asphyxia	5	4.7%
Infection	3	2.8%
Accidental Rollover	1	0.9%
Homicide	3	2.8%
Aspiration Pneumonia	1	0.9%
Accidental Ashyphxiation*	1	0.9%
Morphine Overdose**	1	0.9%
Undetermined	1	0.9%
Unknown	0	0.0%
Total	106	

**Pinned under a stroller*
***Undetermined if an accident or homicide*
 # SIDS numbers may vary slightly from earlier tables due to this report being done separately for a different time period

Infant Deaths
Allegheny County, 2002

Birth and death certificates of all infant deaths occurring in Allegheny County in 2002 were reviewed. A total of 106 such deaths occurred in 2002. Infant deaths represented 55.2% of all child deaths in Allegheny County. A breakdown of all child deaths for 2002 is as follows:

192 Total Child Deaths	100%
106 Infants Deaths	55.2% of all Deaths
83 Neonatal Deaths	43.2% of all Deaths
65 Deaths to Infants < 30 Weeks	33.9% of all Deaths

A summary of the 106 infant deaths is attached; including demographic data, gestational age distribution, causes of death and the age that death occurred. A second report describes the 65 cases of babies born < 30 weeks gestation (small baby deaths). In addition to the findings outlined in that report, findings identified in this review of all infant deaths include:

- Complications of prematurity represent the primary cause of infant deaths, accounting for 60 of the 106 deaths (56.6%).

- Following complications of prematurity, congenital anomalies were the next leading cause of death (13/106, 12.3%). Deaths caused by anomalies were due to a wide variety of anomalies. We do not have a handle on the number of anomalies that result in fetal deaths due to spontaneous pregnancy loss or terminations. The number of liveborn babies who died of anomalies was somewhat increased this year and was actually higher than the number of SIDS deaths.

- Perinatal asphyxia accounted for more deaths this year than in previous years, being the cause of death 6 times out of 83 neonatal deaths in 2002. Two of these deaths occurred to babies who were born at home. When one excludes them, the number of babies dying from intrapartum asphyxia continues to be low, indicating the ongoing effectiveness of intrapartum fetal monitoring and resuscitative efforts. It would, however, be useful to know the number of infants who have survived with hypoxic ischemic encephalopathy due to perinatal asphyxia. It is disturbing to see two deaths from asphyxia in babies born at home and we must identify this as an issue to address as these are almost assuredly preventable deaths.

- As noted in the report on “Small Baby Deaths”, blacks are disproportionately represented with greater than half of deaths despite representing only 12% of total births.

- As in most other years, males account for the majority of infant deaths.

- SIDS deaths accounted for 9/106 (8.5%) of all infant deaths. These deaths have been reviewed in greater detail in another report. In addition to the SIDS deaths, there were two accidental rollovers. Ongoing education regarding safe sleep practices should remain a priority in our efforts to reduce preventable infant deaths in the coming years.

Infant Deaths
Allegheny County, 2003

Birth and death certificates of all infant deaths occurring in Allegheny County in 2003 were reviewed. A total of 106 such deaths occurred in 2003. Infant deaths represented 55.2% of all child deaths in Allegheny County. A breakdown of all child deaths for 2003 is as follows:

179 Total Child Deaths	100%
106 Infants Deaths	59.2% of all Deaths
83 Neonatal Deaths	46.4% of all Deaths
73 Deaths to Infants < 30 Weeks	40.8% of all Deaths

A summary of the 106 infant deaths is attached; including demographic data, gestational age distribution, causes of death and the age that death occurred. A second report describes the 73 cases of babies born < 30 weeks gestation (small baby deaths). In addition to the findings outlined in that report, findings identified in this review of all infant deaths include:

- Complications of prematurity represent the primary cause of infant deaths, accounting for 65 of the 106 deaths (61.3%).

- Following complications of prematurity, congenital anomalies were the next leading cause of death (17/106, 16.0%). Deaths caused by anomalies were due to a wide variety of anomalies, but primarily are caused by congenital heart disease or chromosomal abnormalities. We do not have a handle on the number of anomalies that result in fetal deaths due to spontaneous pregnancy loss or terminations. The number of liveborn babies who died of anomalies has increased over the past few years and now contributes more to postneonatal mortality than unexplained sudden infant death.

- Perinatal asphyxia accounted for 5 of the 83 neonatal deaths in 2003. Factors associated with death due to perinatal asphyxia include twin-to-twin transfusion, abruption, vasa previa and maternal preeclampsia. The number of babies dying from intrapartum asphyxia continues to be low, indicating the ongoing effectiveness of intrapartum fetal monitoring and resuscitative efforts. It would, however, be useful to know the number of infants who have survived with hypoxic ischemic encephalopathy due to perinatal asphyxia.

- As noted in previous years, blacks are disproportionately represented with 46/106 deaths (43.4%) despite representing only 12% of total births. This observation is true for both neonatal and postneonatal deaths.

- As in most other years, males account for the majority of infant deaths. This was especially true for babies born before 30 weeks. In this population (see “Small Baby Report”), males represented 61.6% of all deaths.

- SIDS deaths accounted for 6/106 (5.7%) of all infant deaths. These deaths have been reviewed in greater detail in another report. In addition to the SIDS deaths, there was one accidental rollover. Ongoing education regarding safe sleep practices should remain a priority in our efforts to reduce preventable infant deaths in the coming years. However, when one looks at the total number of babies dying suddenly (SIDS, rollovers, etc.), the number continues to decline, indicating that efforts to promote safe sleeping are working.

- Birth certificate information is lacking in many of the reviewed cases, hampering the effectiveness of the review. An educational effort to assure accurate completion of both birth and death certificates would assist the state in tracking and identifying mortality trends.

Table 15: Allegheny County Child Death Review: Infant Deaths Born at <30 Weeks Gestation for 2002 – 2003				
Gestational Age	**2002 (n=65)**	**%**	**2003 (n=73)**	**%**
15 weeks	0	0.0%	0	0.0%
16 weeks	0	0.0%	2	3.1%
17 weeks	4	6.2%	5	7.7%
18 weeks	1	1.5%	8	12.3%
19 weeks	6	9.2%	4	6.2%
20 weeks	7	10.8%	8	12.3%
21 weeks	5	7.7%	5	7.7%
22 weeks	9	13.8%	10	15.4%
23 weeks	11	16.9%	12	18.5%
24 weeks	13	20.0%	6	9.2%
25 weeks	5	7.7%	2	3.1%
26 weeks	2	3.1%	4	6.2%
27 weeks	1	1.5%	4	6.2%
28 weeks	1	1.5%	3	4.6%
29 weeks	0	0.0%	0	0.0%
Unknown	0	0.0%	0	0.0%
Total	**65**	**100%**	**73**	**100%**

Table 16: Summary for Infant Deaths Born at <30 Weeks Gestation for 2002 and 2003					
Birth weight (grams)	**2002 (n=65)**	**%**	**Birth weight (grams)**	**2003 (n=73)**	**%**
0-199	3	4.6%	0-199	10	13.7%
200-299	7	10.8%	200-299	10	13.7%
300-399	10	15.4%	300-399	6	8.2%
400-499	15	23.1%	400-499	17	23.3%
500-599	15	23.1%	500-599	12	16.4%
600-699	9	13.8%	600-699	7	9.6%
700-799	1	1.5%	700-799	0	0.0%
800-899	1	1.5%	800-899	3	4.1%
900-999	2	3.1%	900-999	3	4.1%
≥1000	2	3.1%	≥1000	2	2.7%
Unknown	0	0.0%	Unknown	3	4.1%
Resuscitation at Birth	**2002**	**%**	**Resuscitation at Birth**	**2003**	**%**
Yes	28	43.1%	Yes	23	31.5%
No	33	50.8%	No	47	64.4%
Unknown	4	6.2%	Unknown	3	4.1%
Cause of Death	**2002**	**%**	**Cause of Death**	**2003**	**%**
Prematurity	60	92.3%	Prematurity	64	87.7%
Premie/IUGD	2	3.1%	Premie/IUGD	2	2.7%
Hydrops	1	1.5%	Anomalies	5	6.8%
Acute Asphyxiation	1	1.5%	SIDS	1	1.4%
Skeletal Dsyplasia	1	1.5%	Homicide	1	1.4%
Maternal Age	**2002**	**%**	**Maternal Age**	**2003**	**%**
<15	1	1.5%	<15	1	1.4%
15-19	12	18.5%	15-19	4	5.5%
20-24	14	21.5%	20-24	23	31.5%
25-29	10	15.4%	25-29	21	28.8%
30-34	16	24.6%	30-34	9	12.3%
≥ 35	11	16.9%	≥ 35	15	20.5%
Unknown	1	1.5%	Unknown	0	0.0%

Table 17: Summary for Infant Deaths Born at <30 Weeks Gestation for 2002 - 2003					
Race	**2002 (n=65)**	**%**	**Race**	**2003 (n=73)**	**%**
Caucasian	29	44.6%	Caucasian	39	53.4%
African American	33	50.8%	African American	33	45.2%
Asian	3	4.6%	Biracial	1	1.4%
Unknown	0	0.0%	Unknown	0	0.0%
Gender	**2002**	**%**	**Gender**	**2003**	**%**
Male	32	49.2%	Male	45	61.6%
Female	33	50.8%	Female	28	38.4%
Primary Factors	**2002 (n=64)**	**%**	**Primary Factors**	**2003 (n=73)**	**%**
Chorioamnionitis/PROM	15	23.4%	Chorioamnionitis/PROM	26	35.6%
Idiopathic PTL	17	26.6%	Idiopathic PTL	19	26.0%
Abruption	5	7.8%	Abruption	8	11.0%
Multiple Gestation	15	23.4%	Multiple Gestation	7	9.6%
Incomp Cx	6	9.4%	Incompetent Cx	1	1.4%
Bleeding Fibroids	1	1.6%	Cocaine Use	2	2.7%
IUGD	1	1.6%	IUGD	5	6.8%
Eclampsia	1	1.6%	Fetal Anomalies	4	5.5%
Fetal Anomalies	3	4.7%	Maternal Trauma	1	1.4%
Fetal Distress	0	0.0%	Fetal Distress	0	0.0%

Table 18: Summary for Infant Deaths Born at <30 Weeks Gestation for 2002 - 2003					
Secondary Factors	**2002 (n=35)**	**%**	**Secondary Factors**	**2003 (n=42)**	**%**
Chorioamnionitis/PROM	5	14.3%	Smoking	11	26.2%
Abruption	3	8.6%	Multiple Gestation	8	19.0%
Uterine Anomalies	1	2.9%	No/ Inadequate PNC	11	26.2%
Fetal Distress	2	5.7%	IUGD	1	2.4%
Mat Drug Use	2	5.7%	Mat Drug Use	2	4.8%
Incompetent Cx	5	14.3%	Previous PTD	5	11.9%
No/ Inadequate PNC	5	14.3%	Mult Preg Loss	2	4.8%
Smoking	11	31.4%	Short IPI	1	2.4%
IUGD	1	2.9%	Previa	1	2.4%
Tobacco Use	**2002 (n=65)**	**%**	**Tobacco Use**	**2003 (n=73)**	**%**
Yes	11	16.9%	Yes	14	19.2%
No	44	67.7%	No	42	57.5%
Unknown	10	15.4%	Unknown	17	23.3%
Prenatal Care	**2002 (n=65)**	**%**	**Prenatal Care**	**2003 (n=73)**	**%**
Adequate	45	69.2%	Adequate	45	61.6%
Inadequate	3	4.6%	Inadequate	7	9.6%
None	5	7.7%	None	4	5.5%
Unknown	12	18.5%	Unknown	17	23.3%

Infant Deaths Born at < 30 Weeks Gestation
Allegheny County 2002 -- 65 Cases

Birth and death certificates of all infant deaths of babies born at < 30 weeks were reviewed. A total of 65 such deaths occurred in 2002. These babies represent 61.3 % of all infant deaths and 78.3% of all neonatal deaths. A summary of these cases is attached, including demographic data, birthweight distribution, gestational age distribution and factors associated with the preterm deliveries. Important findings identified in this review include:

- As in previous years, blacks continue to be disproportionately represented with more than half of the small baby deaths despite the fact that blacks represent only a small portion of the overall births.

- The deaths to small babies were equally divided between males and females.

- There continues to be a relatively even distribution of maternal ages in these pregnancies that end at an early gestation. This year, however, babies born to mothers aged 25-29 were slightly less represented. This data, however, must always be compared to the maternal age distribution for all births. Rather than just looking at the age distribution of mothers, it may be more meaningful to track the interpregnancy intervals and an attempt will be made to do so in subsequent years.

- 32/65 (49.2%) of the deaths were to babies born ≤ 22 weeks gestation and 35/65 (53.8%) were born at a birthweight < 500 gm. Babies born at ≤ 22 weeks or < 500 gm. have very little chance of survival and this is reflected in the fact that few of these babies received any resuscitative efforts at the time of birth. The percentage of small baby death due to this "previability" is slightly lower than in previous years, but still remains a significant component of all child deaths. Therefore, as in previous years, we need to continue to look at potentially preventable factors that lead to extremely preterm delivery and strategies to prolong these pregnancies to a more viable gestation. It will be important to track if this observed decrease in "previable" babies (49.2% vs 58.2% of all small baby deaths last year and 30.1% vs 40.1% of all infant deaths last year) will be persistent in subsequent years and if it is associated with getting more pregnancies to a viable gestations with improved maternal care (see accompanying graphs).

- As in previous years, almost all these babies died as a result of their prematurity. Two of the babies, however, one had severe IUGD complicating their prematurity and two others were delivered early and died as a result of anomalies. One baby born at 28 weeks gestation died as a result of acute asphyxia, not prematurity.

- The three primary factors leading to preterm delivery in this sample were PROM/chorioamnionitis, idiopathic preterm labor and multiple gestation. These three factors have consistently been the leading problems leading to preterm delivery and any efforts to reduce the number of these deliveries must address them. The birth certificate continues to be incomplete in many cases in regards to information concerning prenatal care and smoking.

This group of children represents the most significant portion of infant deaths in the county and statewide. Addressing some of the factors associated with these deaths (smoking, multiple gestation, PPROM/Chorio and PTL) remains frustrating and involves developing a multifaceted strategy. However, given that these babies represent 30-40% of all infant deaths, our efforts to address these difficult problems must continue.

Infant Deaths Born at < 30 Weeks Gestation
Allegheny County 2003 -- 73 Cases

Birth and death certificates of all infant deaths of babies born at < 30 weeks were reviewed. A total of 73 such deaths occurred in 2003. These babies represent 68.9 % of all infants' deaths and 87.9% of all neonatal deaths. A summary of these cases is attached, including demographic data, birthweight distribution, gestational age distribution and factors associated with the preterm deliveries. Important findings identified in this review include:

- As in previous years, blacks continue to be disproportionately represented with 33/73 (45.2%) of the small baby deaths despite the fact that blacks represent only a small portion of the overall births.

- Males represented a much greater proportion of these deaths, accounting for 45/73 of the deaths (61.6%). The reason for this is not clear and has not been seen in previous years. While is it true that males have a greater chance of dying compared to females at any given gestational age, there is no evidence that the incidence of extreme preterm delivery is higher for males.

- There are very few small baby deaths occurring to teenage mothers and there is a trend this year towards a greater of number of mothers over the age of 35 (15/73 -- 20.5%).

- 42/73 (57.5%) of the deaths were to babies born ≤ 22 weeks gestation and 43/73 (58.9%) were born at a birthweight < 500 gm. Babies born at ≤ 22 weeks or < 500 gm. have very little chance of survival and this is reflected in the fact that few of these babies received any resuscitative efforts at the time of birth. The percentage of small baby death due to this "previability" is back up to the level seen in previous years, after being slightly lower last year. Therefore we need to continue to look at potentially preventable factors that lead to extremely preterm delivery and strategies to prolong these pregnancies to a more viable gestation. Last year we had begun to track the overall impact of "previability" on neonatal and infant mortality. Other than last year, it appears that previability (birth before 23 completed weeks) accounts for approximately 40% of all infant mortality. It is hoped that improved maternal care could prolong some of these pregnancies to a more viable gestation, but this is not evident in the data from 2003.

- As in previous years, almost all these babies died as a result of their prematurity. Two of the babies, however, had severe IUGD complicating their prematurity. Anomalies are increasingly becoming a cause of death in this group of children if prenatal diagnosis results in early termination of the pregnancy and delivery of a previable newborn. Five of the deaths in the group were caused by anomalies.

- Primary factors leading to preterm delivery in this sample were PROM/chorioamnionitis and idiopathic preterm labor. Multiple gestation was observed less frequently than in previous years as a cause for an extremely preterm delivery. In fact,

maternal abruption was the primary factor leading to preterm delivery more often than multiple gestations. PROM/chorioamnionitis has been the leading problem leading to preterm delivery and any efforts to reduce the number of these deliveries must address this issue. As noted above, there are more extremely preterm births this year as a result of a pregnancy termination after prenatal diagnosis of an anomaly. The birth certificate continues to be incomplete in many cases in regards to information concerning prenatal care and smoking.

This group of children represents the most significant portion of infant deaths in the county and statewide. Addressing some of the factors associated with these deaths (smoking, multiple gestation, PPROM/Chorio and PTL) remains frustrating and involves developing a multifaceted strategy. However, given that these babies represent 40% of all infant deaths, our efforts to address these difficult problems must continue.

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