



This Report is dedicated
to all those who have died
in Columbiana County, Ohio in the year 2003
to their families, their loved ones
and their friends

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Annual Report – 2003

Office of the Coroner

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This publication marks the third annual report of the Office of the Coroner for Columbiana County. The report will have a slightly different approach to reporting the statistics for the year 2003. Since one of our goals for 2002 was to enter all 15 years of data into our database management system, we can draw on the data, and make observations of the year 2003 and compare it to the years from 1989 until 2002. In addition, one of our goals for the year 2003 was to enter Dr. William Kolozsi's "index card file", so that we could use data collected by him and his successor, Dr. Anthony Rich, over a 34 year period (from 1954 to 1988). 2003's goal was only partially met because of a variety of factors, but from an alphabetical card index, case names starting with the letters A thru Grafton and Z thru Wisler have been entered. To be exact there are 2546 cases entered in the database, of those 1146 are from the years 1954 to 1988. Although this is not all the data from those years, there has been no bias in entry other than the letters of their last names. We shall attempt to draw some preliminary conclusions from this data concerning locations of violent deaths in Columbiana County.

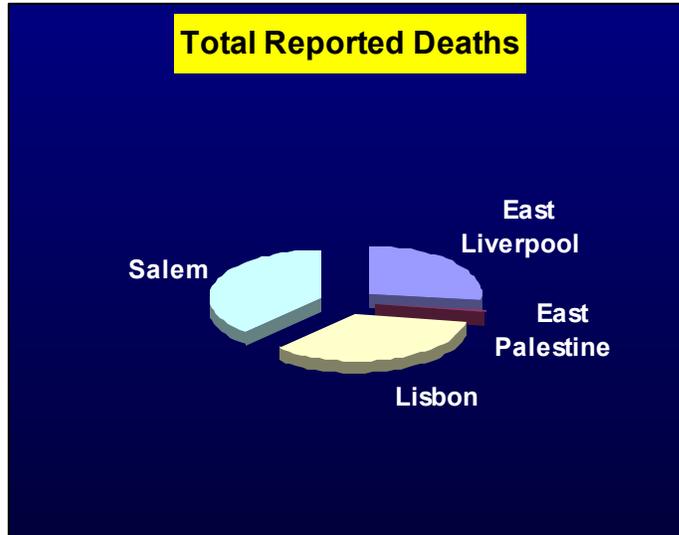
We will first report and graph data generated in 2003. We will next compare this data to that data collected from 1989 thru 2002. And lastly, we will take a look at violent deaths in Columbiana County from the years 1954 to the present.

For those readers unfamiliar with the mechanics of statistics, namely **Normal Distribution** and **Standard Deviation (SD)**, we provide a quick review in Appendix A.

Numbers and Percentages

From January 1, 2003 to December 31, 2003, there were 1152 deaths reported in Columbiana County. The figures were obtained from the health departments of the following locations:

East Liverpool:	314
East Palestine:	9
Lisbon:	391
Salem:	438
Total	1152



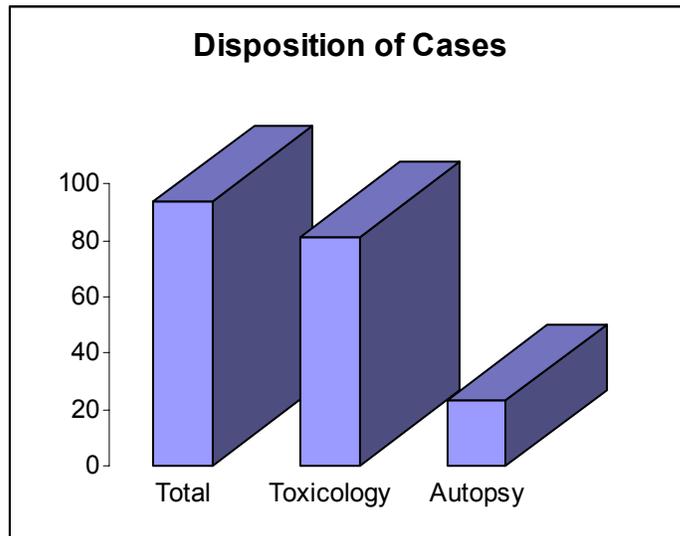
Total reported deaths in 2003

Of the 1152 deaths, 450 deaths were reported to the coroner's office. Of the 450 deaths reported to the coroner's office 94, were accepted.



Total versus Reported versus Accepted Cases

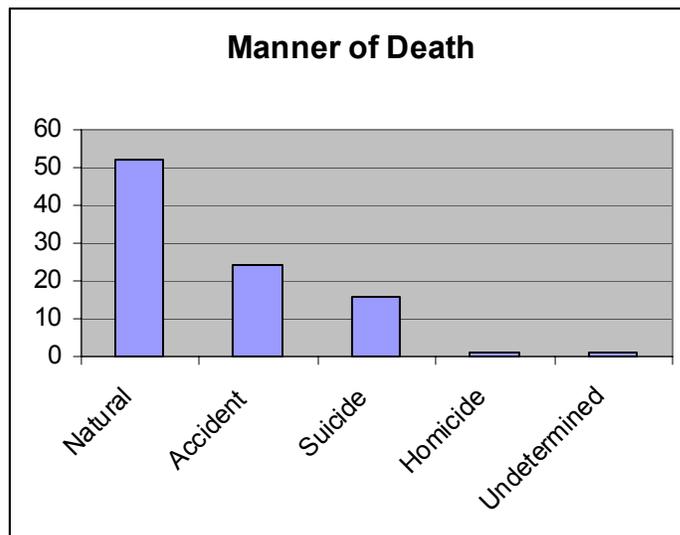
Of the 94 deaths accepted as coroner cases, 81 had toxicology performed and 23 autopsies were performed.



Further examination required

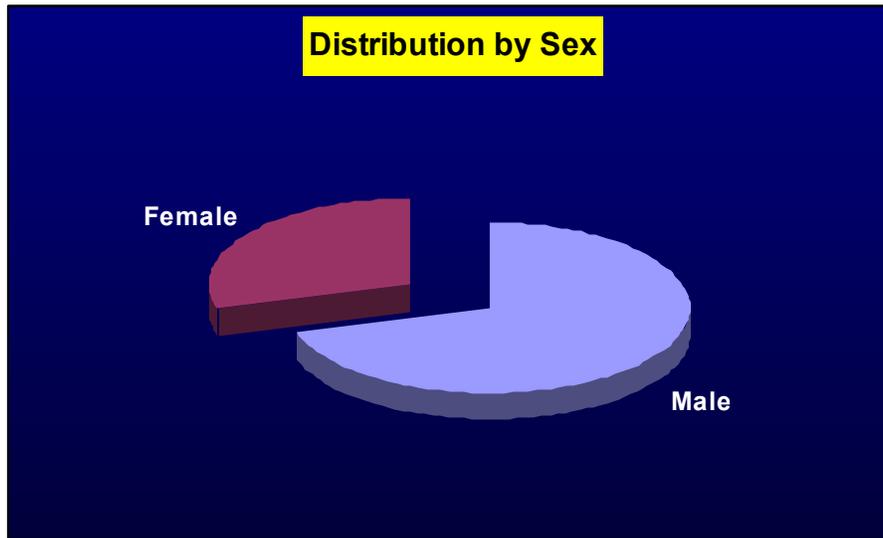
Each of the cases were then classified as to manner of death after investigation, toxicology, and autopsy were performed.

Natural	52
Accident	24
Homicide	1
Suicide	16
Not determined	1
Total	94



Classification by Manner of Death

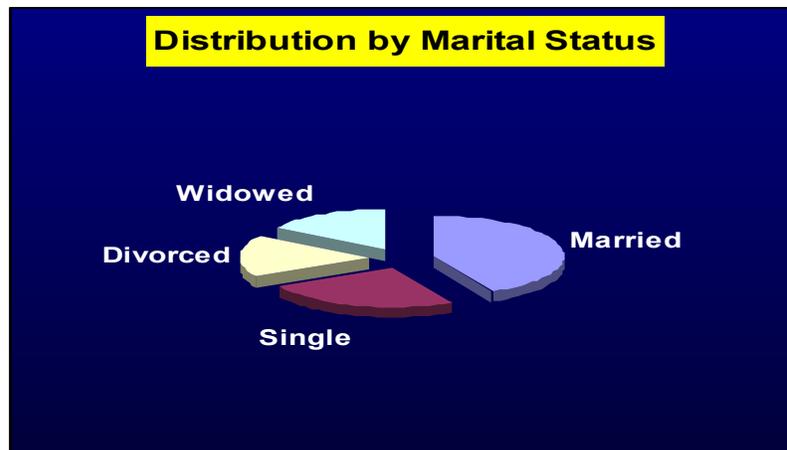
Of the 94 cases investigated in 2003, 66 were male and 28 were female.



Distribution by Sex in 2003

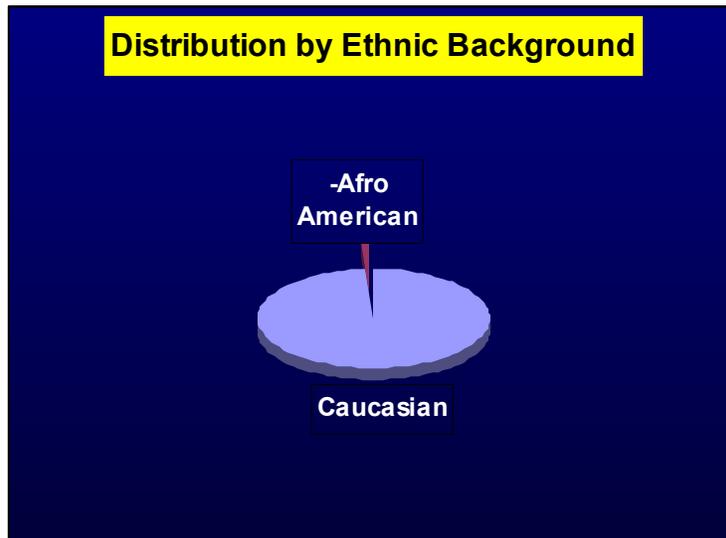
Of the 94 cases investigated in 2003, the marital status was as follows:

Married	40
Single	23
Divorced	16
Widowed	15
Total	94



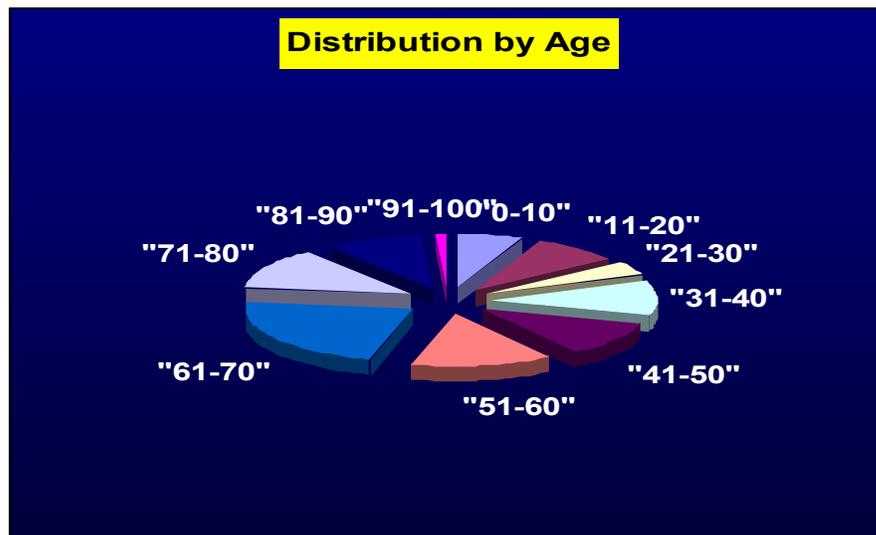
Distribution by Marital Status

The distribution by ethnic background was 93 Caucasian and 1 Afro-American. There were no Hispanic, American Indian, or Asian backgrounds identified.



The ages of decedents varied from 0 years (2 months and 13 days) to 92 years of age.

0 to10 years	6	51 to 60 years	13
11 to 20 years	8	61 to 70 years	21
21 to 30 years	4	71 to 80 years	12
31 to 40 years	10	81 to 90 years	9
41 to 50 years	10	91 to 100 years	1

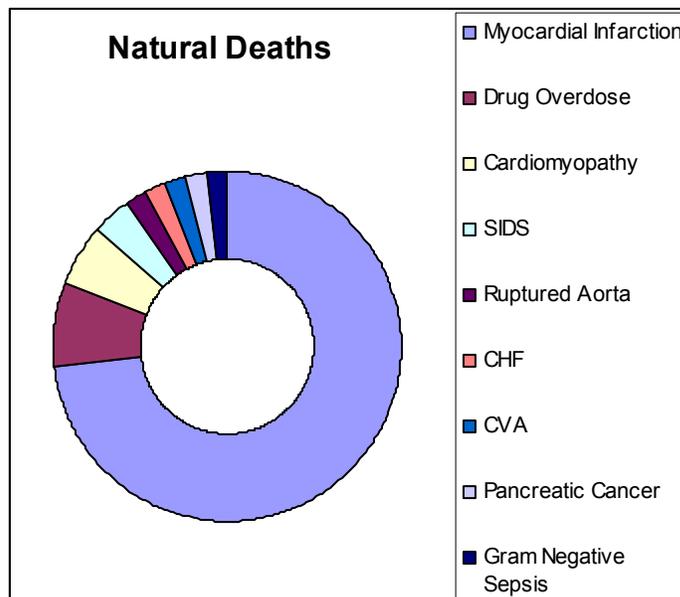


The age distribution by manner of death for 2003 was as follows:

Ages	Natural	Accident	Suicide	Homicide	Not Determined	Total
0-10	3	3				6
11-20		5	2		1	8
21-30	3	1				4
31-40	3	3	4			10
41-50	4	1	5			10
51-60	9	1	2	1		13
61-70	16	3	2			21
71-80	9	3				12
81-90	5	3	1			9
91-100		1				1
Totals	52	24	16	1	1	94

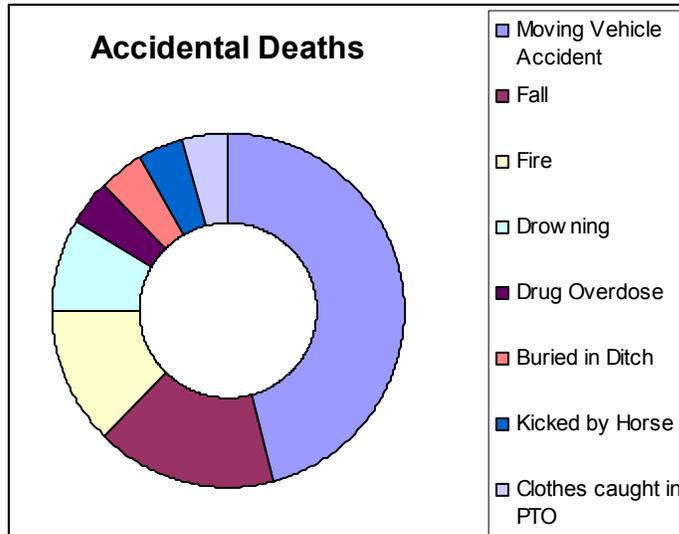
Looking at the 52 **Natural deaths** we have

Myocardial Infarction	38
Drug Overdose	4
Cardiomyopathy	3
Sudden Infant Death Syndrome	2
Ruptured Aorta	1
Congestive Heart Failure	1
Cerebral Vascular Accident	1
Pancreatic Cancer	1
Gram Negative Sepsis	1



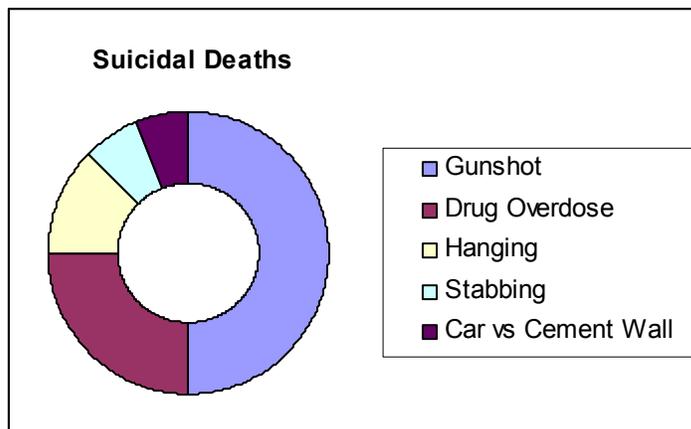
Looking at the 24 **accidental deaths** we have

Moving Vehicle Accident	11
Fall	4
Fire	3
Drowning	2
Drug Overdose	1
Buried in Ditch	1
Kicked by Horse	1
Clothes caught in PTO	1



Looking at the 16 suicidal deaths we have:

Gunshot	8
Drug Overdose	4
Hanging	2
Stabbing	1
Car vs Cement Wall	1



Having seen the data and the graphs of the year 2003 ... we ask the question: Was this a “normal” year? We will answer this question by comparing it to the previous 14 years of data using the statistical tools of **Normal Distribution** and **Standard Deviation (SD)**. Refer to appendix A for a quick refresher course if needed.

Let’s look first at the number of cases for the year 2003:

Year	Total Cases	Male	Female	Ratio
1989	94	69	25	0.734043
1990	99	76	23	0.767677
1991	78	51	27	0.653846
1992	90	60	30	0.666667
1993	78	64	14	0.820513
1994	73	50	23	0.684932
1995	89	68	21	0.764045
1996	120	95	25	0.791667
1997	88	66	22	0.750000
1998	88	57	31	0.647727
1999	98	71	27	0.724490
2000	86	56	30	0.651163
2001	96	64	32	0.666667
2002	117	73	44	0.623932
2003	94	66	28	0.702128
Sum	1294	920	374	9.947366
Mean	92.428571	65.71429	26.714286	0.710526
SD	12.943362	11.125444	6.637863	0.059641
- 3 SD	53.598486	32.337953	6.800697	0.531603
- 2 SD	66.541848	43.463397	13.438560	0.591244
+ 2 SD	118.315295	87.965174	39.990012	0.829808
+ 3 SD	131.258657	99.09062	46.627875	0.889449

Both the number of cases and the male to female ratio are well within the -2 SD and +2 SD range.

As we can observe the year was essentially “normal” having only an increase of 1.571429 (94 – 92.428571) over the mean of the years 1989 thru 2002. The ratio of Male to Female is also within 0.008398 (0.702128 – 0.710526) of the mean and is thus “normal”.

Now let's look at the number of **homicides** in the year 2003:

Year	Homicide	Male	Female	Ratio
1989	2	0	2	0.000000
1990	2	0	2	0.000000
1991	0	0	0	
1992	3	1	2	0.333333
1993	2	1	1	0.500000
1994	1	1	0	1.000000
1995	5	3	2	0.600000
1996	3	2	1	0.666667
1997	2	0	2	0.000000
1998	2	1	1	0.500000
1999	1	1	0	1.000000
2000	1	0	1	0.000000
2001	2	1	1	0.500000
2002	4	2	2	0.500000
* 2003	1	1	0	1.000000
Sum	30	13	17	5.6
Mean	2.142857	0.928571	1.214286	0.430769
SD	1.292412	0.916875	0.801784	0.353936
- 3 SD	-1.73438	-1.82205	-1.19107	-0.63104
- 2 SD	-0.44197	-0.90518	-0.38928	-0.2771
+ 2 SD	4.727682	2.762321	2.817853	1.138641
+ 3 SD	6.020094	3.679196	3.619637	1.492577

Both the number of homicides and the Male to Female ratio fit well within the – 2 SD and the + 2 SD range.

As we can observe the number of homicides is 1.142857 ($2.142857 - 1$) below the mean for the years 1989 thru 2002. Also the ratio of Male to Female is only 0.569231 ($1 - .430769$) above the mean for the years 1989 thru 2002. Thus we must say that in statistical terms the year 2003 was “normal”.

* The homicide happened to a 60 year old man who was shot in the neck transecting his spinal cord ... and was also shot in the chest with perforations of both lungs, aorta, diaphragm, stomach and spleen. After the shooting, his residence was burned with him inside the residence. DNA was used to make a positive identification of the charred remains. Illicit drugs were purportedly involved in this homicide.

The next data set involves Suicides in the year 2003:

Year	Suicide	Male	Female	Ratio
1989	13	12	1	0.923077
1990	11	9	2	0.818182
1991	18	15	3	0.833333
1992	12	10	2	0.833333
1993	12	10	2	0.833333
1994	12	11	1	0.916667
1995	11	9	2	0.818182
1996	17	15	2	0.882353
1997	15	12	3	0.800000
1998	17	9	8	0.529412
1999	8	6	2	0.750000
2000	9	9	0	1.000000
2001	13	11	2	0.846154
2002	12	7	5	0.583333
2003	16	14	2	0.875000
Sum	180	145	35	11.36736
Mean	12.85714	10.35714	2.5	0.811954
SD	2.957575	2.590133	1.951331	0.124754
- 3 SD	3.984416	2.586743	-3.35399	0.437691
- 2 SD	6.941992	5.176876	-1.40266	0.562445
+ 2 SD	18.77229	15.53741	6.402662	1.061463
+ 3 SD	21.72987	18.12754	8.353993	1.186217

As can be seen from the chart, the number of suicides and the ratio of Male to Female are well within the range of plus or minus 2 SD.

The number of suicides is 3.14286 ($16 - 12.85714$) above the mean but does not approach the + 2 SD of 18.77229. Also the ratio of Male to Female is .063046 ($0.875000 - 0.811954$) above the mean but does not approach the + 2 SD of 1.061463. Thus, we must say again, that in statistical terms the suicide deaths for 2003 were within “normal” limits.

The Female suicide deaths were from a relatively non-violent method ... that of drug overdose. That pre-supposes that dying from asphyxia due to respiratory depression is non-violent. The Male suicide deaths ran the gamut from drug overdose, to shooting, to stabbing, to hanging, to running his car into a cement wall.

In this last section, we would like to take advantage of all the data that was entered in the year 2003 involving the “card index file” started by Dr. William Kolozsi and maintained by his successor Dr. Anthony Rich. Unfortunately, not all of the data from 1954 through 1988 was entered, but rather a subset of that data ranging from “Allen to Grafton”, and on the opposite end of the alphabet, “Wisler to Zwick” was entered. These entries represent an additional 1146 cases running from 1954 to 1988. That makes a total of 2546 cases in the database upon which to draw inferences and conclusions. We decided to look at the data surrounding violent deaths in Columbiana County and the Zip Code of the decedent.

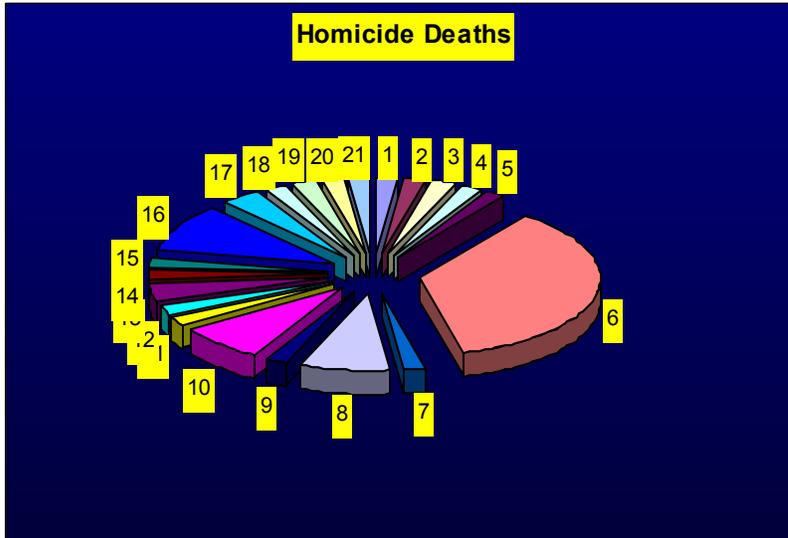
First let’s look at the homicides:

Number	Zip Code	Homicides	Percent	Location	Population	Hom/1000p
1	15059	1	2	Midland, PA	4747	0.21
2	15344	1	2	Jefferson, PA	1455	0.69
3	26034	1	2	Chester, WV	5298	0.19
4	26047	1	2	New Cumberland, WV	6555	0.15
5	35501	1	2	Jasper, AL	11728	0.09
6	43920	18	36	East Liverpool, OH	25504	0.71
7	43932	1	2	Irondale, OH	1110	0.90
8	43968	4	8	Wellsville, OH	8111	0.49
9	44106	1	2	Cleveland, OH	32417	0.03
10	44408	4	8	Columbiana, OH	9544	0.42
11	44413	1	2	East Palestine, OH	7975	0.13
12	44431	1	2	Leetonia, OH	4961	0.20
13	44432	2	4	Lisbon, OH	14245	0.14
14	44441	1	2	Negley, OH	1573	0.64
15	44445	1	2	New Waterford, OH	3348	0.30
16	44460	5	10	Salem, OH	26973	0.19
17	44601	2	4	Alliance, OH	1075	1.86
18	44609	1	2	Beloit, OH	4020	0.25
19	44634	1	2	Homeworth, OH	2083	0.48
20	44672	1	2	Sebring, OH	5320	0.19
21	48439	1	2	Grand Blanc, MI	39708	0.03
	Total	50	100			

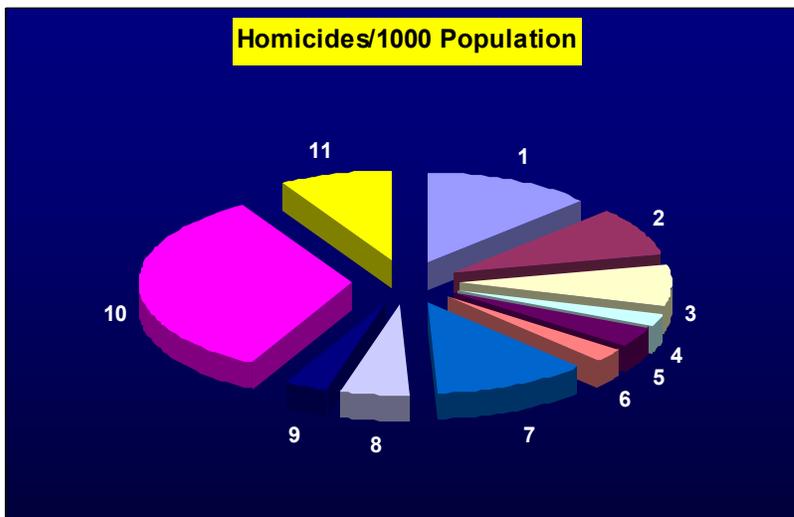
At first glance we see that 43920 (East Liverpool) has 36 percent of all the homicides, 50 in all. Next in order 44460 (Salem) with 10 percent, 43968 (Wellsville) with 8 percent tied with 44408 (Columbiana) at 8 percent. Alliance (44601) and Lisbon (44432) both represent 4 percent of the 50 homicides recorded from the years 1954 thru 2003.

At second glance, taking in to consideration the population of each zip code area, we see Alliance (44601) has the highest homicide rate/1000 people (1.86). Irondale (43932) has the second highest rate (0.90), East Liverpool (43920) rate(0.71), Negley (44441)

rate(0.64), Wellsville (43968) rate(0.49),and Homeworth (44634) rate(0.48) come in third, fourth, fifth and sixth.



When just the number of homicides are taken into consideration East Liverpool (6) appears to be a significant originator of deaths by homicide. Numbers 16 (Salem), 8 (Wellsville), and 10 (Columbiana) and come in second, third, and fourth.



But, when the homicide rate is plotted a different picture is noted. Number 10 (Alliance) appears to be the most flagrant with numbers 1, 2, 7, and 11 (East Liverpool, Wellsville, Negley, and Homeworth) in close pursuit.

Whether one looks at the raw percentage of homicides or the homicide rate in homicides/1000 population the zip codes of 43920 (East Liverpool) and 43968 (Wellsville) stand out.

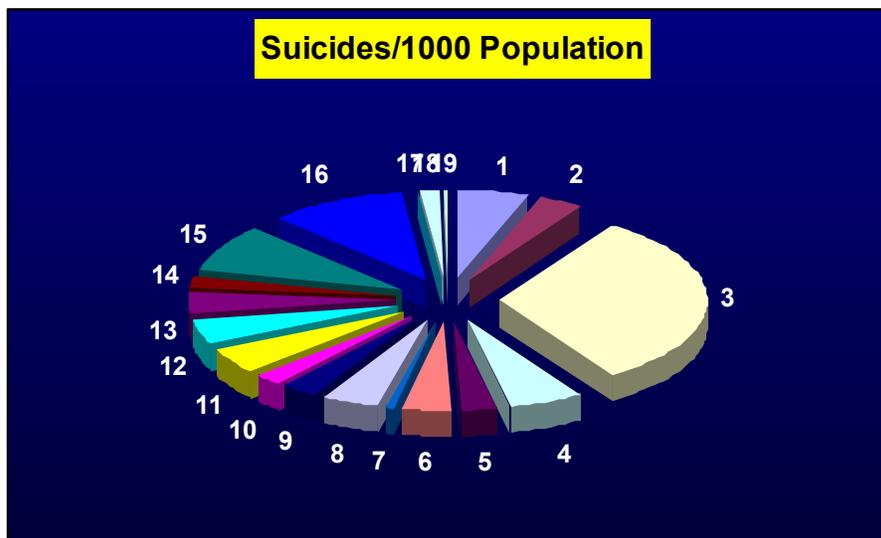
The suicide data is extensive and is presented below. An asterisk (*) indicates Columbiana County

Number	Zip Code	Suicides	Percent	Location	Population	Suicide/1000p
1	12090	1	0.36	Hossick Falls, NY	6189	0.16
2	15001	1	0.36	Aliquippa, PA	34619	0.03
3	15052	1	0.36	Industry, PA	3938	0.25
4	15059	1	0.36	Midland, PA	4747	0.21
5	16033	1	0.36	Evans City, PA	5771	0.17
6	16157	1	0.36	Wampum, PA	3418	0.29
7	26034	4	1.46	Chester, WV	5298	0.76
8	26047	1	0.36	New Cumberland, WV	6555	0.15
9	26050	2	0.73	Newell, WV	2147	0.93
10	26056	1	0.36	New Manchester, WV	154	6.49
11	36801	1	0.36	Opelika, AL	20523	0.05
12	43025	1	0.36	Hebron, OH	5875	0.17
13	43920	75	27.37	East Liverpool, OH*	25504	2.94
14	43945	6	2.19	Salineville, OH*	3324	1.81
15	43952	1	0.36	Steubenville, OH	21074	0.05
16	43962	1	0.36	Summitville, OH*	58	17.24
17	43968	26	9.49	Wellsville, OH*	8111	3.21
18	44406	2	0.73	Canfield, OH	20157	0.10
19	44408	14	5.11	Columbiana, OH*	9544	1.47
20	44413	17	6.20	East Palistine, OH*	7975	2.13
21	44423	1	0.36	Hanoverton, OH*	3283	0.30
22	44427	4	1.46	Kensington, OH*	1728	2.31
23	44431	8	2.92	Leetonia, OH*	4961	1.61
24	44432	17	6.20	Lisbon, OH*	14245	1.19
25	44441	4	1.46	Negley, OH*	1573	2.54
26	44445	8	2.92	New Waterford, OH*	3348	2.39
27	44460	56	20.44	Salem OH*	26973	2.08
28	44490	1	0.36	Washingtonville, OH**	797	1.25
29	44493	2	0.73	Winona, OH*	420	4.76
30	44512	1	0.36	Youngstown, OH	35875	0.03
31	44601	6	2.19	Alliance, OH**	1075	5.58
32	44609	1	0.36	Beloit, OH	4020	0.25
33	44625	1	0.36	East Rochester, OH*	1603	0.62
34	44634	2	0.73	Homeworth, OH*	2083	0.96
35	44641	1	0.36	Louisville, OH	19986	0.05
36	44657	1	0.36	Minerva, OH**	10336	0.10
37	44672	1	0.36	Sebring, OH	5320	0.19
38	55415	1	0.36	Minneapolis, MN	1713	0.58
	Total	274	100			

Of the 274 suicides recorded there are decedents that hailed from New York, Pennsylvania, West Virginia, Alabama and Minnesota, as well as from other counties in Ohio.

Surprisingly the same or similar findings are noted for suicides as there was for homicides. East Liverpool (43920) has the highest raw count (75), Salem (44460) with a raw count of 56, Wellsville (43968) with a raw count of 26, East Palestine (44413) and Lisbon (44432) each with a raw count of 17. Columbiana (44408) comes in next with a raw count of 14.

When one considers the suicide rate (suicides/1000 population) Summitville (43962) comes in highest with a score of 17.24. Alliance (44601) with a score of 5.58, Winona (44493) with a score of 4.76, Wellsville (44938) with a score of 3.21, East Liverpool (43920) with a score of 2.94, Negley (44441) with a score of 2.54 and lastly New Waterford (44445) with a score of 2.39 make up the remaining high scores.



The graph shows #3 (Summitville), #15 (Alliance), #14 (Winoma), #4 (Wellsville), #1 (East Liverpool) the top five zip codes. Other honorable mentions include #'s 6, 8, 11 and 12 (Kensington, East Palestine, Negley, and New Waterford).

If one considers accidental deaths the data is more than extensive, 690 accident deaths in all. An asterisk (*) indicates Columbiana County.

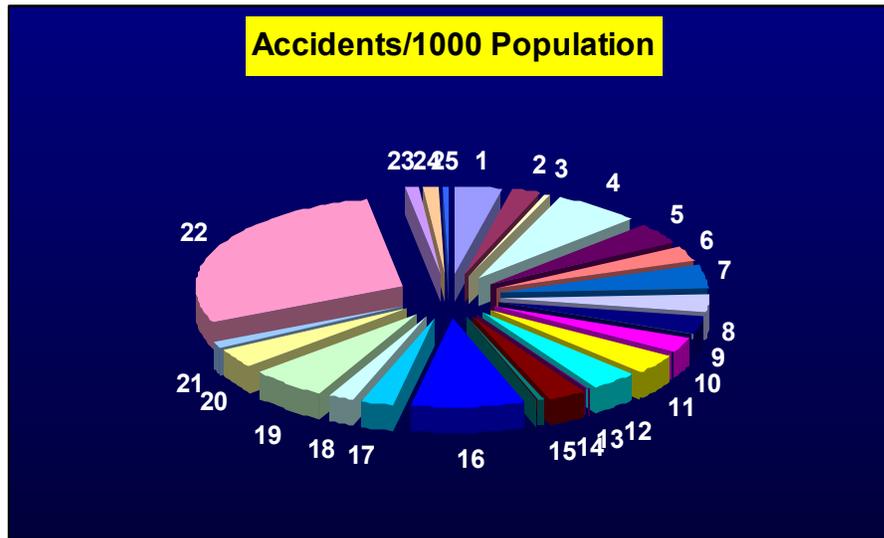
Number	Zip Code	Accidents	Percent	Location	Population	ACC/1000P
1	11743	1	0.144928	Huntington, NY	41566	0.024058124
2	14895	1	0.144928	Wellsville, NY	10311	0.096983804
3	15001	3	0.434783	Alliquippa, PA	34619	0.086657616
4	15009	1	0.144928	Beaver, PA	15126	0.066111331
5	15010	4	0.579710	Beaver, PA	29522	0.135492175
6	15037	1	0.144928	Elizabeth, PA	11676	0.085645769
7	15043	2	0.289855	Georgetown, PA	2596	0.770416025
8	15050	1	0.144928	Hookstown, PA	2507	0.398883127
9	15052	1	0.144928	Industry, PA	3938	0.253936008
10	15059	3	0.434783	Midland, PA	4747	0.631978091
11	15061	1	0.144928	Monaca, PA	13828	0.072317038
12	15074	1	0.144928	Rochester, PA	9887	0.101142915
13	15122	1	0.144928	West Mifflin, PA	21861	0.045743562
14	15301	1	0.144928	Washington, PA	49735	0.020106565
15	15377	1	0.144928	West Finley, PA	894	1.118568233
16	15411	1	0.144928	Addison, PA	681	1.468428781
17	15904	1	0.144928	Johnstown, PA	16877	0.059252237
18	16101	1	0.144928	New Castle, PA	36916	0.027088525
19	16115	6	0.869565	Darlington, PA	3459	1.734605377
20	16120	1	0.144928	Canon Valley, PA	2502	0.399680256
21	16141	3	0.434783	New Galilee, PA	1863	1.610305958
22	16506	1	0.144928	Erie, PA	22604	0.044239958
23	26034	11	1.594203	Chester, WV	5298	2.076255191
24	26037	1	0.144928	Fallansbee, WV	7319	0.136630687
25	26047	5	0.724638	New Cumberland, WV	6555	0.762776506
26	26050	5	0.724638	Newell, WV	2147	2.328830927
27	33062	1	0.144928	Hillsboro Beach, FL	25514	0.039194168
28	34491	1	0.144928	Summerfield, FL	19410	0.051519835
29	42717	1	0.144928	Burksville, KY	6722	0.148765248
30	43029	1	0.144928	Irwin, OH	621	1.610305958
31	43402	1	0.144928	Bowling Green, OH	35907	0.027849723
32	43783	1	0.144928	Summerset, OH	4336	0.230627306
33	43908	1	0.144928	Bergholtz, OH	1645	0.607902736
34	43920	119	17.246377	East Liverpool, OH*	25504	4.665934755
35	43925	1	0.144928	East Springfield, OH	85	11.76470588
36	43930	2	0.289855	Hammondsville, OH*	743	2.69179004
37	43932	1	0.144928	Irondale, OH*	1110	0.900900901
38	43945	28	4.057971	Salineville, OH*	3324	8.423586041
39	43952	1	0.144928	Steubenville, OH	21074	0.047451836
40	43961	1	0.144928	Stratton, OH	277	3.610108303

Number	Zip Code	Accidents	Percent	Location	Population	ACC/1000P
41	43964	2	0.289855	Toronto, OH	10242	0.19527436
42	43968	39	5.652174	Wellsville, OH*	8111	4.808285045
43	44004	1	0.144928	Ashtabula, OH	35631	0.028065449
44	44102	1	0.144928	Cleveland, OH	52108	0.019190911
45	44106	2	0.289855	Cleveland, OH	32417	0.061696024
46	44128	1	0.144928	Cleveland, OH	33612	0.029751279
47	44136	1	0.144928	Strongsville, OH	43858	0.022800857
48	44146	1	0.144928	Bedford, OH	31648	0.031597573
49	44201	1	0.144928	Atwater, OH	6915	0.14461316
50	44223	1	0.144928	Cuyahoga Falls, OH	17546	0.056993047
51	44224	1	0.144928	Stow, OH	36027	0.02775696
52	44231	1	0.144928	Garrettsville, OH	8432	0.118595825
53	44260	1	0.144928	Magadore, OH	14197	0.070437416
54	44281	2	0.289855	Wadsworth, OH	26292	0.076068766
55	44286	1	0.144928	Richfield, OH	5183	0.192938453
56	44301	1	0.144928	Akron, OH	24812	0.040303079
57	44312	1	0.144928	Akron, OH	31620	0.031625553
58	44401	1	0.144928	Berlin Center, OH	3175	0.31496063
59	44404	1	0.144928	Burghill, OH	1703	0.58719906
60	44406	2	0.289855	Canfield, OH	20157	0.099221114
61	44408	38	5.507246	Columbiana, OH*	9544	3.981559095
62	44411	1	0.144928	Deerfield, OH	2705	0.369685767
63	44413	44	6.376812	East Palestine, OH*	7975	5.517241379
64	44423	14	2.028986	Hanoverton, OH*	3283	4.264392324
65	44427	7	1.014493	Kensington, OH*	1728	4.050925926
66	44429	1	0.144928	Lake Milton, OH	2884	0.346740638
67	44431	18	2.608696	Leetonia, OH*	4961	3.628300746
68	44432	68	9.855072	Lisbon, OH*	14245	4.773604774
69	44436	2	0.289855	Lowellville, OH	4234	0.472366556
70	44438	1	0.144928	Masury, OH	5613	0.178157848
71	44441	7	1.014493	Negley, OH*	1573	4.450095359
72	44442	1	0.144928	New Middleton, OH	3556	0.281214848
73	44443	1	0.144928	New Springfield, OH*	2055	0.486618005
74	44445	11	1.594203	New Waterford, OH*	3348	3.285543608
75	44449	1	0.144928	North Benton, OH	1305	0.766283525
76	44451	1	0.144928	North Jackson, OH	3101	0.32247662
77	44452	2	0.289855	Norh Lima, OH	2724	0.734214391
78	44454	1	0.144928	Petersburg, OH*	1277	0.783085356
79	44455	19	2.753623	Rogers, OH*	1689	11.24925992
80	44460	94	13.623188	Salem, OH*	26913	3.492735853

Number	Zip Code	Accidents	Percent	Location	Population	ACC/1000P
81	44471	1	0.144928	Struthers, OH	12036	0.083084081
82	44481	3	0.434783	Warren, OH	11722	0.255929022
83	44484	1	0.144928	Warren, OH	24071	0.041543766
84	44490	2	0.289855	Washingtonville, OH*	797	2.509410289
85	44493	3	0.434783	Winona, OH*	420	7.142857143
86	44501	6	0.869565	Youngstown, OH		
87	44512	1	0.144928	Boardman, OH	35875	0.027874564
88	44514	7	1.014493	Youngstown, OH	22233	0.314847299
89	44515	1	0.144928	Youngstown, OH	28774	0.034753597
90	44601	5	0.724638	Alliance, OH*	1075	4.651162791
91	44609	6	0.869565	Beloit, OH*	4020	1.492537313
92	44614	1	0.144928	Canal Fulton, OH	11664	0.085733882
93	44615	1	0.144928	Carrollton, OH	11038	0.090596122
94	44619	1	0.144928	Damascus, OH*	27	37.03703704
95	44625	2	0.289855	Each Rochester, OH*	1603	1.247660636
96	44632	1	0.144928	Hartville, OH	9521	0.105030984
97	44634	3	0.434783	Homeworth, OH*	2083	1.440230437
98	44641	1	0.144928	Lewisville, OH	19986	0.050035025
99	44657	8	1.159420	Minerva, OH*	10336	0.773993808
100	44659	1	0.144928	Mount Eaton, OH	65	15.38461538
101	44662	4	0.579710	Navarre, OH	9497	0.421185638
102	44672	3	0.434783	Sebring, OH	5320	0.563909774
103	44701	3	0.434783	Canton, OH		
104	44706	1	0.144928	Canton, OH	19183	0.05212949
105	45505	1	0.144928	Springfield, OH	22304	0.044835007
106	45506	1	0.144928	Springfield, OH	15704	0.063678044
107	48201	2	0.289855	Detroit, MI	15080	0.132625995
108	49274	1	0.144928	Reading, MI	3648	0.274122807
109	49444	1	0.144928	Muskegon, MI	21463	0.046591809
110	60601	1	0.144928	Chicago, IL	5591	0.17885888
111	61101	1	0.144928	Rockford, IL	23347	0.042832056
112	78570	1	0.144928	Mercedes, TX	29339	0.034084325
113	83201	1	0.144928	Pocatello, ID	36188	0.02763347
114	90001	1	0.144928	Los Angeles, CA	54481	0.018355023

First of all we note that people come from all over the United States to die in an accident in Columbiana County. Representative states include New York, Pennsylvania, West Virginia, Florida, Kentucky, Michigan, Illinois, Texas, Indiana, and California. Also many come from other Ohio counties.

The graph of accidents per 1000 population is shown below:



The largest slices of the pie-chart appear to be numbers:

22.	Damascus	with a value of 37.03704	accidents per 1000 population
16.	Rogers	11.24926	
4.	Salineville	8.423586	
19.	Winona	7.142857	
7.	East Palestine	5.517241	
11.	Lisbon	4.773605	
5.	Wellsville	4.808285	
1.	East Liverpool	4.665935	

These figures show a definite bias toward communities with small recorded population. Damascus, with a recorded population of 27, appears at the top of the list with only one accidental death. Similarly, Rogers with a population of 1689 had only 19 accidental deaths. Salineville, with a population of 3324, had only 28 accidental deaths. Lastly, Winona with a population of 420 had only 3 accidental deaths.

The 2546 cases entered in the computer database do not represent the entire database from 1954 through 2003. As noted, names from “Grafton to Wisler” have not been entered. The data has only an “alphabetical bias”. Estimating that approximately 94 cases per year have occurred over a 49 year period (from 1954 to 2003) the approximate number of total cases would be 4606. Thus only 55.3% of the possible database has been entered. Drawing any firm conclusions from this data would be risky at best. However!!!

1. Homicides appear to occur more frequently in East Liverpool & Wellsville.
2. Suicides appear to occur more frequently in Wellsville & East Liverpool.
3. Accidental deaths appear to occur more frequently in Wellsville & East Liverpool.

To draw conclusion #2 & #3, we have discounted the small population communities of Summitville, Winona, Alliance, Damascus, Salineville, and Rogers. The population figures for each community were obtained from the 2000 census figures found on the web. Wherein a zip code is found in more than one county, an attempt was made to get credible population data by contacting our county treasurer's office or the post office servicing that zip code. A relevant case in point is Alliance. The 2000 census gives 23,253 for its total population, but only a small part of the city is in Columbiana County. By contacting the County treasurer's office to find out how many tax bills were sent to that zip code, and then cross checking with the post office servicing that zip code, we arrived at a figure of 1075. Hopefully that estimation (or guess?) is accurate.

Summary

The calendar year 2003 was an eventful year. Of the 1152 deaths in the county, 450 were reported to the coroner, and of those, the coroner accepted 94. Of the 94 accepted cases, 81 had a toxicology performed and another 23 had an autopsy performed. The 94 were classified as follows:

Natural	52
Accident	24
Homicide	1
Suicide	16
Not determined	1

Of the 94, 66 were male and 28 were female. The marital status was as follows:

Married	40
Single	23
Divorced	16
Widowed	15

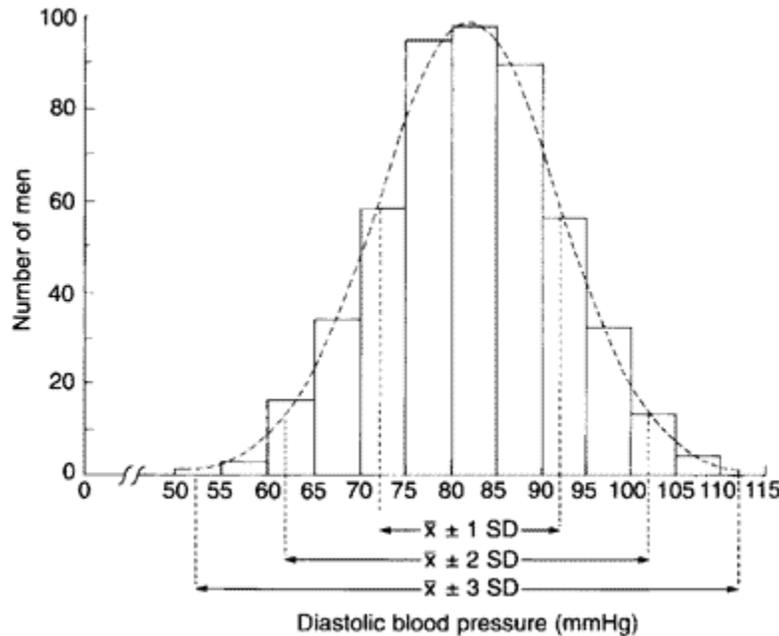
The ethnic background and age distribution by manner of death was described. As in years previous, heart disease was the major "natural" killer, and gunshot the major instrument of suicidal and homicidal deaths.

We compared 2003 with the 14 years from 1989 through 2002, and found that it was a "normal" year. We also examined the 2546 cases entered in our database, representing approximately 55.3% of the estimated total of cases, and came to a tentative (and probably tenuous) conclusion that statistically a resident of East Liverpool or Wellsville has a greater chance of dying a violent death from homicide, suicide, or accident than does a resident of any other community in Columbiana County represented by a zip code.

We must acknowledge the help and encouragement offered to us by the Trumbull County and the Cuyahoga County Coroner offices. We also acknowledge the help obtained online from the websites: <http://bmj.com/collections/statsbk/2.shtml> and www.census.gov/cgi-bin/gazetteer for the statistical primer and the census data.

Appendix A:

Many biological measurements conform to a **Normal Distribution** – for example, heights of adult men and women, blood pressures in a healthy population, random errors in many types of laboratory measurements and biochemical data. The figure below shows a Normal curve calculated from the diastolic blood pressures of 500 men, mean 82 mmHg, **Standard Deviation** 10 mmHg. The ranges representing $\pm 1SD$, $\pm 2SD$, and $\pm 3SD$ about the mean are marked.



The reason why **Standard Deviation (SD)** is such a useful measure of the scatter of the observations is this: if the observations follow a **Normal distribution**, a range covered by one standard deviation above the mean and one standard deviation below it includes about 68% of the observations; a range of two standard deviations above and two below includes about 95% of the observations; and of three standard deviations above and three below about 99.7% of the observations. Thus when one encounters statistical values greater than 2SD or 3SD a **significant observation has been found**.