

Mortality Analysis and Leading Cause of Death in Cincinnati

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BACKGROUND

- Death is the final common outcome of many health and nutrition problems. It is a single indicator which can signal a broad range of health problems
- From 2012 to 2016, for the City of Cincinnati residents, heart disease and cancer are the top two causes of death. There are large disparities in the mortality rates by gender and age¹.

OBJECTIVE

- This study is to assess age-specific mortality rates and top 10 leading cause of death in the city of Cincinnati from 2007 to 2017.

METHODS

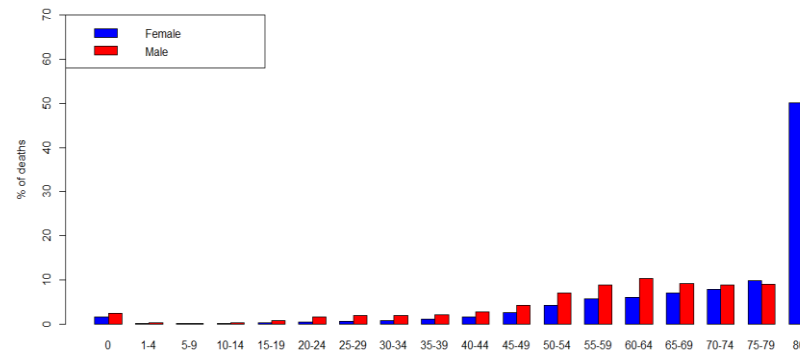
- Data were retrieved from the Cincinnati Health Department Office of Vital Records and Statistics in the years of 2007 to 2017;
- Leading causes of death were determined using National Center for Health Statistics (NCHS) 113 Selected ICD-10 Causes;
- A total of 36,122 records of death were used in analysis, and age-specific mortality rates and top 10 leading cause of death in the city of Cincinnati were summarized².
- SAS 9.4 software was used for statistical analysis and computation, and R software was used to generate graphs.

RESULTS

Table 1. Count of deaths by age and sex, 2007-2017

Age Groups	Female	Male	Female Percent	Male Percent
0	278	425	1.51	2.40
1-4	28	43	0.15	0.24
5-9	16	23	0.09	0.13
10-14	19	37	0.10	0.21
15-19	34	126	0.18	0.71
20-24	81	270	0.44	1.53
25-29	107	339	0.58	1.92
30-34	148	343	0.80	1.94
35-39	209	379	1.13	2.14
40-44	305	473	1.65	2.67
45-49	483	752	2.62	4.25
50-54	776	1231	4.21	6.96
55-59	1063	1553	5.77	8.78
60-64	1107	1825	6.01	10.32
65-69	1278	1621	6.93	9.16
70-74	1438	1550	7.80	8.76
75-79	1820	1579	9.87	8.93
80+	9242	5120	50.14	28.94
Total	18432	17689	51.03	48.97

Fig 1. Percentage of deaths by age and sex, 2007-2017



RESULTS

Fig 2. Age-specific mortality rate for 2007 - 2017 Cincinnati

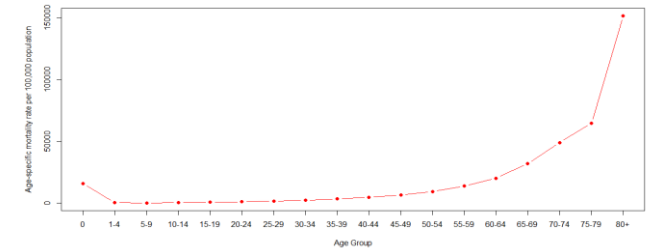
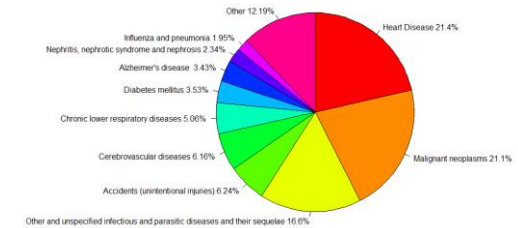


Fig 3. Pie Chart for Top 10 Leading Cause of Death for Cincinnati



CONCLUSION

- Age specific mortality rates (ASMR's) for male were higher in younger age groups (before 75) than those for female (Table1), suggesting males before age 75 could be more vulnerable to death in the city.
- In general, age specific mortality rate (ASMR) increases with age. However, infant's ASMR was higher than those of other age groups from Age 1-4 to Age 55-59, suggesting that infant mortality is a non-negligible cause of death in the city (Fig2).
- Heart disease and malignant neoplasms were top leading causes of death in the city of Cincinnati (exclude infants) from 2007 to 2017 followed by unintentional injuries, cerebrovascular diseases, chronic lower respiratory diseases and diabetes mellitus.

REFERENCES

[1] 2019 CHNA Report, <https://www.cincinnati-oh.gov/health/assets/File/2019%20CHNA%20Report%20Cincy%20Profile>

[2] Analyzing Mortality Levels & Cause of Death Data, https://www.cdc.gov/nchs/data/isp/ANACoD_Exercise_V1.0